

# Encyclopedia of free energy volume v3

Seeking natures free energy sources and related devices

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Our Introductions

On Line Links









It is Energy 21 belief there are many sources of energy. That mankind could know be using now but for various reasons this technology has been prevented from be used by us.

This volume is following on from previous editions and we hope that knowledge contained within will provide with you with some form of enlightenment.

We are somewhat limited in what we found and some Research is imcomplete others may need to fill the gaps enjoy. Geoff

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Unusual Motors/ generators

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The David Hamel Picture book
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#### Check out the animations and our on line links

#### additional new content

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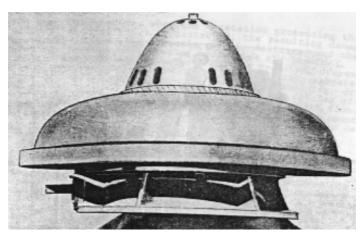
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The Repulsin

Among Viktor Schaubergers machines there is no one like the Repulsin or the flying saucer that has created such myths and stories. The basic designs are from the mid thirties when he tried to finish the Climator. A most peculiar thing is that they seem to be very difficult to control, as they have a habit of smashing into the ceiling, and after that, being irreparable. Viktor himself claimed that powerful *diamagnetic* forces were responsible for the enormous effect. However, in the literature and in Viktor's own notebooks there is no evidence, if and if so how these devices worked. The question is, are all these rumours true? Do these devices really work?

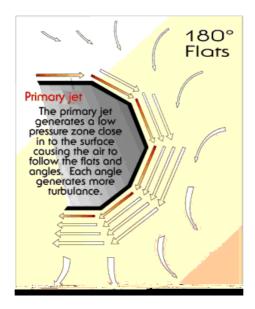
Well, what we can see from the few pictures that exist is that there seems to be some kind of turbine, shaped as a double flat membrane with concentric rills on it. The double membrane was probably co-rotating as four bolts that fix them together, can be observed. In the pictures we can also see that there is some kind of body, a bowl shaped plate that is bend over the membrane whose outlet can be found inside the rim foil. Together, the rim foil (the metal band around the lower rim) and the outlet form a Venturi"tube". An air intake can be seen on the top of the device. Unfortunately, one important component is missing on the top. This component should "pre-form"the air so it starts to twist before it enters the double membrane. This component had a similar shape as a sea shell. Viktor said that this devicewas never built as it is very difficult to produce a thing with such a complex geometry. In the book Living Water (by Olof Alexandersson) a colloid solution of very fine grained quartz crystal and water is mentioned as a catalyst for the process.



Repulsin type B, inner part of air inlet removed. So, if we start to think for a while. Let's say that this device really worked, it really *did* take off! How would it work?

As I mentioned before there is one (at least) explanation on why Viktor Schaubergers machine took off with such power. It might be explained by "normal" aerodynamics and aphenomena named 'the Coanda effect'. Very brief the Coanda effect is the phenomena when a flowing media tends to "stick" to a curved surface, You can reada biography of Henri Coanda here. If we take a closer look on the bowl shaped plate, we realise that it is a circular wing. When the air is rushing out inside the foil or the metal band that can be seen on the lower rim of the device it creates a sub pressure just over the foil.

The surrounding air is sucked inside the foil and with the air from the membranes. This generates a low pressure over the device and the device is "hanging" in it. You could say that it is an inverted hovercraft. But instead of creating a pressure *under*the craft You create a low pressure *over* it. Basically it is the same, it is only a matter of pressure differences. The low pressure is modest but as we have a large area we also get a huge lifting force. There is one more way to create the low pressure over the craft. You can let the air blow out on the top instead.



When the twisted air follows the Coanda surface it sweeps down the surrounding air and we get the increased air flow this way lowering the pressure. If You want to read <u>more about the Coanda effect</u> follow this link. On this page You can read a lot about different applications and a very interesting new type of fan, the Jet

#### Fan.



In Boston people have started to create other types of Coanda "flying saucers"







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#### The NewSearl Effect Generator

A part of the Poynting Flow Thruster project By Jean-Louis Naudin/Dave Squires created on September 28th, 1999 - JLNLabs - Last update September 28th, 1999

## **Proposed New SEG Type Design**

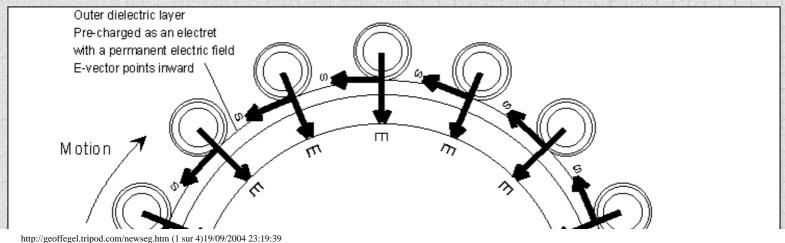
This design is based on the ExBxS relationship wherethe Poynting S-vector imbalance causes and sustains the motion of the rollers.

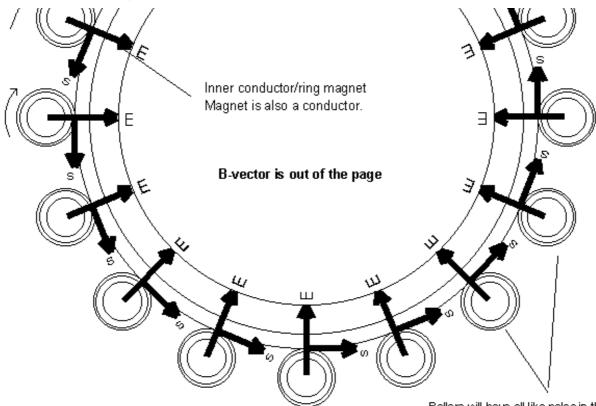
It is an extension of Jean-Louis Naudin's PFT MK2 high voltage capacitive electrostatic motor.

Instead of the center ring rotating the rollers movearound the ring using the same S-vector force. The B-field comesfrom the magnets. The E-field comes from the pre-stressed and precharged dielectric (electret). A slight movement of therollers should get them moving and accelerating. No specialmagnetic patterns are required if the ExBxS vector relationshipis valid as proven by the PFT MK2 motor.

This has not been built andtested yet. It is only a designproposal based on current findings and experiments done by Jean-Louis Naudin.

Dave Squires- 9-27-99





#### Proposed New SEG Type Design

This design is based on the ExBxS relationship where the Poynting S-vector imbalance causes and sustains the motion of the rollers. It is an extension of Jean-Louis Naudin's PFT MK2 high voltage capacitive electrostatic motor. Instead of the center ring rotating the rollers move around the ring using the same S-vector force. The B-field comes from the magnets. The E-field comes from the pre-stressed and precharged dielectric (electret). A slight movement of the rollers should get them moving and accelerating. No special magnetic patterns are required if the ExBxS vector relationship is valid as proven by the PFT MK2 motor. This has not been built and tested yet. IT is only a design proposal based on current findings and experiments done by Jean-Louis Naudin. ---Dave Squires - 9-27-99

## Construction Suggestions:

Use epoxy for dielectric and apply high voltage while curing to make electret.

Make sure polarity is correct.

Rollers: Plus inside, negative outside

Ring: Plus outside, negative inside Make height of ring 1/4th to 1/5th the

diameter. Hopefully this will avoid roller wobble.

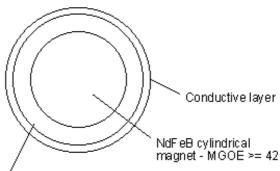
Rollers should be the same length as the height of the ring.

Number of rollers will depend on their diameter.

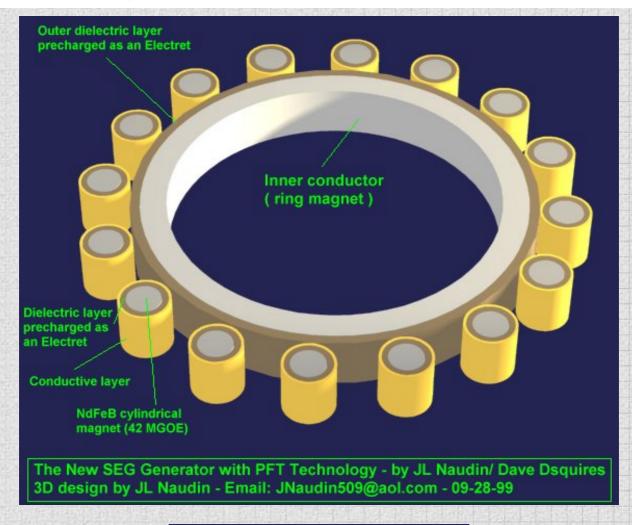
Put on as many as will fit with space nearly equal to the diameter.

Rollers will have all like poles in the same direction. The strong repulsion from one to the other will keep them equally spaced. A small amount of centrifugal force will cause them to float above the surface of the ring. Attraction to the ring will keep them from flying off.

#### Roller Detail



Dielectric layer - It is also a precharged as an electret with plus inside and minus outside. E-vector points outward.





#### See also:

- Variations on the PFT Motors, towards a new Searl engine by Dave Squires
- The PFT Motor mk2, an enhanced high speed version...
- The PFT Motor mk1, the basic design.





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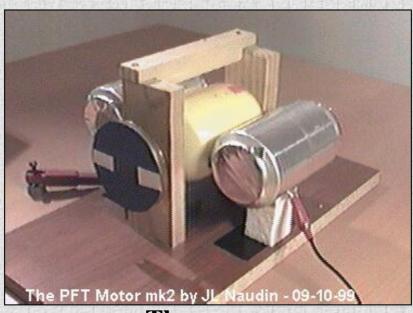
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## The PFT Motor

The Poynting Flow Thrusterproject

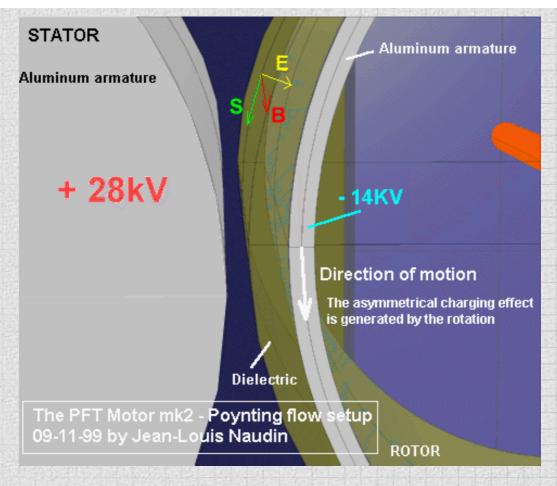
By Jean-Louis Naudin

created on September 20th, 1999 - JLNLabs - Last update September 20th, 1999

## Variations on the PFT Motors of Jean-Louis Naudin by DaveSquires

It has become clear from Jean-LouisNaudin's research on asymmetrical electric fields and the Biefield-Brown effect that the primary driver is the Poyntingvector. At least this is the way it appears from the models hehas built to test the effects. So the breakthrough we have allbeen waiting for is the evidence in JL Naudin's tests that shows us how to use the Poynting vector from the vector relationship ExBxS.

For those not up onelectromagnetics vector language you say this E-cross-B-cross-S. This means that all these vectors have directions orthogonal or90 degrees from each other. You can see this from Jean-Louis' diagram.



It is simply a matter of setting upan electric field (E) and a magnetic field (B), allowing the Poynting vector (S) to be in the right direction and then stimulating or creating an asymmetry. Once you have an asymmetry derived either from the shape of the object (ARDA project) or from motion (PFT MK1, MK2 motors) you can then extract energy from the Poynting vector (S). To my knowledge his has never been done before in quite this way. The S-vector has been ignored all these years with the focus on magnetic (B) and electric field (E) vectors.

Therefore, I think that those of usthat are able should initiate some independent tests of variations of these structures. Perhaps we can find the optimumstructure quickly this way. I am making some suggestions based on the ExBxS vector relationship for rotating systems with theintent to find an overunity power generation system.

There are several things to betested. I will itemize some here. If you have more ideas feelfree to put them forward.

1. Focus on the ExBxS relationship andasymmetries of field structure.

Purpose: To find efficient ways to maximize the use of the S-vector

2. Set up the PFT MK2 motor tohave ground or 0v on the center rotor and the two outer cylinderelectrodes at +28Kv.

Purpose: Check to see if torque is increased due to two E field vectors at double the original setup.

The S-vector would be in the direction of rotation currently seen for both sides and should be twice as much giving a 4x increase in speed and torque. If it turns out to be only double the torque then it means that the S-vector flows in or out from both sides of the ExB intersection and the motion sets up the asymmetry in the required directions.

3. Add a B-field vectorexternally with an electromagnet or a permanent magnet.

Purpose: To see if enhancing the B-field enhances the PFT MK2 motor power output.

The B-field is weak with only 99ua in the present PFT MK2.

4. Fix the rotor of the MK2 motor and let theouter cylinder electrodes rotate.

<u>Purpose</u>: To check for Newtonian reaction forces related to the S-vector flow. If so then it is all relative motion and many variations are possible.

5. Allow all the cylindrical electrodes to rotate, see my drawing for this on JL Naudin's webpage.

Purpose: See if multiple electrodes increases power output and how much current is used.

Also, checks the Newtonian reaction forces if all cylinders are allowed to rotate.

6. Put multiple cylinders thatcan rotate around a center stationary electrode and power thecenter at minus 28Kv or higher.

<u>Purpose</u>: Check for relative motion, Newtonian reaction forces, current drain on power supply, and possible application to <u>Searl SEG type device</u>.

7. Plot the increase in speedand power output vs voltage to see if it varies as the square of the voltage increase.

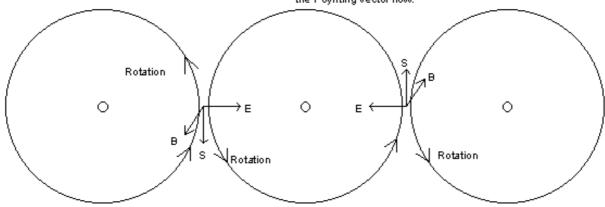
Purpose: Determine the mathematical relationship of speed, power, and voltage.

8. Make and test a variation of the SearlSEG motor using magnet rollers with a dielectric layer on the outside. The large ring would be a ring magnet with a conductive layer and then a dielectric layer on the outside. A negative voltage would be applied to the large ring conductive layer. A slight push on the rollers would be required to start it. It should be be be lowering or reversing the voltage polarity on the large ring.

<u>Purpose</u>: Test the theory that the SEG prime mover is really the S-vector and not modulated magnetic fields and that constuction can be simplified and operation controlled by E-field reduction or reversal.

Center cylinder is Ov or ground. The outer cylinders are at +28 Kr or some other positive high voltage. Contact the metal of the cylinders (cans) through the shafts. All the cans will rotate the same direction due to reaction forces at the interface between them.

It appears that the secret to free energy is the vector relationship ExBxS and the use of the Sivector to generate mechanical force in an asymmetrical configuration. The PFT MK1 and MK2 motors tested by JL Naudin prove this. An asymmetrical capacitor structure is necessary to create an asymmetry in the Poynting vector flow field. The other electrostatic thrusters tested by Jean-Louis also demonstrate this effect. If am recommending some testing be done with other configurations to prove this and expand on the use of the Poynting vector flow.



Soft Drink Cans - 6.5cm(2-5/8") Diameter All are wrapped with polyethylene or some other dielectric material. All are on shafts are are free to rotate.

Variation: Fix center can to prevent rotation

PFT Motor Variation #1 Dave Squires 9-18-99

The principle of ExBxS appears tobe identical for the ARDA project, the PFT motors, and the SearlSEG. The vector relationships are the same for all. As a resultit seems prudent to have many independent tests being done aroundthe world. Construction is simple and testing easy. Associated costs for materials should also be low. Let's do it friends and get the world off of burning up fossil fuels. There are muchbetter uses for oil than creating CO2, NO2, Ozone, and smog.

- The PFT Motor mk1, the basic design.
- The PFT Motor mk2, an enhanced high speed version...







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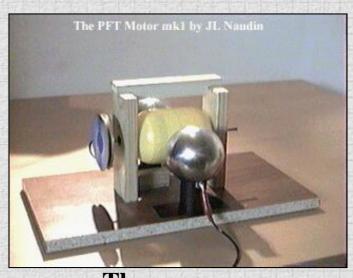
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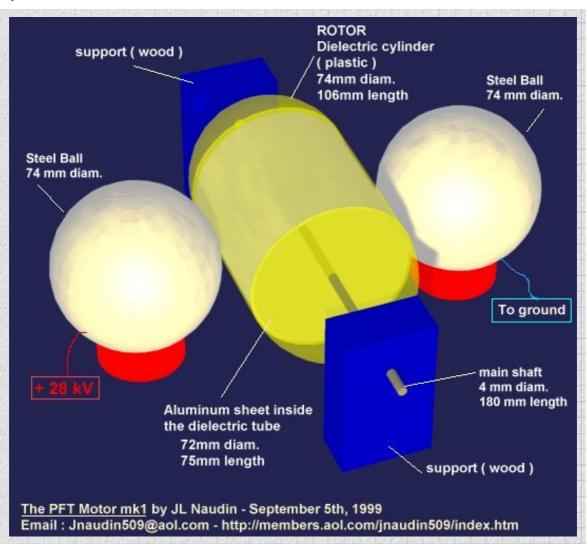


The PFT motor mk1
The Poynting Flow Thrusterproject
By Jean-Louis Naudin
created on September 5th, 1999 - JLNLabs - Last update September 11th, 1999

The PFT Motor mk1 uses two asymmetrical capacitors for generating a continuous rotation of the rotor athigh speed. The rotor is composed of a dielectric (a commonplastic) cylinder with an aluminum sheet fixed in the innersurface, this is the rotating armature of the cylinder capacitor. Two steel balls with the same diameter than the dielectric cylinder have been used as the fixed armature of the capacitor. The measured capacitance is about 12pF (with 4 layers of a thin polyethylene sheet on the outer surface of the rotor). One steelball has been connected to +28kV DC and the other to the ground (OV).

The *PFTMotor mk1* needs very weak current (200 RPM with only 5 micro-Ampere !!, it is also able to turn at ahigher speed (up to 1370 RPM with only 20 micro-A...). Thismotor can be powered from atmospheric electricity by means of asimple earth field antenna or a small electrostatic generator. The *PFT Motor mk1* has no brushes and it can run for a long time.

The PFT Motor mk1 concept will be soon used in anew PFT spacecraft engine design.



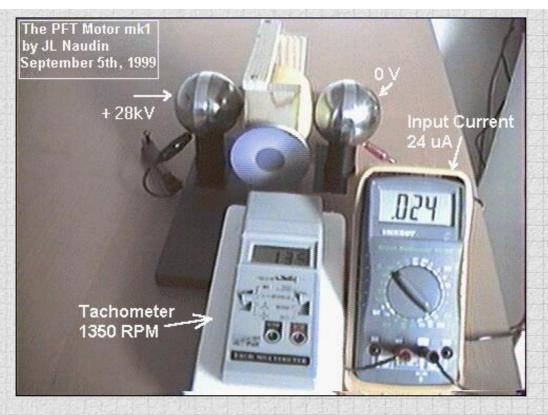




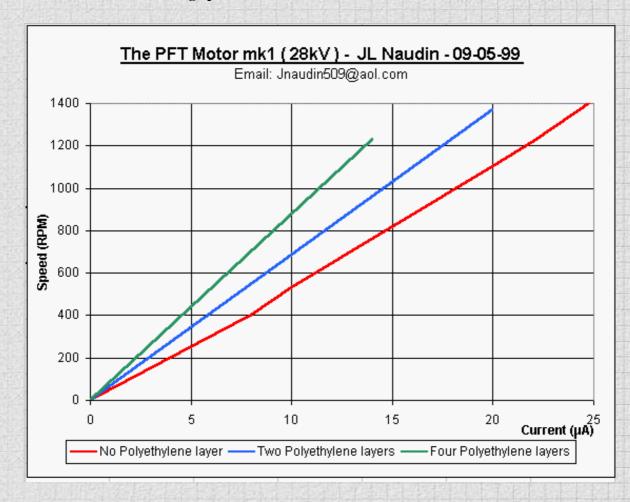


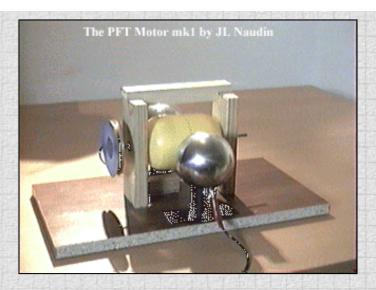
The gap between the steel ball and therotor is about 1mm. On the left picture you will notice that somepolyethylene sheets have been added for increasing thecapacitance. You see also the aluminum wheel with two white marksfor measuring the turn speed with an optical tachometer.

**Experimentalsetup**: The *PFT motor mk1* has been tested successfully powered with an electronic High Voltage DC generator, the current has been measured with a digital multimeter and the turn speed with an optical tachometer.



Some tests have been done with differentlayers of polyethylene (K=2.3) added on the outer surface of themain rotor. You may notice that the turn speed increases whilethe current decreases with the number of polyethylene sheets ,this is a very interesting characteristic and this shows clearly that withsome high K dielectric like BaTiO3 (K>10000), overunity canbe reached and thus a self-sustained running operation can be obtained...





See also: The PFT Motor mk2, a enhanced high speed version...





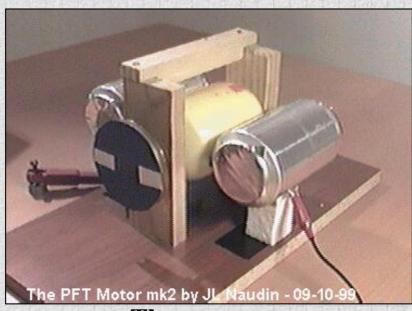
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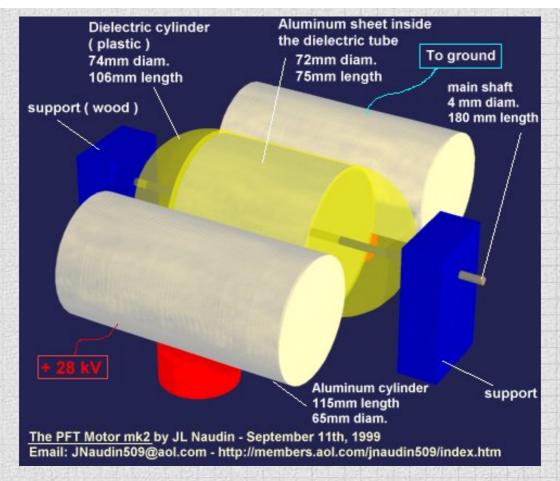
## The PFT Motor mk2

The Poynting Flow Thrusterproject

By Jean-Louis Naudin

created on September 11th, 1999 - JLNLabs - Last update September 20th, 1999

The PFT Motor mk2 uses two asymmetrical capacitors for generating a continuous rotation of the rotor at high speed. The rotor is composed of a dielectric (a commonplastic) cylinder with an aluminum sheet fixed in the innersurface, this is the rotating armature of the cylinder capacitor. Two aluminum cylinders (length: 115mm, diam.: 65mm) have been used as the fixed armature of the capacitor. The measured capacitance is about 14pF. One aluminum cylinder has been connected to +28kV DC and the other to the ground (OV).

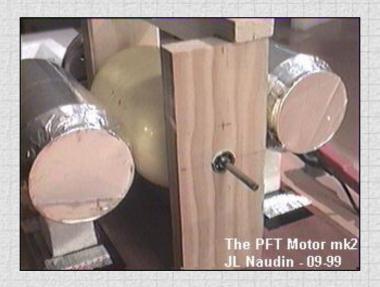


With the rotor blocked, the leakage current was only 1uA, so the coronna effect was insignificant and this shows clearly that this motor is not a coronna motor. Some other tests have been done for checking if the E-Field induction effect is the source of the high speed rotation (see: Induction effect testing). The tests has showed that the high speed rotation wasn't generated by the E-Field induction effect.

The *PFTMotor mk2* turns at high speed: 2770 RPM with only 99uA. The *PFT Motor mk2* has no brushes and it can run for a long time.

The PFT Motor mk2 concept will be soon used in anew PFT spacecraft engine design.

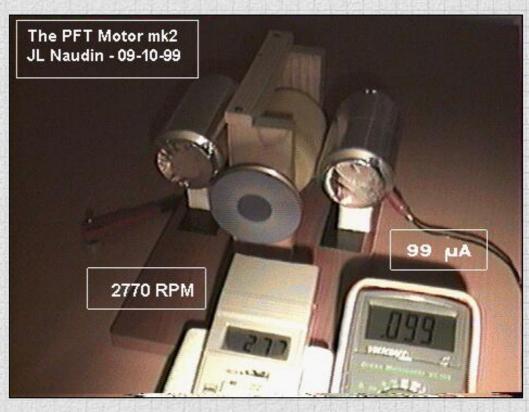
The gap between the cylinders and therotor is about 1.5mm. You see also the aluminum wheel with twowhite marks for measuring the turn speed with an optical tachometer.

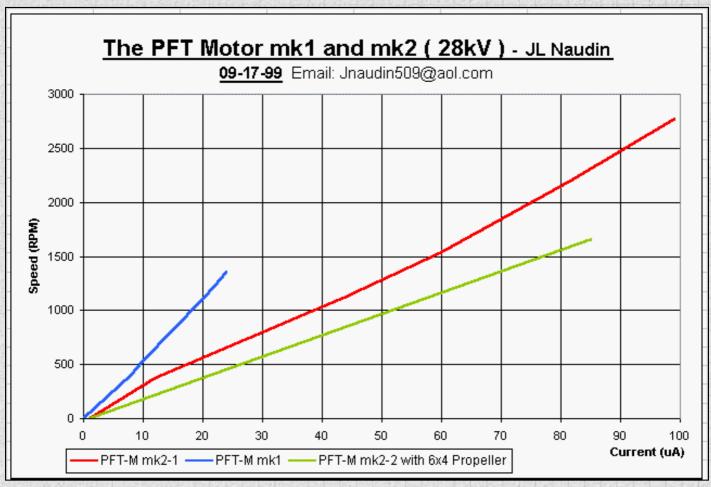


The 4mm steel shaft has been mountedwith two 12mm ball bearings fixed on the wooden supports (see thepicture).

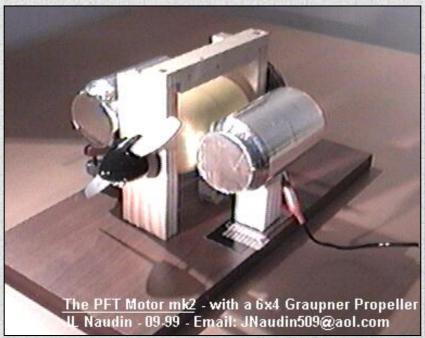
<u>Experimental setup</u>: The *PFT motor mk2* has been tested successfully powered with an electronic High Voltage DC generator, the current has been measured with a digital multimeter and the turn speed with anoptical tachometer. The motor doesn't start itself, a gently pushis required for inducing a rotational asymmetry in the E-Fieldand thus a continuous asymmetrical S-Flow:

Spinning of asymmetrical E-fields is the main key of this motor





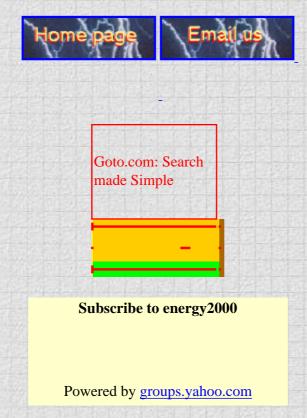
#### See also:





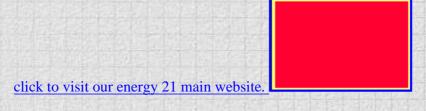
The PFT Motor mk2 is fully capable to runat high speed with a propeller ( a 6/4" pitch, 15/10 cm )Graupner

Additional notes: "InMarch 1971, Dr. Oleg Jefimenko proved that a wire held aloft by a ballon at 1200 feet altitude would provide 70watts of high-voltage power to an electrostatic motor (animproved version of the Franklin motor) for as long as the ballonstayed at that altitude. The wire was a high impedance conductor; and the motor ran at 12,000 rpm or about 200 pulses per second. The motor was a small capacitance device; and had it been run at the impossible rate of 20,000 pulses persecond (120,000 rpm) it might have drawn down some 7000 watts of free power!!" (from the "VindicatorScrolls" volume one by Stan Deyo, publishers: WestAustralian Texas Trading)





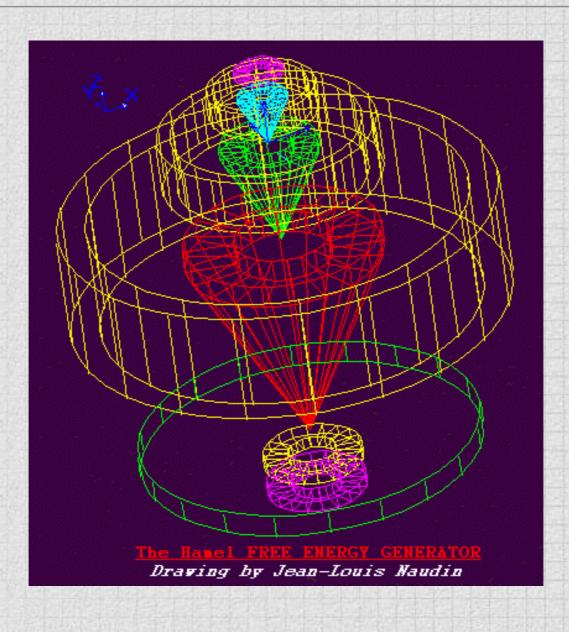
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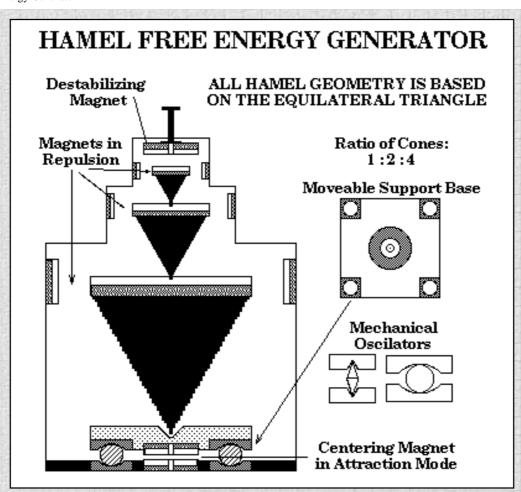


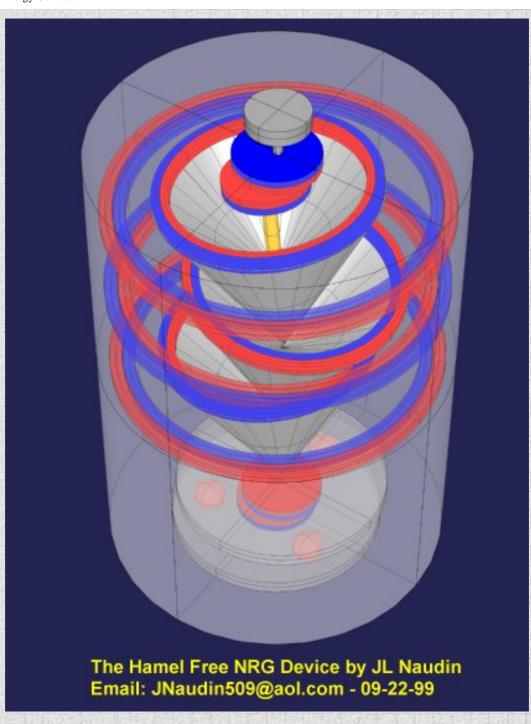


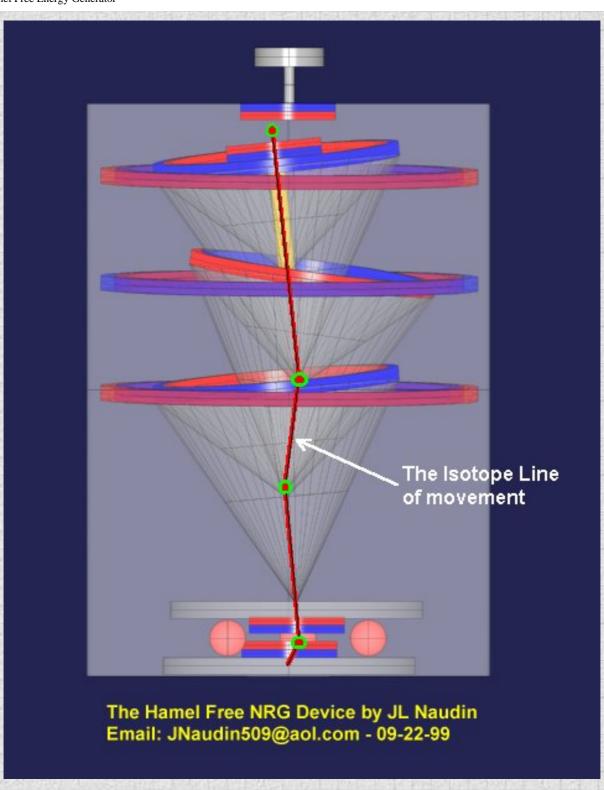
## **The Hamel Free EnergyGenerator**

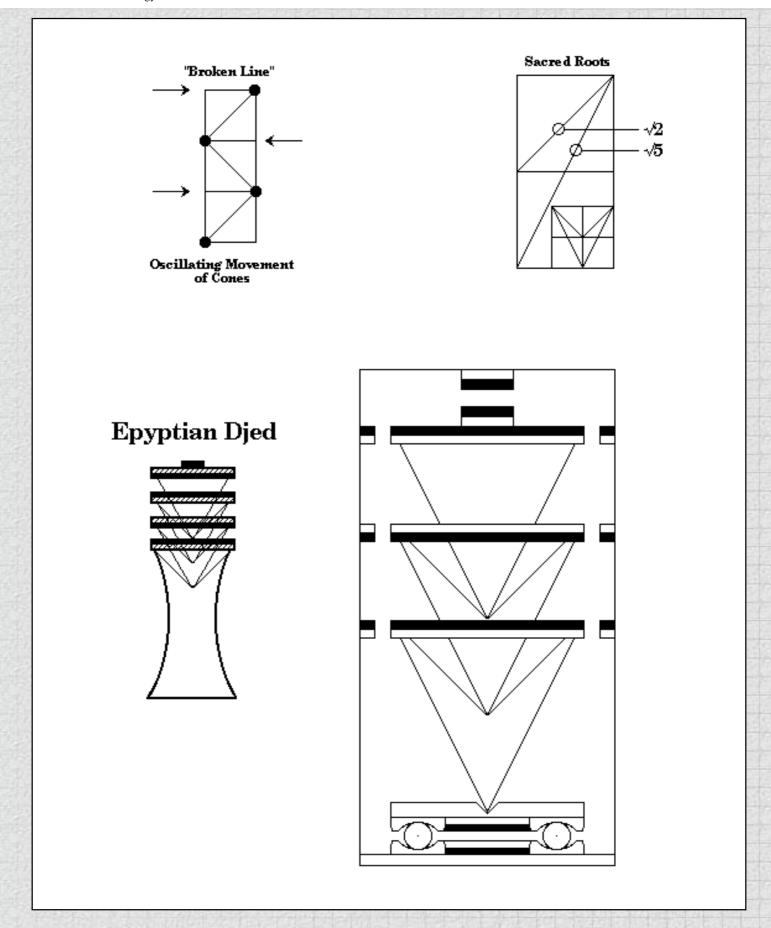
Thanks to **DanLaRochelle** 







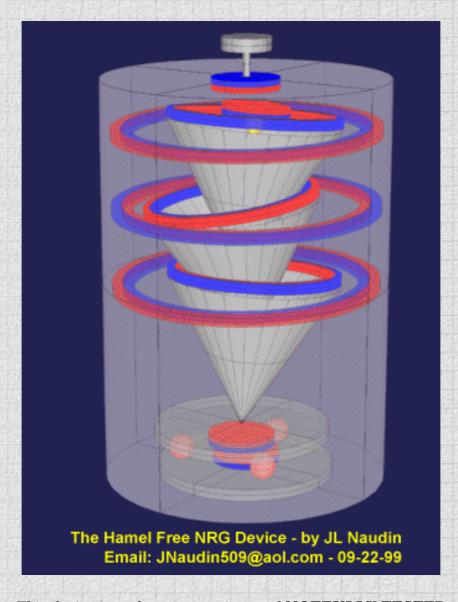




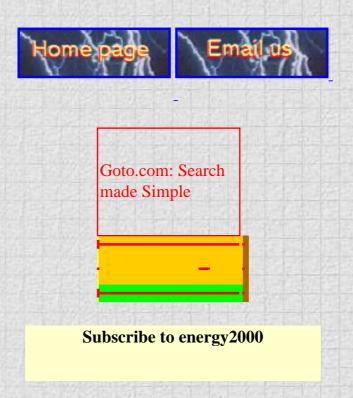
This device use the "Magnetic Principle":

<u>The ''Magnetic Principle''</u>: Ituses same principle as the "Hamel Spinner". The destabilizing magnet on top is the "Hamel Spinner" and the first Cone that wobbles would equate to the smaller disc magnet and ball bearing. The Spinner wants tomove in a circular path under the larger destabilizing magnet. That is in part why the cones Wobble. The cones want to seek equilibrium, but can only find it in a dymanic way!

This "Magnetic principle" device will, if builtright, run for many thousands of years!



This device is under construction, and NOTFULLY TESTED



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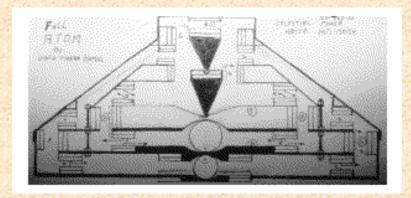


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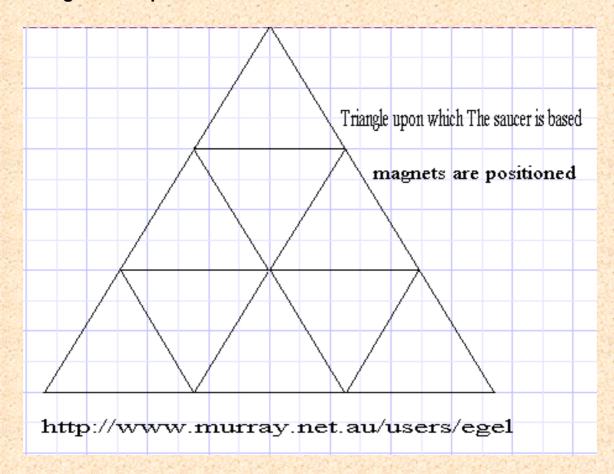


## A further Page of information of David Hamels attempts atbuilding a flying disk



The above is David Hamel's drawing showing relationship to each components notice the different ball shape and spinning disks levels.

Notice all the magnets in repulsion mode.

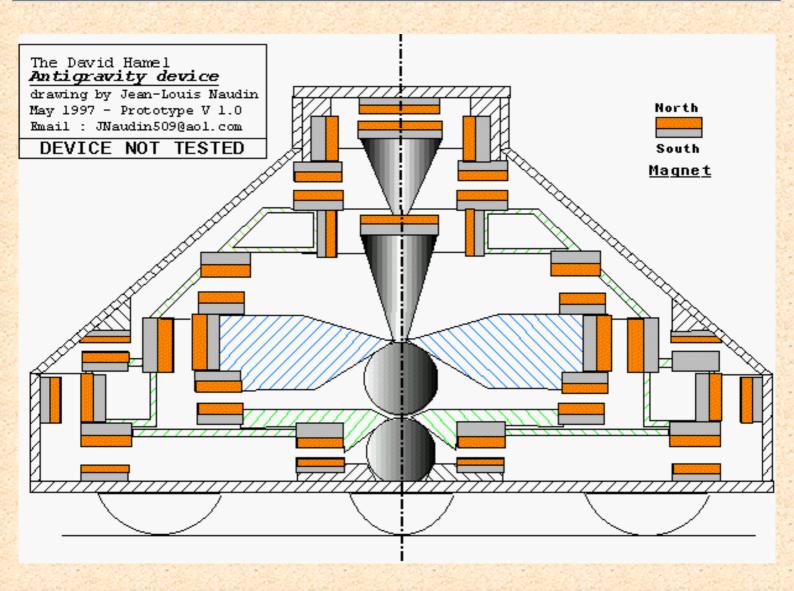


David Hamel seems to think that pryamids of Egypt have something to show us in the constuction of a flying disk

The above pyramid shape give some of ideas as to where the magnetic disk levels are and

## size relationship to each of the three levels

On the top level above although not shown is a circular weightthat keeps the spinnind device in a state of perpetual un balance or so it seems.

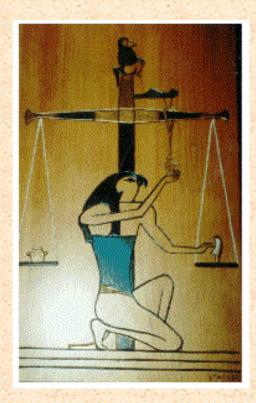


A better drawing of the flying disk as drawn by Jean Louis Naudin





Could these drawings indicate a connection with early Egyptian history.



Below a slight modification on the Hamel spinner showing the big circular magnet below the smaller round magnet

This may be significant and could be a demonstration of the butterfly effect although I am unable to confirm it.







Above David Hamel Demonstating his now famous Hamel spinneras described in Part one of my reports.



David showing The marble needed to create his cone on whichthe magnetic disks are positioned into place in his

#### Disk Construction.





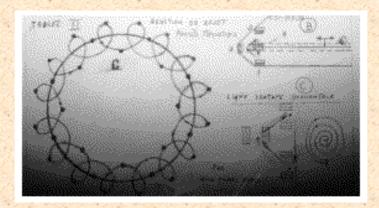




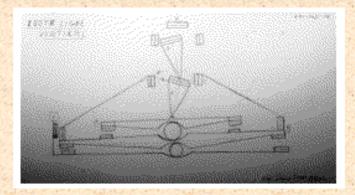
The Above components David is using to constucted the flyingdisk

The first top plate are mounted and resting on moveable circular balls as show in diagram in the second report.

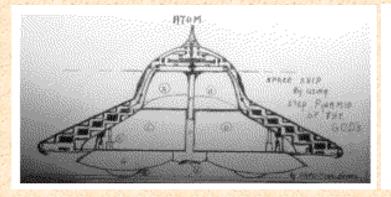
The second is of marble cones and its holder also made ofmarble.

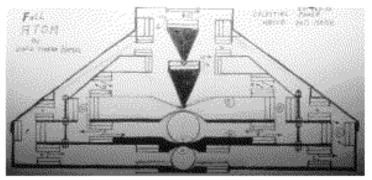


A diagram showing th path of the metal ball when the hamelspinner is in motion as described in part one.

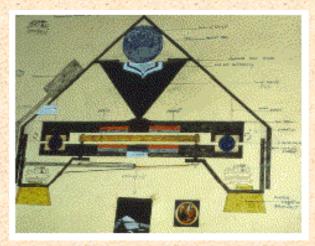


A diagram showing how there is a titling motion when thedevice is in an operational Phase.





A possible bell shape using stepped magnetic arrangement ofmagnets.



This may be David Hamels Idea for an electrical generator.

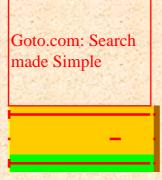
NB I will be givivg further updates when new information comes in on this device so keep checking for more information on this most interesting device.

Check for additional information at my other pages for additional info about David Hamel

- The Hamel Experiments
- The Hamel Spinner





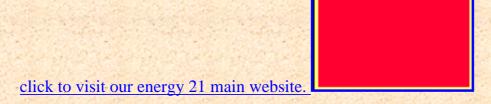


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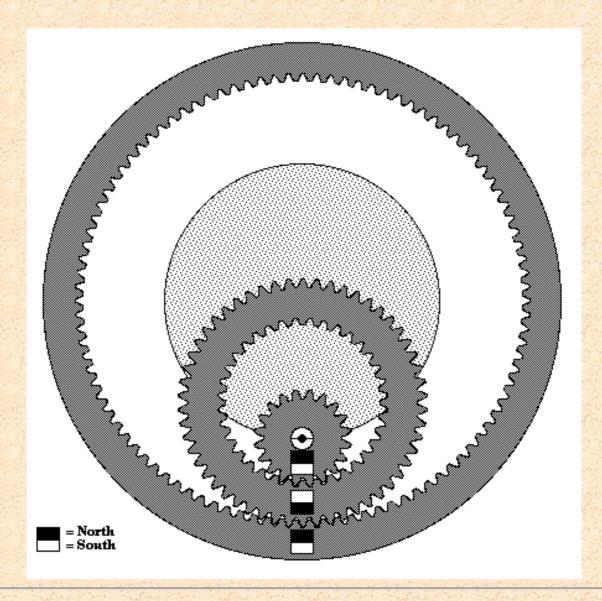


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## The David Hamel update

In follow up to my first page on David Hamel I am pleased to present additional information on his magnetic devices.



This three grear design is from David Hamel! It is his design! . The magnets are >suppossed to be around the circumference of the gears. It is not show >in this pic. A contact of mine is at present is constructing this device and when I hear more I will add his progress to this page.



There is a lot of speculation that ancient Egypt may have had access to technology unknown at present to us. If you look closely at the above picture you may see a connection to the device below.

David claims aliens told him all along that they had contact with ancient cultures. It is interesting to see the arms of the people in a pushing position but seemingly not touching anything.

Look at the eyes on each person as they seem indicate a level position and balance. On the whole the entire picture seems to indicate balance to me.

The knees of each person are bent indicating to me energy ready to spring upwards but held down. The hands on the ank seems to pushing upwards but if you look closely you see the weight finely balanced on a small middle section of the picture centre..

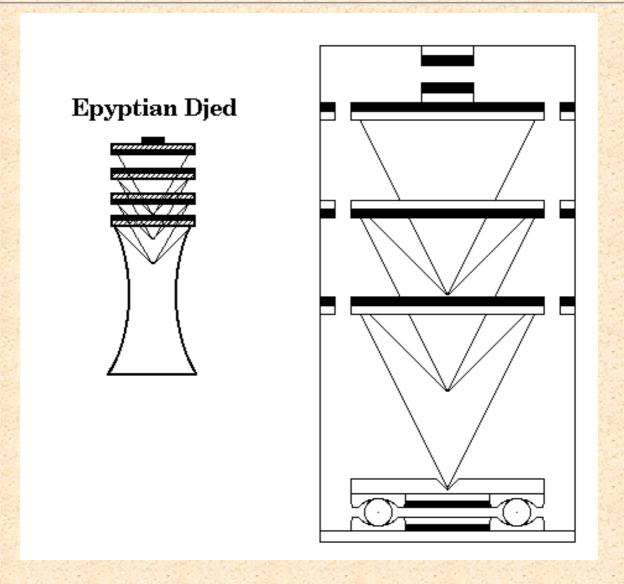
Notice too the dome top but there is a gap between the top and the weight.

Wonder why they choose an oval type drawing here and not something man made with straight lines a triangle or a square. (interesting a magnetic field is decribed in science as on circular oval shape. Interesting too also to see three sets of figures on either side of the dome and those also pushing against something unseen also. Notice also a wooden disk at the bottom seemingly floating above the bottom of the drawing in the white gap space

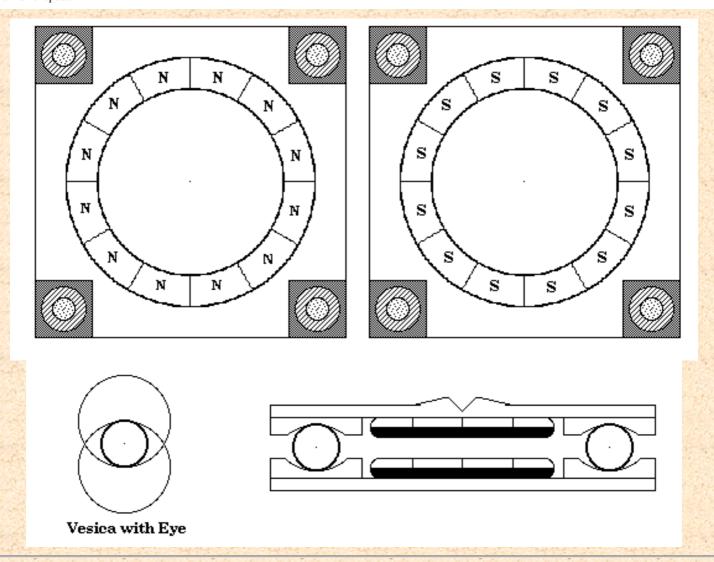
Using two human like figures make be also mean two parts of the same things there appear to be the same but on closer examination each is wearing a different head dress. They could also be be a male and female (probably making a wild assumption here but what about representation of North and South)

The two figures seem to be sitting on something either like aladdin type lamps maybe to indicate light or perhaps they look like birds possibly indicating flight. Or they could also be Egyptian rafts seemingly to indicate movement. I am usure what the wavy lines on each side represent maybe they indicate magnetic waves or water type ripples etc.

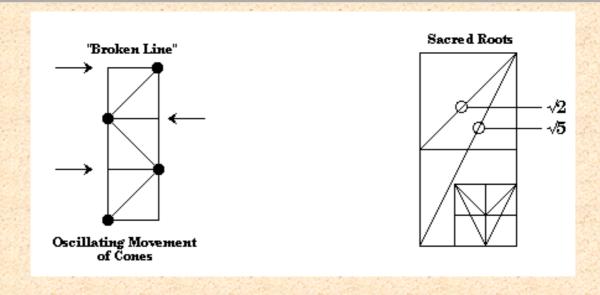
There may be many other unseen forces you can feel an invisible push against but there only one that I can think of and that is magnetism in a replusion field.



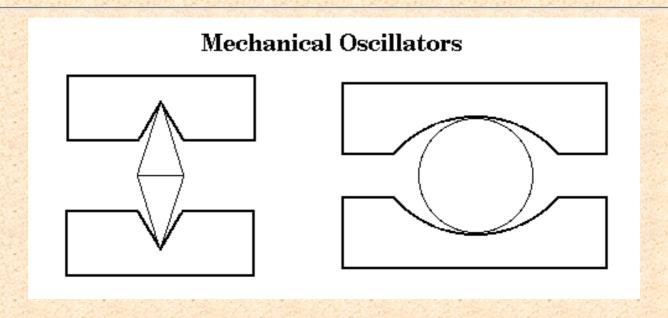
All parts of this design appear to have the magnetic forces in a repulsive mode and in balance overall The device is seems able to rotate and tilt in any direction. The base seems to have magnets in an attraction arrangement as displayed in the diagrams below.



Hard to so say what these two diagrams but assume one plate sits on another with four rotating balls at the corners help to keep the two magnet arrays apart. expectecting more details on this shortly assuming the drawing are correct this would mean the magnets here are in an attraction arrangement..



Diagrams showing the tilting rotation of the three magnetic cores in relationship to one another.



Don't have much information on these yet but I assume they are two parts in a repulsion or attraction mode balanced on either a non ferris ball maybe granite as David has indicated in his book the Granite man and the butterfly.





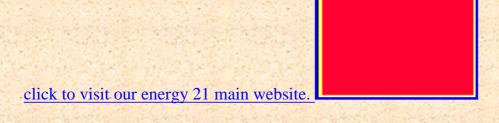
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At this time in Canada there is man by the name of David Hamel who claims to have been contacted by aliens

who showed him how to produce a flying saucer using the power of magnetic repulsion to power this craft.

David Hamel claims to have made a design using about \$3000 dollars of tandy one inch magnets which when

flew created a bright light as it ascended towards the heaven.

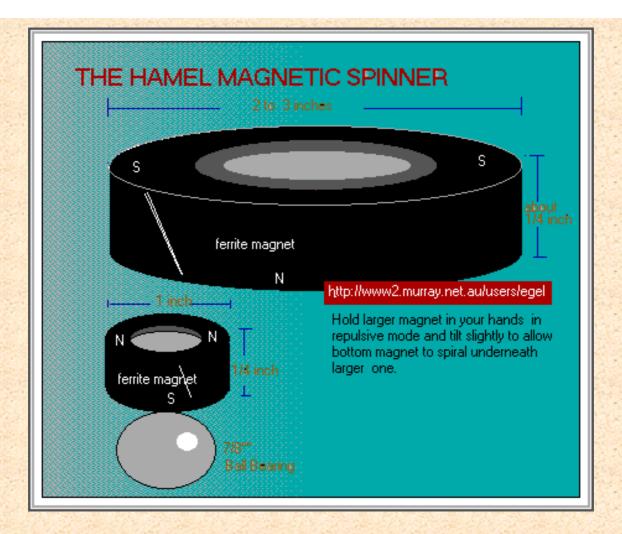
At the same time electrical equipment in the area failed to function.

For more information on this man I suggest you check out the Project Magnet site on my helpful sites list.

There you can access information about a video and book by Pierre Sinclair describing David Hamel life story

and activities

## The experiment



The drawing is an experiment that has excited some free energy personnel

although David Hamel does not claim it to be a free energy device but a demonstration of a greater principle.

But never the less the experiment is interesting to perform and is cheap to do so.

Parts Needed.

2 to 3 inch circular ceramic magnet with just over 7/8 inch hole in the centre

1 tandy 1 inch circular magnet or thereabouts

one steel ball bearing 7/8 inch in diagram

a hard surface kitchen top is excellent.

#### **METHOD**

Place the ball bearing on the hard surface and then place the one inch magnet on top of the ball bearing

if it tilts over don't worry as when you bring the larger magnet with your hand towards the one inch magnet it

will come back up.

The magnet should be in an opposing mode that is north against north or south against south...

Move the larger magnet into position with your hands and hold it one inch or so above the smaller magnet.

The smaller magnet will find it own position from then on you will need to tilt the larger magnet with your hands

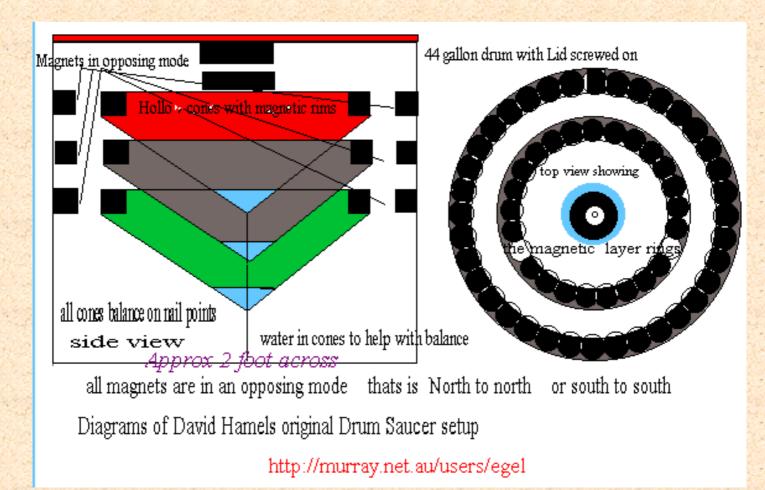
slightly to promote a spiral forward motion under the bigger magnet.

Keep the magnets far enough apart so that so do not become attached to one another.

with some practice you should be able to keep the ball bearing and magnet spinning for several minutes.

The Jnaudin web site on the helpful page listing may still allow you to download an AVI film of these things in operation.

#### **POWER FROM A 44 GALLON DRUM**



The above is a diagram of the first machine David Hamel claims to have built. It consisted of three levels of cone disks with a ring of Tandy or radio shack magnets arranged in a circular

pattern around the outer rim of each cone.

On the inner side of a forty four gallon or 200 litre drum there are also arranged another set of three circular magnet arrays and when then center cones are added to the center of the drum, each magnet array is in opposition to those on the opposite disk.

Thats is to say all magnets are arranged so that north faces north or south faces south poles.

I have heard lately that David Hamel added some water to the cones to help in achieving a good balance with each cone when he built his first unit.

All cones fitted inside each other, and the top cone is held in placed by an opposing magnet when the lid of the forty four gallon drum is placed on top of said drum and held in place.

The drum is said to have been about two foot across and further units of eight feet diameter were also claimed to have been built.





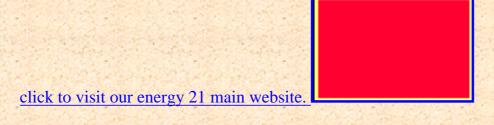
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# Hamel 45 Gallon Drum Experiment - Oscillator details

Created by Steven Dufresne (<u>stevend@entrenet.com</u>) Created on 2 August 1999 Last Modified on 2 August 1999

#### The Oscillator

This design of oscillator is taken more or less from the BobThomas drawing. It consists of two triangular plates, a topplate and a bottom plate. The bottom plate has a cup in each of its three corners facing up. In each cup sits a pool ball. The top plate also has a cup in each of its corners but these are on the underside of the plate and face down. Each cup of the top plate sits on one of the bottom plate's pool balls. This arrangement allows the top plate to move freely over the bottom plate, as long as the pool balls remain in the cups. Note that cups are bowl shaped causing up and down movement of the top plate as it moves horizontally.

The top plate has a piece of aluminum on its top surface, this aluminum having a notch in it. The bottom cone sits in this notch. This allows the bottom tip of the cone to move horizontally andvertically.

One more detail is that in the center of each plate is amagnet. The magnet for the bottom plate sits on top of theplate. The magnet for the top plates hangs under the plate. These magnets are oriented so that they attract each other but are spaced out due to the height of the pool balls such thatthey do not touch. These magnets pull the cone tip back to thecenter.

Looking down at the surfaces of the plates that face each other. On the left is the bottom plate with the pool balls sitting in itsthree cups. In the center is the magnet. On the right is the topplate. Note that it is upside down as the three cups are normally sitting on the bottom plate's pool balls.



On the left is the bottom plate, turned upsidedown so as to show its under surface. On the right is the top surface of the top plate. The dark mess in its center is a bunch of ductthat holds the piece of wood that holds the aluminum that has thenotch in it. The three pool balls are sitting on the tablein between the two plates.



Almost side view of the bottom plate withthe pool balls sitting in the three cups. The magnet is visible in the center. The cups were made of Christmas tree balls that normally hang on Christmas trees. These were bought in a craftstore. They come as two plastic half spheres which people canjoin together after filling them with various decorative things. I simply used a hack saw to cut them to the needed size.



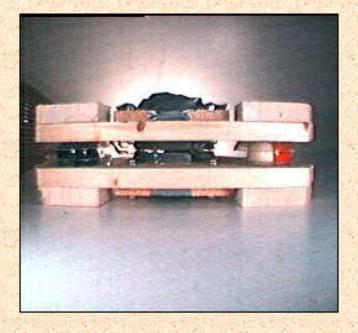
Close-up of a pool ball sitting in its cup. Note that it is not a snug fit, allowing the pool ball tomove around in the cup.



The cup without the pool ball so that you can seethat it is bowl shaped.



Side view showing the top plate sitting onthe pool balls which are in turn sitting on the bottom plate. A gap can just be made out between the two magnets.

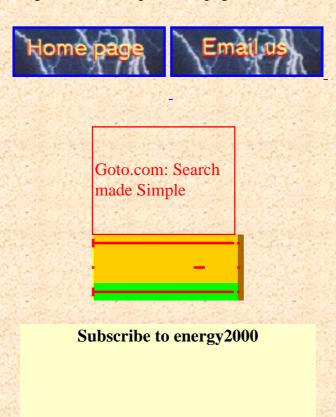


Top/Side view showing the two plates as theywould appear when sitting at the bottom of the drum.



## Other details

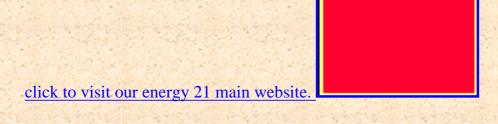
Currently I have 4.5 inch magnets attached to the oscillator and the gap between them is very small. The strength of these magnets are such that they hold the oscillator too rigidly centered. I'llexperiment with different sized magnets as well as with largegap sizes but only after I've solved some of the other problemsmentioned on my main 45 gallon drum experiment page.

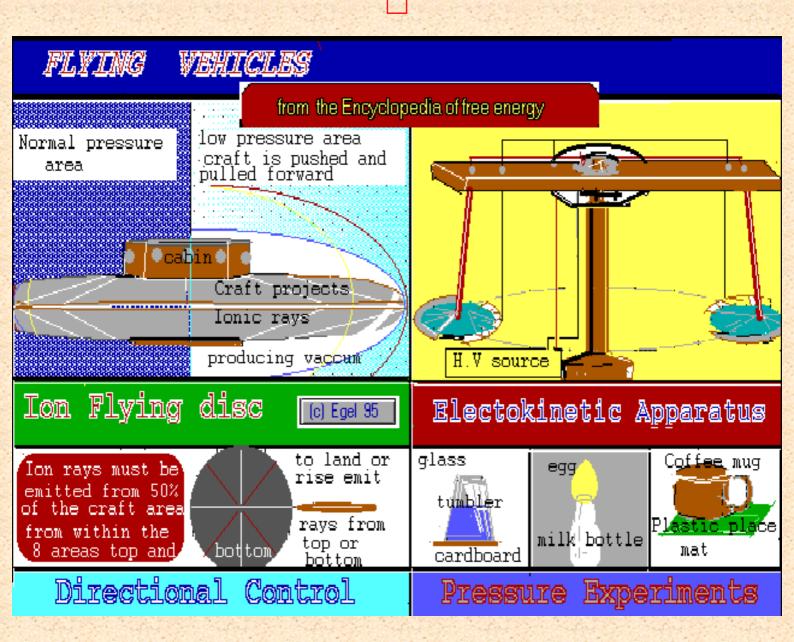


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## Flying vehicles

What is described is a means of propulsion for such a flying disk. The entire outer skin of craft is covered with means of producing Cathode ionizing rays. When an ionizing ray is produces it breaks down a layer of air to form a vacuum and then is re absorbed into the air. This could be a means of propelling a craft through the air. The reports of these craft seem to indicate they prefer flying in a straight line for any given direction This could be achieved by the following means. For directional control the vehicles skin is divided into sixteen sections eight above on top and eight below. Please note more less sections could be used in the guidance of the flying vehicle. To move the craft in any direction half of these sections must be switched to on and producing ionizing rays and the others to off leaving this area to a be normal air pressure. To move in any direction set the vacuum producing sections so that mid section top and bottom is in the direction you wish to go. The air in front of craft for this direction is then turned into a vacuum and the normal air pressure behind craft pushes it into the low pressure area and because the ionizing rays continues the craft continues to move in forward direction. To go up the entire top surface is turned to vacuum

producing rays and the bottom is turn off. The craft entire craft moves upwards. To go down reverse the above process. To power the craft an ionizing cathode ray generator could be employed as described in the ION CATHODE GENERATOR This vehicle could not have portholes as the changing air pressures could cause them to break so TV cameras would needed to be mounted around the edge of craft to aid in navigation. The Ionizing field would produce a very bright light and would be very dangerous to anyone standing near when in operation and could only be safely approached, when all of cathode emitting units were turned to off. The fields would not effect the crew as the rays are projected outwards and the radiation danger would probably be less than the normal environment. Those claiming to have seen a UFO have often reported bright lights and some have had strange radiation burns on their bodies giving witness to their stories.

Pressure Experiments. The following experiments are included to show to you the power of a vacuum and air pressure that surrounds us. Glass Tumbler PLace some water in a glass tumbler, surprisingly it does not need to full as some suggest. Place a piece of cardboard or playing card over the top of glass and with a hand holding card in place. Tip card and glass tumbler over quickly and remove you hand and the air pressure from the outside and the vacuum inside will hold the card and water in place without pouring onto the ground if done properly.

Egg in Milk Bottle If you can get a milk bottle you can perform this experiment, and a not too big fresh egg and piece of paper and a lighter. Put a slight splash of water around the top of the milk bottle to allow slight lubrication. Light a piece of paper and drop into milk bottle wait until the paper has nearly burn out and place egg on the neck of the bottle. When the air inside of bottle has cooled it creates a slight vacuum in milk bottle and the outside pressure forces the egg inside bottle. If you soak the egg in vinegar it will remove the outer shell and may make it easier to perform the experiment. Now that you have got the egg in the bottle how do you get it out? The only way I have seen is to put the bottle in your mouth and with lips around entire bottle give a strong blow and then put the egg into inside of neck of bottle. Keep blowing until egg starts to move through neck to outside. There is another way however pour hot water into the bottle pour the egg into the neck and wait for the air inside the bottle to heat up and wait for the air pressure to build up and push the egg out. You could probably do the above experiment like this with a small blown up balloon and a glass jar. The balloon would certainly be easier to remove than the egg.

This I have seen this happen by accident. A hot coffee cup that has just been finished with and still hot is turned upside down on plastic place mat. What happens when the coffee cup cools there is a partial vacuum created inside the cup and the place mat is drawn into the cup and a seal is formed around the lip of the cup. When the cup is picked up later the place mat goes with it too.

Electrokinetic Apparatus Invented by T.T. Brown Filed July 3 1957 number 2,949,550 This device consisted of two disk shaped devices mounted on a freely revolving platform which carries two high voltage charges one positive and one negative supplied by a high voltage source. The disks themselves are made of a dialectic centre, upon which are placed two conductors on the rims, one being made positive and the other one being made negative. Both saucers have electrical connections the same, that is both of the back conductors on each disk are positive and the front

conductors are negative. The two conductors on any single disk should be far enough apart to prevent voltage sparking crossover between the two conductors on the said disk. Upon applying the high voltage to both disks the apparatus began to revolve around the centre post gradually gathering speed.





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## **TheDavid Hamel's Pictures Album**

## The Hamel's devices build Tracy Jones



TheDrum, the Hinthorn device and the HFS wing build by Tracy

## **ThePlexiglass models (below)**

"I had figured out how to solve the problem of the droopy wings bypaying a very nice guy in a plastic shop to form me 4 domes withthe horizontal wings at only a cost of 215.00 per. He later didmy inner cones for another 30.00 per. The only advantage of doingthis was not only did I not have any more problems with thewings, but you could see what was going on inside which waspretty much nada. It's kind of fun trying to get smoke to godownward into the inner cones after you have forced it up to thetop to see how the air is suppose to flow using a lighted cigarette and blowing the smoke between the wings. Of course Iwas fortunate to find a hacker to do this for me." Tracy.





"Thebottom right shows my cup for my diamond shape pinions scaleddown to fit the domes. I was very fortunate in that my friendly Canadian machine shop foreman only charged me 465 dollars for allnine pinions in US currency. I couldn't find an American machineshop to do the work even if it was done in aluminum. I used mycue balls for the shoulder pinions. "Tracy.



"Thebottom right was the cover I used for the top. I finished thedevice only to find some more nada. During this period of time Ihad the good fortune to meet Dan Dial. I had decided to spend thewinter in San Diego bugging Dan LaRochelle for any information hemight have on the subject and try my hand at using the Enhancerto help people help themselves. This was done with highexpectations of huge donations from those getting better all thetime. However, most of my prospective clients didn't have anymoney, but they used the machines anyway and I was able to sell afew I put together myself from kits I purchased from Dan. I alongwith Bob Thomas left our machines at his place for him to studyand maybe get the damn things to work. I returned the followingsummer with great expectations on making yet a third hfs afterworking with David in Ontario. Dan decided it was too much out ofkilter to do anything with and he also informed me that plasticwouldn't work anyway. Dan now has the plastic domes and I havesome of the magnets in my third hfs. This one you already haveseen some of the photos of which I have about 150 to date. Don'tworry, I won't be sending you these enmasse, but will accommodateanyone on an individual basis. "Tracy.

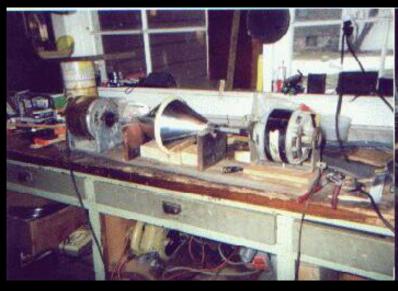


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## OtherExperiments ( below )





"Thisis the last photo of the series. The top photo shows an experiment that I made using the large aluminum cone hung by astring from the ceiling. There are as many magnets as you see onthe table on the bottom inside of the cone. I watch this coneoscillate for a total of 45 minutes one day, just going back and forth.

The setup in the bottom two photos is an attempt to spin twomagnets in rejection in opposite directions enclosed in the conesat high speed. The best I did here was burn up one of the acmotors. The TV never blinked once. "Tracy.

## **Testreports**

**Sujet :hfs report 9/22/99 Date : 23/09/99 03:28:13** 

From: tracy@plix.com (Tracy)

Good evening everyone,

This afternoon, I designed a bracket to hold my old time Buickwindshield wiper motor I purchased and attached a 1/2 inch stripof aluminum to serve as the arm. This I attached to the bottomwing and began to oscillate the wing using my battery charger as a power source. The bottom wing oscillates about 1/4 inch and thetop wing slightly less. The center floating magnet oscillates about 1/8 to 1/4 inch, and does not spin. Da fatlady was witness to this and I asked her to go home, a short distance away, and give me a phone check. I have a power transformer located approximately 60 feet from the device and it's estimated to be about 20 to 25 feet above the ground. The phone lines run from this pole to the house and the closest distance to the hfs isapproximately 30 feet. Most of the phone interference was towardsthe direction of these lines and pole. My portable phone was disconnected 6 times with the furthest being about 5 feet andlying in a line towards the pole transformer. This line of sightand closer to the hfs also produced the loudest noiseinterference and when the noise increased, it continued to do sountil the phone disconnected. The only other area of interferencenoted was below the device towards the edge between the phonelines and the hfs, above the edge of the wing itself which iswhere the magnets are and the opposite side of the hfs from adirect line towards the power pole. I then hooked up my TV alongside the hfs on a level just above the wings and about 4 feetdistance. Without my cable hookup, I can only receive one stationand the reception is very poor, but the sound is fine. I noticedconsiderable interference with the tv, but not the sound. Thestrongest build up before the phone had disconnected was when Ioscillated the top wing by hand while the bottom wing was beingoscillated by the motor. When I turned the motor off, all theinterference on the phone ceased. The windshield motor has been running for 75 minutes and I intend to leave it running allnight.

Far as I can determine, it will continue to operate barring anybreakdown in the attached arm. The last disconnect was when I hadthe phone close to the skin of the hfs and between the horizontal portion of the wing and floating magnet. The distance at its strongest detected interference was when the phone was within 2 inches of the skin and it was like this completely encircling thehfs. This is most interesting because it makes no difference concerning the location of the overhead phone wires or the pole transformer. It remains a constant all the way around the hfs. If it is still here by morning and the motor is still operating, then I will devise another design to hooked up the arm to the topwing and try that. I've also taken 5 photos of the arrangement. Will keep you posted. Tracy.

\_\_\_\_

Sujet: report 2 hfs9/22/99 @ 95 minutes

<u>Date: 23/09/99 0 3:42:28</u> From: tracy@plix.com (Tracy)

An interesting development just began. While still oscillating as before withouly the motor, the TV is now resonating with the movement of thewings with both the sound and picture turning itself off and on. I've asked DA fatlady to come over and witness this development. Tracy.

Sujet: report hfs9/22/99 @ 215 minutes

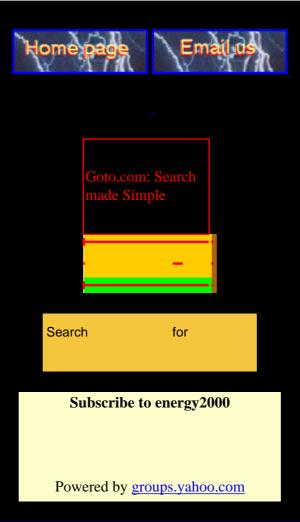
Date: 23/09/99 06:17:23

From: tracy@plix.com (Tracy)

The windshield wipermotor is still working and ever time its arms to the wing touchor move within the connected joints it sparks and sometimes verymuch. This also happens when aluminum touches each other. It doesnot have to be steel. The TV appears to just about had it without large flashes showing every time it sparks. No program atall now. I was speaking to Louis on the portable phone earlierand it disconnected on him also when I placed it close to thewings. I've taken two more pictures with flash. It's now 9:02PMPST and will remain up for a while longer. I will also leave themotor running. Tracy.

Sujet: report hfs9/22/99 325 minutes

Date : 23/09/99 07:48:16é) From: tracy@plix.com (Tracy) The tests began at4:50PM and it's now 10:15PM, that's 5 hours and 25 minutes or 325minutes and the damn thing is still looking like that pink bunnyrabbit with the ever ready battery attached to it, It just keepsrunning and running, but no lift off. I did make another testthinking that it must be grounded somehow to be sparking like itis. I detached the motor from the top of the structure where Ihave it bolted and isolated it from the hfs while it was stillrunning. The sparking continued when ever the aluminum armtouched the frame as it leads to the bottom wing or when the armmoved while loosely attached to the bottom wing. I rebolted itand then ran an alligator clip from the bottom wing and struckthe top wing. No spark. When I struck the clip to the frame fromthe top wing, still no spark. I then attached the clip to theframe on the opposite side and struck the bottom wing, lots of spark, but none from the top wing when I struck it. Each time itsparks no matter where the spark comes from, the TV goes bonkerswith lots of large flashing from the screen. This flashing is sointense, it's like looking down into the tube itself and seeingthe rear end of the tube. Getting sleepy so will retire and checkon it later. It's still running now. Tracy.





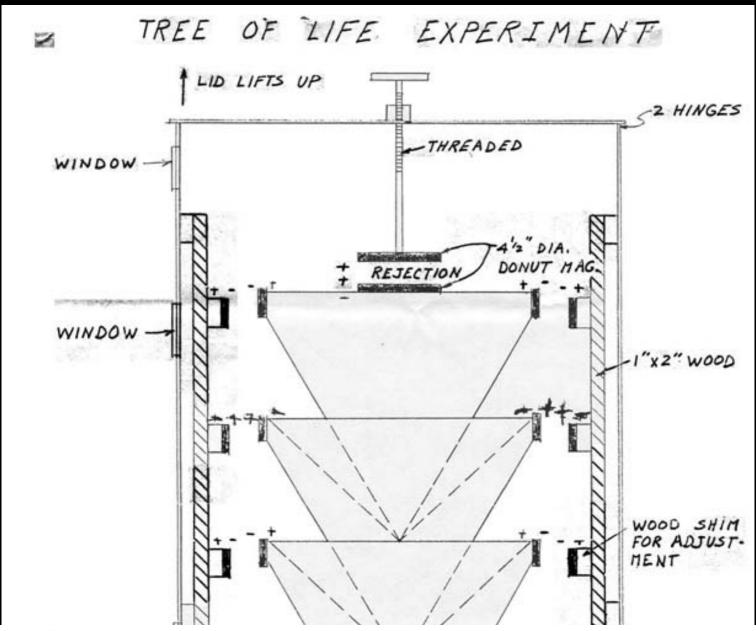
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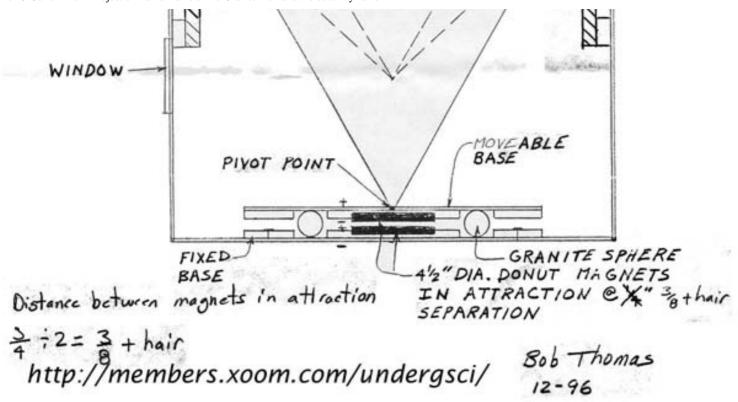


## The hamel device a constructors report

This an device built by an US constructor and I have no additional info apart from whats at this volume.

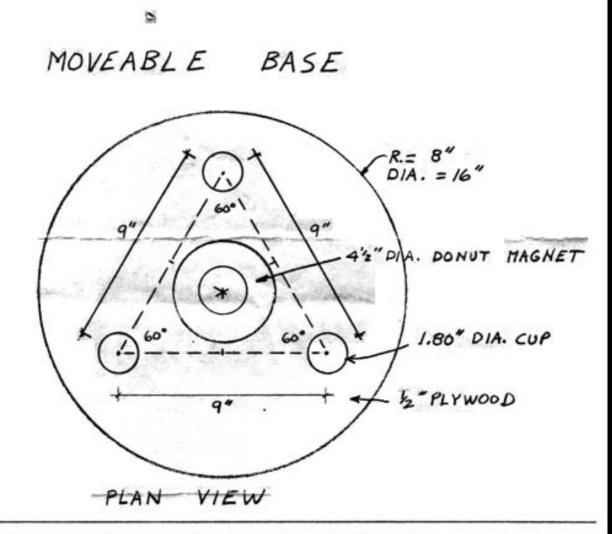
After a year of experimenting with small scale devices I began to prepare to build the "big one", the device in the 45 gallon drum, as Hamel says if you don't built big it won't work (he's right). I wrote David Hamel asking for any information he could provide about this experiment. I was surprised to receive a thick envelope back, sent by express post (that cost him \$5). I opened it, and there inside were complete plans for the 45 gallon drum experiment. I have scanned the documents and put them here. They contain all the measurements and design details required to build it! I am gathering materials and getting ready to start construction right now, and hopefully WE ALL will beable to build this thing and make it work!



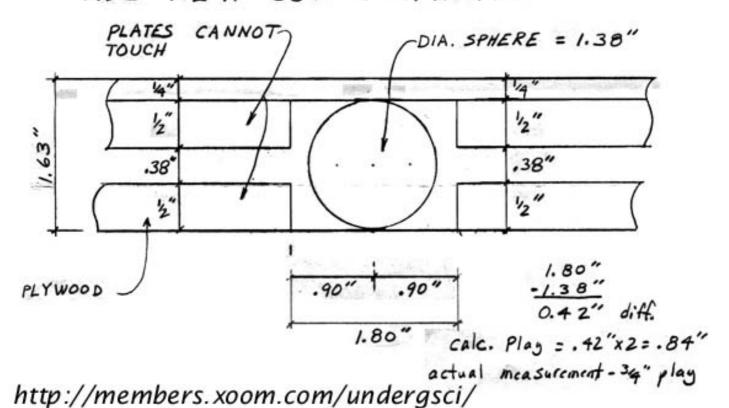


Cones: Bicycle rim with metal band 14 5/8" Dia. height of cones 13 5/8" cone dia with magnets 15 % "
center cone 1/2 height of full cone magnets: "18" x 1"8" x 3"8" Ceramic 5 Berium Ferite @ 316" separation on The magnets on the cones and cylinder are attached to a 32" thick steel band. Glace + taped Maximum oscillation time: 15/8"-separation between mag. on concerculinder, don't magnet separation - 2 14". Oscillation time 14 min. Match low point of oscillating cone magnets and colinder magnets. 24" O.D. Steel aglinder "4" thick steel http://members.xoom.com/undergsci/

44



## SIDE VIEW CUP & SPHERE





This render I made is what the fully assembled device will look like (more or less). This arrangement is lowered in a 45 gallon barrel (or some other 24" diameter steel cylinder). The steel shell is very important, itsomehow "traps" the magnetic energies inside, and it is the "magnetic compression" inside the barrel that causesthe energy effects to be produced. I think that the device will run out side of the barrel, but the cones will onlywobble continuously, no energy effects would be produced. This possibly would be good for demonstrations, we can onlyspeculate at this point what would happen.

### Other important details

-A 45 (Canadian) gallons drum and a 55 (American) gallon drum are the same thing.

-If the device successfully runs for 1 hour I will turn it off and re-enforce the container with steeland cement, as you may recall Hamel's 45 gallon barrel device imploded after 2 hours of running. By that timethe device had been glowing red. hopefully longer run times will produce more effects like his larger devices did.

If you have any suggestions or comments or additional informations please email the original author at <a href="mailto:szymanek@connect.ab.ca">szymanek@connect.ab.ca</a>. He would like to getfeed back from other people experimenting in this area. If the device He constructs based on Hamel's plans worksHe will post the FULL construction instructions (that has a nice ring to it, eh?) at his Underground Sciencez site below.

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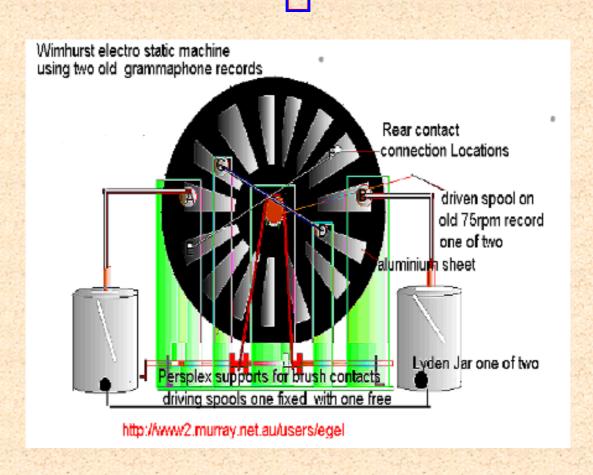
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## Wimhurst electro static machine.

An interesting device built late last century and early this century was the device called the Wimhurst electrostatic machine and may yet hold the key to some free energy secrets..

Unfortunately not many are built these days largely superseded by the Van de Graf machine.

But due to the work carried out by the Swiss group building the Testakica it may be worth investigating this machine again for yourself.

This machine is basically twin disks rotating at a slow speed in contra rotating direction realtive to each disk.

The disk can be hand driven or machine driven.

I used old gramophone records to build my version.

### What it consist of

Two contra rotating disks with foil sections

At the centre middle horizontal position two brushes positioned at front and two at rear to collect and transfer

a charge to storage Leyden jars and then hold it or discharge it through a spark gap when sufficient charge has been collected from spinning disks.

A common line connection is shared by two of the other brushes C and D to equal the charge on the both sector plates under these brushes at the same time .

The same happens on disk two but with a common line connection at a 90 degree angle to the front common line connection. E F

Power from position A is fed to the inside metal plate of the Leyden jar and from position B to the other storage capacitor.

There also a common line connection to the outer metal plates of both Leyden jars.

### **Construction tips**

Obtain two old gramophone records approx 30 cm in diameter (smaller ones can be used or a different material could be used.)

- Mark each record into 36 equal segments by drawing lines across the diameter in ten degree segments.
- Mark two circles on each record about one inch from the outer edge.
- the inner circle is dependant on the foil size segments you use and then use these for guides for placement of the metal plates.
- Most designs for this machine suggest using al foil but I found by getting some linotype used aluminium plates and it is
- easy to cut with scizzors and you probably get some used sheets from a printer for about 60 cents each and two sheets
- are all you need. I find also it lasts a lot longer than normal al foil..
- The cut aluminium foil must be able to fit into one of the drawn segments on the disk and can be glued into place by any good contact adhesive.
- The sectors I used were approx 8cm in length with one end 1cm wide tapering out to 2.6cm with all corners rounded
- you will need eighteen for each record a total of 36 cut sections.
- Place one in sector leave the next one blank and then repeat
- Glue these metal leaves into position and let them set for a couple of weeks or longer depending on your climate.
- Make sure all aluminium leaves are flat and no metal sectors plates are sticking up

Later a couple layers of varnish around the plates and onto the record surface will also be needed as well.

On the back of one disk also attach a fibre washer to stop the records for touching one another when in construction and working position.

You will also need to make and glue pulleys to centre of each disk

When the unit is put together these records will be mounted on two separate shafts and be placed back to back with metal sections place on the outside.

### **Making your Pulleys**

I have heard people have used cotton reels but I prefer to make them out of perspex disks cut with a normal home drill attachment that cuts holes from 3/4inch to about 2 1/2 inch in diameter.

The drill feed screw should be no more than 1/4 inch and the bored hole can later be drilled out to 5/16 of an inch

(this will fit in on the threaded shaft mounted on the perspex supports)

Cut four large diameter disk and two smaller ones and glue them together using a nut and bolt in the drill hole to hold the three pieces together to form a pulley.

You may need to smooth off the rough edges on the small disks thus created before glueing together.

I used a lathe but you may get away with using the perspex disk mounted on a drill chuck with a 1/4 inch bolt and sandpapered (be careful not injure yourself by doing this)

### The drive Pulleys

You will also need to make two more set of pulleys for your drive wheel section

If you intend to hand drive this you will need to make these pulleys of a larger diameter

to insure a higher gear ratio to enable the records to rotate at higher speed than hand cranking.

something like ration 3:1 or 2:1 is possible.

When these are mounted one pulley must be fixed in position by tightening nuts around both sides of pulley on threaded shaft

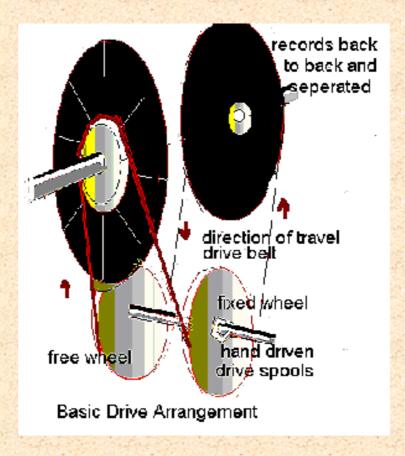
(5/16 threaded shaft is okay 1/4 is too thin and bends)

The second drive pulley needs to be able to rotate freely.

Connect drive belt as below with drive wheels at right angles to the disks

(These belt driving design for this set up had me puzzled for months and I using an inefficient cross belt in my

set up before someone sent me this idea.)



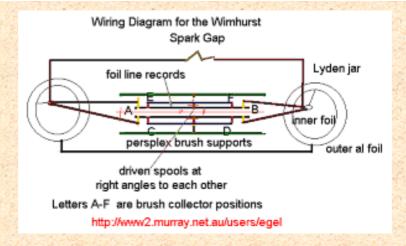
### Making the brushes

you will need to make eight collecting brushes for this unit

### **Centre Brushes**

These will be mounted at positions A and B on perspex mounting at the centre diameter edges mid point horizontal to each disk and they will also be a common position on the rear disk

### **Diametrical Connections**



### **Basic wiring connections**

A further two common connected brushes are needed at position C and D (C may need to set higher and D lower than those shown on the drawing.( blue line)

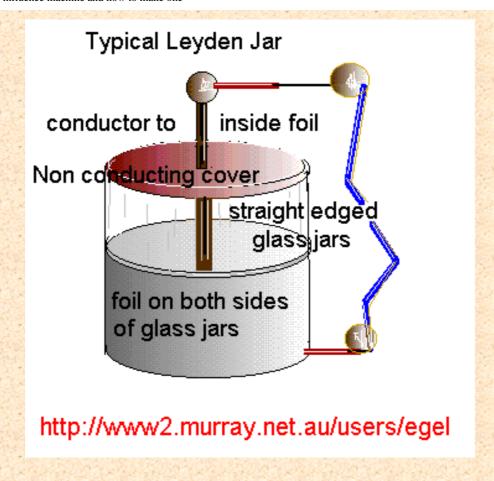
Brushes E and F shown in white on the drawing are the from the back of the drawing and will need to mounted

at a position of 90 degrees to that of C and D on the front. (white line)

some people have used foil to make the sliding contacts with the foil on the disk for their brushes but I find that

ordinary small springs mounted on small bolts via the thread make excellent brushes I then can bolt and tighten

them into position using nuts to adjust their positions relative to metal sections on the records.



## Basic Leyden jar construction

I find this simple to construct using the same linotype aluminium as used for the leaves on the disks.

I always had trouble with the wrapping foil as sold in the shops and find the above easier to handle.

I used normal preserving jars of about 17 cm in height and 8cm in diameter. but any thick glass type

with straight edges may do also.

Cut the metal so that it will go around the outside of the jar and overlap slightly and leave one inch gap at top and bottom

with glass exposed at each end.

Wrap the aluminium around the outside of jar and hold in position with tightly wound insulating tape and then apply some

contact adhesive and let it flow between the metal and the glass.

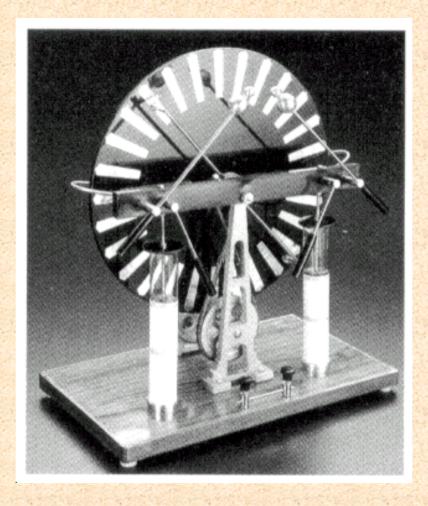
Apply some self adhesive clear plastic sheeting and cover both the metal and the glass.

For the inside of the jar cut metal the same height but smaller than outside length and form into cylinder using another glass jar of the same diameter and then slip inside of the Jar.

It may pay to have an electrical insulated wire connection to the metal before you do this however.

Your Leyden Capacitor jar is now completed.

You will need to make another one of similar dimension try to keep all the measurements the same.



Commercial version of a wimhurst generator

## **Putting it together**

I hope from what I have written you are able to put a Wimhurst electrostatic generator together and see it working for yourself





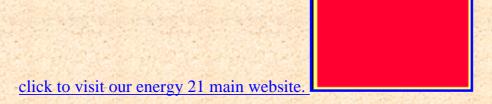


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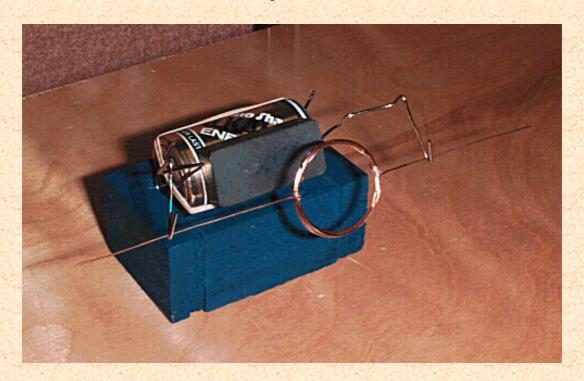
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## The Worlds Simplest Electric Motor



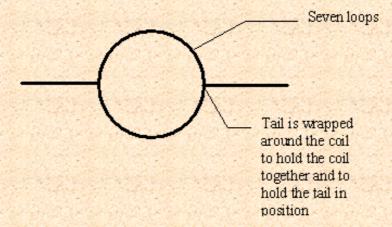
I was very impressed that you could actually build a working electric motor with so few parts. I built one and brought it to work where it was a big hit with all the engineers around here. This writeup was for a friend of mine who wanted instructions that his son could follow for a science fair project. Here's how to build one. If you are using a text only browser, you can click on the "Figure" links to download the drawing s (GIF files). BTW, my friend's son won second place in theschool's science fair.

### **Materials Required:**

- One 'D' Cell Alkaline Battery
- One Wide Rubber Band
- Two Large Paper Clips
- One Rectangular Ceramic Magnet
- Heavy Gauge Magnet Wire (the kind with red enamel insulation, not plasticcoated)
- One Toilet Paper Tube
- Fine Sandpaper
- Optional: Glue, Small Block of Wood for Base

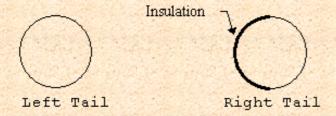
### Instructions:

1. Starting about 3 inches from the end of the wire, wrap it 7 times aroundthe toilet paper tube. Remove the tube (you don't need it any more). Cutthe wire, leaving a 3 inch tail opposite the original starting point. Wrapthe two tails around the coil so that the coil is held together and thetwo tails extend perpendicular to the coil. See illustration below:

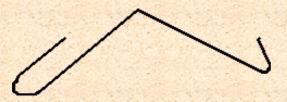


**Note:** Be sure to center the two tails on either side of thecoil. Balance is important. You might need to put a drop of glue wherethe tail meets the coil to prevent slipping.

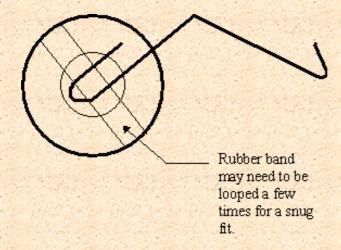
2. On one tail, use fine sandpaper to completely remove the insulation from the wire. Leave about 1/4" of insulation on the end and wherethe wire meets to coil. On the other tail, lay the coil down flat and lightlysand off the insulation from the top half of the wire only. Again, leave1/4" of full insulation on the end and where the wire meets the coil.



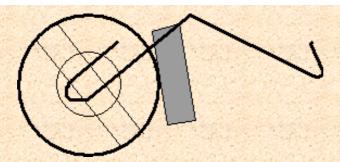
3. Bend the two paper clips into the following shape (needle-nosed pliersmay be useful here):



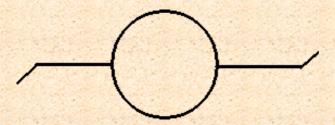
4. Use the rubber band to hold the loop ends (on the left in the abovedrawing) to the terminals of the "D" Cell battery:



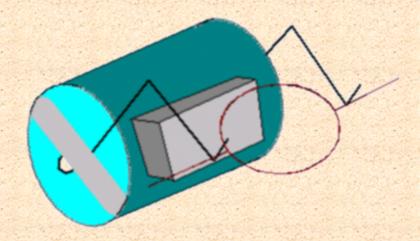
5. Stick the ceramic magnet on the side of the battery as shown:



- 6. Place the coil in the cradle formed by the right ends of the paperclips. You may have to give it a gentle push to get it started, but itshould begin to spin rapidly. If it doesn't spin, check to make sure that all of the insulation has been remove d from the wire ends. If it spinserratically, make sure that the tails on the coil are centered on the sidesof the coil. Note that the motor is "in phase" only when it isheld horizontally (as shown in the drawing).
- 7. For display, you will probably need to build a small cradle to holdthe motor in the proper position. It might also help to bend the ends of the coil a bit so that as it slips right or left, the bends keep it inthe proper position:



1. Here is a diagram of the finished motor:



## **Further Experiments:**

Since this is an existing design, you might want to do some further experiments to make it more of a Science Fair experiment instead of justa model. Here are some suggestions:

- 1. Try to adjust the phase angle of the motor so that it will operate a vertical position. This involves removing a different area of insulation from the partially bared tail of the coil.
- 2. Try making different shaped coils and seeing how they work. Is the circle the best shape? Try squares, ovals, etc. Make a display showing each of the coils you tried with a short summary of the results underneath them.
- 3. Try varying the number of turns of wire in the coil. I don't know wherethey came up with seven. Does even or odd number of turns matter? Doesthe number of turns determine the speed? Again, include the different coilsin the display and describe the results.
- 4. How long can you get the motor to run before it falls off the cradle?
- 5. Turn the coil slowly by hand and feel the magnetic attraction at eachposition of the coil. Make drawings showing the

different coil positions and describe how the attractions vary at each position.

6. HARD ONES: Can you think of an interesting way of determining the speedof the motor (in RPM)? Can you make the motor do any work?

### **Final Notes:**

You can get the magnet wire and ceramic magnets at Radio Shack. I thinkthe wire comes in a pack of three spools of different gauges, you wantto use the medium gauge, not too heavy, but thick enough to hold its shape.

Be sure to bring a fresh (extra) battery to school with the project.





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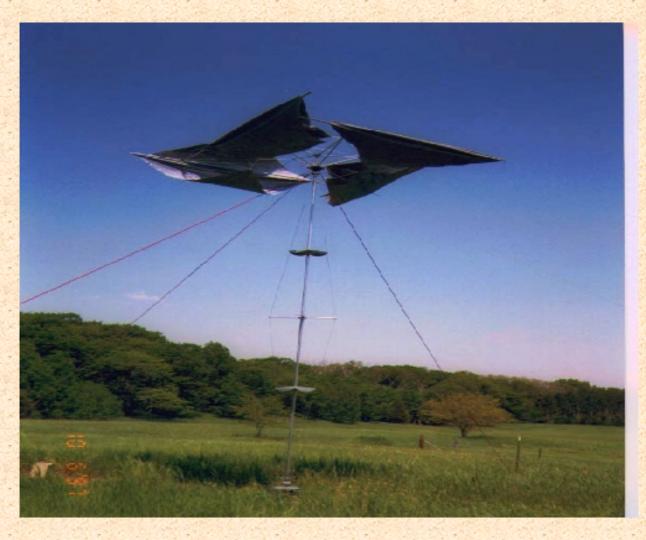


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# **Robert Green's unusual windmill**



### Robert Green

has an an interesting wind powered invention

and the following is the details he has forward to me at this time.

It has communicating sails that open and close to produce two shapes.

One is a scoop and the other is a wing.

The wing not only reduces drag in the advancing sail, but also contributes lift at higher wind speeds, and provides stability to the action.

- Two sail are open at a time. It starts pumping significant water at wind speeds as low as 3mph.
- The tower does not interfere with the rotor and can be made in large or small sizes depending on use.
- The entire unit is extremely light but very strong, withstanding excessive wind speeds.
- Winds of over 60mph has had no ill affect.
- The entire tower turns with the rotor.
- There are only two bearings in the unit.and the cost is lower than any known wind machine by several orders of magnitude.
- The unit in the picture(14' rotor,20' tower) weighs about 70 lbs. including the tower.
- One person can assemble and erect it in one afternoon.
- Putting it up, or taking it down requires less than two minutes.
- Appliances of all sorts can be attached to the belt drive at the base of the tower.
- The unit is portable and is erected on stakes driven into the ground. No permanent base is required.
- Robert has indicated he is willing to provide more information at a future date. but in the meantime please contact Robert Green for more details

A patent has been applied for by the way.





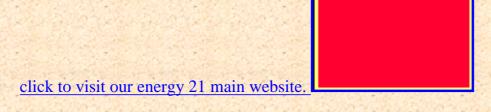
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# **The Gary Effect Magnetic Motor**

At about the time that Laura Ingles was growing up in the Little House On The Prairie (1870's), a gentlman named Wesley Gary from Pensylvania, USA made a remarkable but little noticed discovery. According to an articlein Harpers Magazine (still published today), Gary discovered a subtle ferromagnetic phenomena that allowed him to do the impossible, he constructed a machine that seemed to run with no external energy input. Such a device would normally be considered an impossible perpetual motion machine because it would seem to violate a basic law of nature, the conservation of energy.

The conservation of energy (or mass/energy) is also called the First Law of Thermodynamics. It is based on the principle of cause and effect,nothing can happen without some cause. Its seems like a self evident principle of nature. So how can any person educated in basic physics entertain the possibility that a story of a self-acting motor mechanism could be true?

What if the "perpetual motion machine" was powered by a hidden source of energy? What might such a source of energy be? I wish to propose possibility for you to consider, FLUCTUATION ENERGY.

Fluctuation energy is real and it is everywhere present. It has twoforms, heat energy, and the fluctuations due to the wave nature of matterand the quantized reality of space and time (zero point energy). Heat orthermal energy is the easiest to comprehend.

Another basic law of physics is the 2nd Law of Thermodynamics. As applied to devices that extract energy from heat, the 2nd Law says that in order get work from thermal energy there must be a difference in temperature. In other words, a heat engine or other device that extracts energy from heat must move heat energy from a higher temperature source to a lower temperature sink.

The 2nd Law would seem to forbid any possiblity of getting useful workfrom heat energy that has a uniform temperature since there would not be difference in temperature. However, at a small enough scale,

temperature differences spontaneously appear due to the statistical nature of heatenergy. Could these tiny differences in temperature be used by tiny heatengines?

The physicist James Clerk Maxwell considered this possibility seriously. He proposed a thought experiment. He imagined two adjoining chambers filledwith air or some other gas. Between the two chambers there would be tinyholes with doors that could open and close under the control of a tinyoperators or "demons". The two chambers could be called the "hot" and "cold" chambers. When the demons would see a fast moleculeheading for the hole into the "hot" chamber they would open the door to let it in the "hot" chamber while excluding slow molecules. Thus the "hot" chamber would be kept at a higher temperature than the "cold" chamber. The difference in temperature between the two chambers could be used to operate a heat engine. The idea of "Maxwell's Demon" has been debated ever since and has not yet been resolved. Of course, today at least, Maxwell's Demon is not a practicle idea evenif tiny computers could replace the demon as door operators.

Even if tiny trap doors are impractical, could there be other possibilities of extracting energy from ambient heat energy. Percy Williams Bridgman, who won the Nobel Prize for his work in thermodynamics, wrote in his bookTHE NATURE OF THERMODYNAMICS, that he could not come upwith a reason why some day man might not invent a device to do this. Heenvisioned something that might use some sort of microscopic RATCHET MECHANISM that operates on the atomic or molecular scale.

Could such atomic ratchet mechanisms already exist? We would expect to find them in some kind of structure where atoms interact with each otherin an orderly array and also are subject to the fluctuations of heat energy. I think the most obvious candidate for consideration is ferromagnetism.

Ferromagnetism is an interaction of quadrillions of atomic magnetsthat behave in very complex ways. In fact, ferromagnetic interactions ina crystal could be considered to be a kind of computer, called a cellularautomata machine. A ferromagnetic crystal can be considered a massivelyparrallel cellular automata supercomputer. Could such a computer organizethermal fluctuation energy into useful high grade energy? I believe itcan under some very special conditions. I think it is very possible that 123 years ago Wesley Gary discovered a phenomena, that although of verysmall scale at first, could be of immense importance to the future of energygeneration!

For an understanding of what Wesley Gary found read this article from 1879.

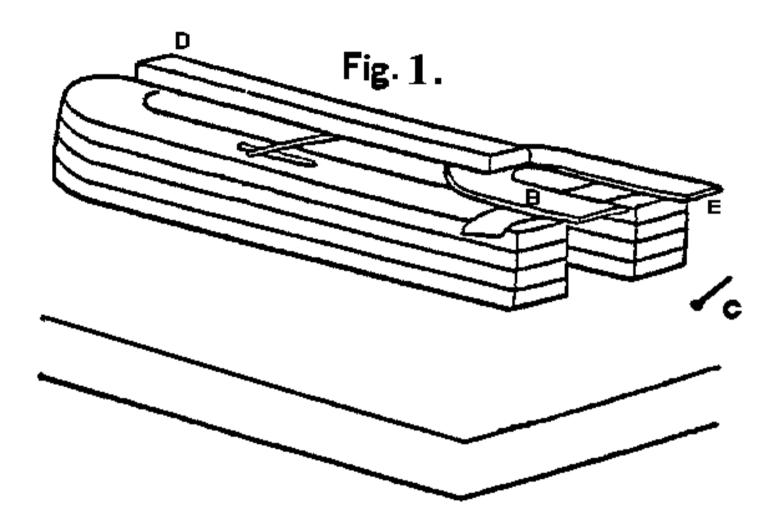
This article describing Wesley Gary's invention and history is from Harper's New Monthly Magazine - March 1879 pages 601-605. The original article was retyped courtesy of John Draper. It has been checked, and theil lustrations

have been cleaned up from the original degraded copies of the old magazine article.

#### **GARY'S MAGNETIC MOTOR**

With an ordinary horseshoe magnet, a bit of soft iron, and a commonshingle- nail, a practical inventor, who for years has been pondering overthe power lying dormant in the magnet, now demonstrates as his discoverya fact of the utmost importance in magnetic science, which has hithertoescaped the observation of both scientists and practical electricians, namely, the existence of a neutral line in the magnetic field -- a linewhere the polarity of an induced magnet ceases, and beyond which it changes. With equally simple appliances he shows the practical utilization of hisdiscovery in such a way as to produce a magnetic motor, thus opening upa bewildering prospect of the possibilities before us in revolutionizingthe present methods of motive power through the substitution of a wonderfullycheap and safe agent. By his achievement Mr. Wesley W. Gary has quite upsetthe theories of magnetic philosophy hitherto prevailing, and lifted magnetismout from among the static forces where science has placed it, to the positionof a dynamic power. The Gary Magnetic Motor, the result of Mr. Gary's longyears of study, is, in a word, a simple contrivance which furnishes itsown power, and will run until worn out by the force of fraction, comingdangerously near to that awful bugbear, perpetual motion. The old way oflooking at magnetism has been to regard it as a force like that of gravitation, the expenditure of an amount of energy equal to its attraction being required to overcome it; consequently its power could not be availed of. Accepting this theory, it would be as idle to attempt to make use of the permanentmagnet as a motive power as to try to lift one's self by one's boot straps. But Mr. Gary, ignoring theories, toiled away at his experiments with extraordinary patience and perseverance, and at last made the discovery which seems tonecessitate the reconstruction of the accepted philosophy.

To obtain a clear idea of the Gary Magnetic Motor, it is necessary first comprehend thoroughly the principle underlying it -- the existence of the neutral line and the change in polarity, which Mr. Gary demonstrates by his horseshoe magnet, his bit of soft iron, and his common shingle-nail.



This is illustrated in Figure 1.

The letter A represents a compound magnet; B, a piece of soft ironmade fast to a lever with a pivoted joint in the centre, the iron becoming amagnet by induction when in the magnetic field of the permanent magnet; C, a small nail that drops off when the iron, or induced magnet, is onthe neutral line.

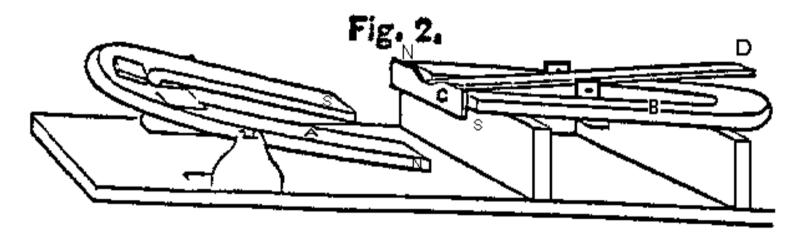
By pressing the finger on the lever at D the iron is raised above theneutral line. Now let the nail be applied to the end of the induced

magnetat E; it clings to it, and the point is turned inward toward the pole of the magnet directly below, thus indicating that the induced magnet is of opposite polarity from the permanent one.

Now let the iron be g r adually lowered toward the magnet; the nail dropsoff at the neutral line, but it clings again when the iron is lowered belowthe line, and now its point is turned outward, or away from the magnetic pole below.

In this way Mr. Gary proves that the polarity of an induced magnet ischanged by passing over the neutral line without coming in contact. In the experiment strips of paper are placed under the soft iron, or induced magnet, as shown in the figure, to prevent contact.

The neutral line is shown to extend completely around the magnet; and a piece of soft iron placed upon this line will entirely cut off the attraction of the magnet from any thing beyond. The action of this cutoff is illustrated in Fig. 2.



The letters A and B represent the one a balanced magnet and the othera stationary magnet. The magnet A is balanced on a joint, and the two magnetsare placed with opposite poles facing each other.

The letter C is a piece of thin or sheet iron, as the case may be, madefast to a lever with a joint in the centre, and so adjusted that the ironwill move on the neutral line in front of the poles of the stationary magnet.

By pressing the finger on the lever at D the iron is raised, thus withdrawingthe cut-off so that the magnet A is attracted and drawn upward by the magnetB. Remove the finger, and the cut-off drops between the poles, and, inconsequence, the magnet A drops again.

The same movement of magnets can be obtained by placing a piece of ironacross the poles of the magnet B after the magnet A has been drawn nearto it.

The magnet A will thereupon immediately fall away; but the iron canonly be balanced, and the balance not disturbed, by the action of the magnetsupon each other when the iron is on the neutral line, and does not movenearer or farther away from the magnet B.

It may not be found easy to demonstrate these principles at the firsttrials. But it should be borne in mind that it took the inventor himselffour years after he had discovered the principle to adjust the delicatebalance so as to get a machine which would go.

Now, however, that he has thought out the entire problem, and franklytells the world how he has solved it, any person at all skillful and patient, and with a little knowledge of mechanics, may soon succeed in demonstratingit for himself.

The principle underlying the motor and the method by which a motion obtained now being explained, let us examine the inventor's working models.

The beam movement is the simplest, and by it, it is claimed, the mostpower can be obtained from the magnets. This is illustrated in

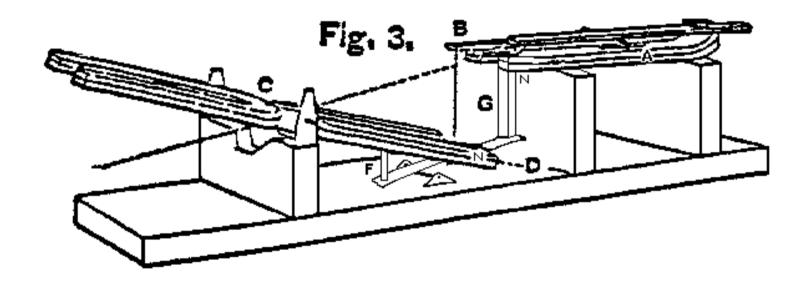


Fig. 3. The letter A represents a stationary magnet, and B the soft iron, or induced magnet, fastened to a lever with a joint in the centre, and so balanced that the stationary magnet willnot quite draw it over the neutral line.

The letter C represents a beam constructed of double magnet, clampedtogether in the centre and balanced on a joint. One end is set opposite the stationary magnet, with like poles facing each other.

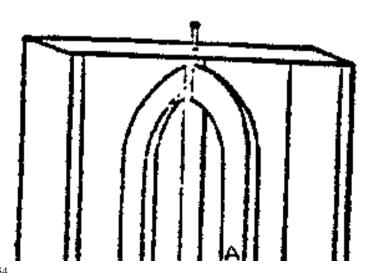
The beam is so balanced that when the soft iron B on the magnet A isbelow the neutral line, it (the beam) is repelled down to the lower dottedline indicated by the letter D. The beam strikes the lever E with the pinF attached, and drives it (the Lever) against the pin G, which is attached to the soft iron B, which is thus driven above the neutral line, whereits polarity changes.

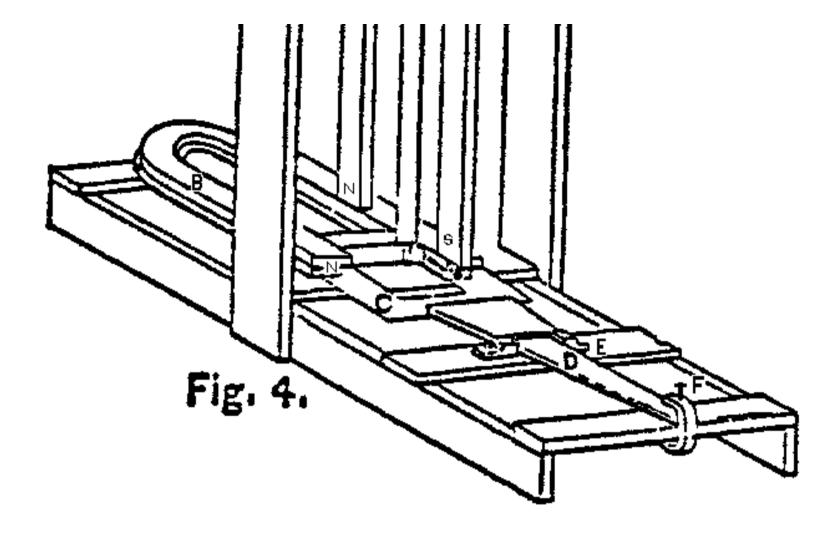
The soft iron now attracts the beam magnet C to the upper dotted line, whereupon it (the soft iron) is again drawn down over the neutral line, and its polarity again changing, the beam magnet C is again repelled to the lower line, continuing so to move until it is stopped or worn out.

This simply illustrates the beam movement. To gain a large amount of power the inventor would place groups of compound stationary magnets above and below the beam at each side, and the soft iron induced magnets, in this case four in number, connected by rods passing down between the polesof the stationary magnets.

A "Pittman" connecting the beam with a fly-wheel to changethe reciprocating into a rotary motion would be the means of transmittingthe power. With magnets of great size an enormous power, he claims, couldbe obtained in this way.

One of the daintiest and prettiest of Mr. Gary's models is that illustratingthe action of a rotary motor. There is a peculiar fascination in watchingthe action of this neat little contrivance.





It is shown in Fig. 4. The letter A represents an upright magnet hungon a perpendicular shaft; B, the horizontal magnets; C, the soft iron whichis fastened to the lever D; E, the pivoted joint on which lever is balanced; and F, the thumb-screw for adjusting the movement of the soft iron.

This soft iron is so balanced that as the north pole of the uprightmagnet A swings around opposite and above the south pole of the horizontalmagnets B, it drops below the neutral line and changes its polarity.

As the magnet A turns around until its north pole is opposite and abovethe north pole of the magnets B, the soft iron is drawn upward and overthe neutral line, so that its polarity is changed again. At this pointthe polarity in the soft iron C is like that of the permanent magnets Aand B.

To start the engine the magnet A is turned around to the last-namedposition, the poles opposite like poles of the magnets B; then one poleof the magnet A is pushed a little forward and over the soft iron.

This rotary magnet is repelled by the magnets B, and also by the softiron; it turns around until the unlike poles of the permanent magnets becomeopposite; as they attract each other the soft iron drops below the neutralline, the polarity changes and becomes opposite to that of the magnetsB and like that of the magnet A; the momentum gained carries the pole of A a little forward of B and over the soft iron, which, now being of likepolarity, repels it around to the starting-point, completing the revolution.

The magnets A and B now compound or unit their forces, and the softiron is again drawn up over the neutral line; its polarity is changed, and another revolution is made without any other force applied than theforce of the magnets. The motion will continue until some outside force applied to stop it, or until the machine is worn out.

The result is the same as would be obtained were the magnets B removedand the soft iron coiled with wire, and battery force applied sufficient give it the same power that it gets from the magnets B, and a current-changerapplied to change the polarity.

The power required to work the current-changer in this case would bein excess of the power demanded to move the soft iron over the neutralline, since no power is required from the revolving magnet under these circumstances, it being moved by the magnets compounding when like polesare opposite each other, three magnets thus attracting the iron.

When opposite poles are near together, they attract each other and letthe iron drop below the line. The soft iron, with its lever, is finelybalanced at the joint, and has small springs applied and adjusted so asto balance it against the power of the magnets. In this working model thesoft iron vibrates less than a fiftieth of an inch.

This rotary motion is intended for use in small engines where lightpower is required, such as propelling sewing-machines, for dental work, show windows, etc..

When Wesley Gary was a boy of nine years, the electric telegraph wasin its infancy and the marvel of the day; and his father, who was a clergymanin Cortland County, New York, used to take up matters of general interestand make them the subject of an occasional lecture, among other things, giving much attention to the explanation of this new invention.

To illustrate his remarks on the subject he employed an electro-magnetic machine. This and his father's talk naturally excited the boy's curiosity, and he used to ponder much on the relations of electricity and magnetism, until he formed a shadowy idea that somehow they must become a great powerin the world.

He never lost his interest in the subject, though his crude experimentswere interrupted for a while by the work of his young manhood. When the choice of a calling was demanded, he at first had a vague feeling thathe would like to be an artist.

"But," he says, "my friends would have thought that almostas useless and impractical as to seek for perpetual motion." At lasthe went into the woods a-lumbering, and took contracts to clear large tractsof woodland in Western and Central New York, floating the timber down thecanals to Troy.

He followed this business for several years, when he was forced to abandonit by a serious attack of inflammatory rheumatism, brought about throughexposure in the woods. And this, unfortunate as it must have seemed atthe time, proved the turning-point in his life.

His family physician insisted that he must look for some other means of livelihood than lumbering. To the query, "What shall I do?"it was suggested that he might take to preaching, following in the footsteps of his father, and of a brother who had adopted the profession.

But this he said he could never do: he would do his best to practice, but he couldn't preach. "Invent something, then, "said the doctor." There is no doubt in my mind that your were meant for an inventor. "This was really said in all seriousness, and Mr. Gary was at length persuaded that the doctor knew him better than he did himself.

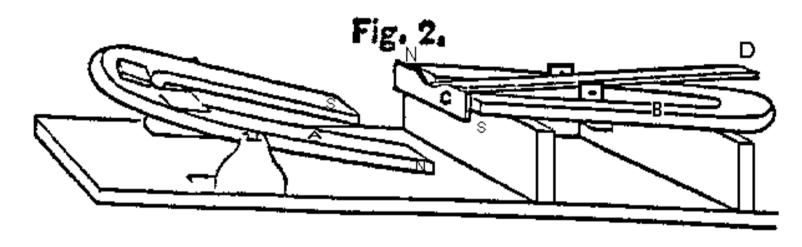
His thoughts naturally recurring to the experiments and the dreams ofhis youth, he determined to devote all his energies to the problem. Hefelt more and more confident, as he dwelt on the matter, that a great forcelay imprisoned within the magnet; that some time it must be unlocked andset to doing the world's work; that the key was hidden somewhere, and thathe might find it as well as some one else.

At Huntingdon, Pennsylvania, Mr. Gary made his first practical demonstration, and allowed his discovery to be examined and the fact published. He hadlong been satisfied, from his experiments, that if he could devise a "cut-off," the means of neutralizing the attractive power of a stationary magnet onanother raised above it and adjusted on a pivot, unlike poles opposite, and so arrange this cut-off as to work automatically, he could produce motion in a balanced magnet.

To this end he persistently experimented, and it was only about fouryears ago that he made the discovery, the key to his problem, which is the basis of his present motor, and upsets our philosophy.

In experimenting one day with a piece of soft iron upon a magnet hemade the discovery of the neutral line and the change of polarity. At firsthe gave little attention to the discovery of the change of polarity, notthen recognizing its significance, being absorbed entirely by the possibilities the discovery of the neutral line opened up to him. Here was the pointfor his cut-off.

For a while he experimented entirely with batteries, but in September, 1874, he succeeded in obtaining a movement independent of the battery. This was done on the principle illustrated in Fig. 2.



The balanced magnet, with opposite poles to the stationary magnet, wasweighted so that the poles would fall down when not attracted by the stationarymagnet.

When it was attracted up to the stationary magnet, a spring was touchedby the movement, and thus the lever with the soft iron was made to descendbetween the two magnets on the neutral line, and so cutting off the mutualattraction.

Then the balanced magnet, responding to the force of gravitation, descended, and, when down, struck an other spring, by means of which the cut-off waslifted back to its original position, and consequently the force of attraction between the magnets was again brought into play.

In June, the following year, Mr. Gary exhibited this continuous movement a number of gentlemen, protecting himself by covering the cut-off withcopper, so as to disguise the real material used, and prevent any one from robbing him of his discovery.

The publication in the local newspaper of the performance of the littlemachine, which was copied far and wide, excited much interest. But theirventor was by no means satisfied. He had succeeded in securing a continuous motion, but not a practical motor.

He had invented a unique plaything, but not a machine that would doman's work. So he made further experiments in one direction and another, using for a long time the battery; and it was not until some time afterhe moved to Boston (which was about two years ago) that

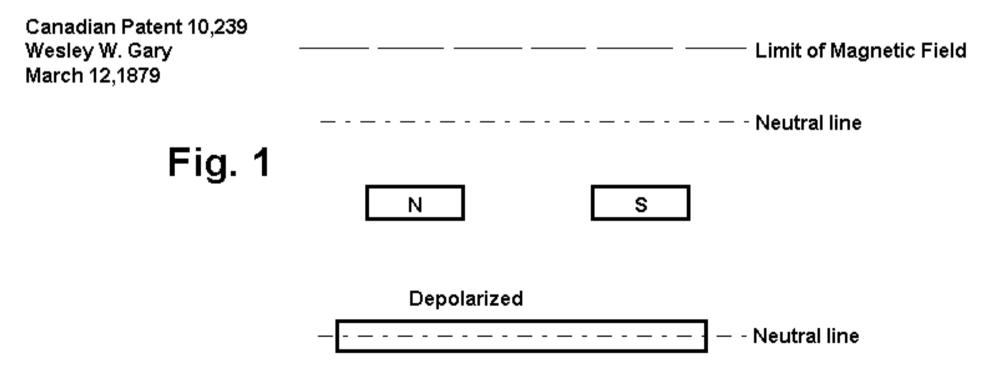
he was convinced that the points in the change of polarity, with which he was so little impressed when he first hit upon them along with his discovery of the neutralline, were the true ones to work upon.

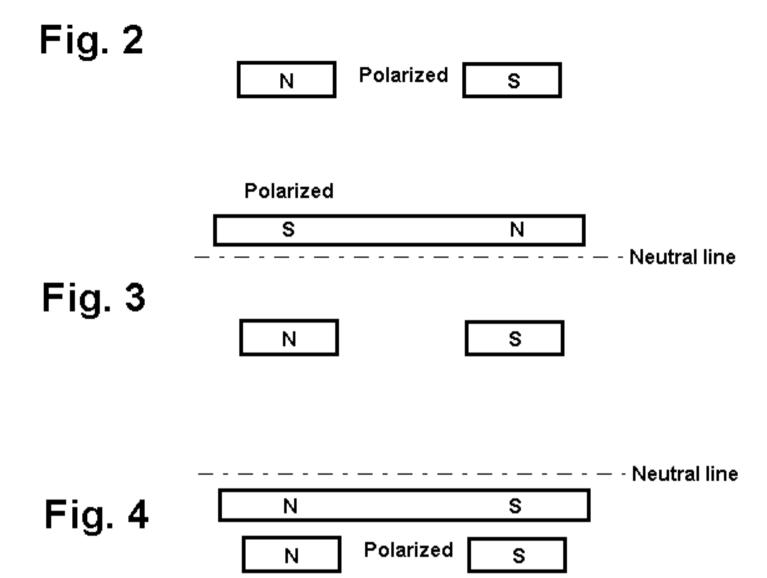
Thereafter his progress was most rapid, and in a little while he hadconstructed working models, not only to his own satisfaction, but to that of those experts who had the fairness to give them a critical and thoroughexamination, clearly demonstrating his ability to secure motion and power, as they had never before been secured, from self-feeding and self-actingmachines.

His claim, as he formally puts it, is this: "I have discoveredthat a straight piece of iron placed across the poles of magnet, and nearto their end, changes its polarity while in the magnetic field and beforeit comes in contact with the magnet, the fact being, however, that actualcontact is guarded against.

The conditions are that the thickness of the iron must be proportioned to the power of the magnet, and that the neutral line, or line of change in the polarity of the iron, is nearer or more distant from the magnetaccording to the power of the latter and the thickness of the former.

(The following illustrations come from Westley's Canadian patent forhis generator shown in fig. 5, this drawing is not in the Harpers articlebut aids understanding. TV)





My whole discovery is based upon this change of polarity in the iron, with or without a battery."

Power can be increased to any extent, or diminished, by the additionor withdrawal of magnets.

Mr. Gary is forty-one years old, having been born in 1837. During theyears devoted to working out his problem he has sustained himself by the proceeds from the sale of a few useful inventions made from time to timewhen he was forced to turn aside from his experiments to raise funds.

From the sale of one these inventions -- a simple little thing -- herealized something like ten thousand dollars.

The announcement of the invention of the magnetic motor came at a momentwhen the electric light excitement was at its height. The holders of gasstocks were in a state of anxiety, and those who had given attention to the study of the principle of the new light expressed the belief that itwas only the question of the cost of power used to generate the electricity for the light that stood in the way of its general introduction and substitution for gas.

A prominent electrician, who was one day examining Mr. Gary's principle, asked if in the change of polarity he had obtained electric sparks. Hesaid that he had, and the former then suggested that the principle be used in the construction of a magneto-electric machine, and that it might turnout to be superior to anything then in use.

Acting on this suggestion, Mr. Gary set to work, and within a week hadperfected a machine which apparently proved a marvel of efficiency and simplicity.

In all previous machines electricity is generated by revolving a pieceof soft iron in front of the poles of a permanent magnet. But to do thisat a rate of speed high enough to produce sparks in such rapid successionas to keep up a steady current of electricity suitable for the light, considerable power is required.

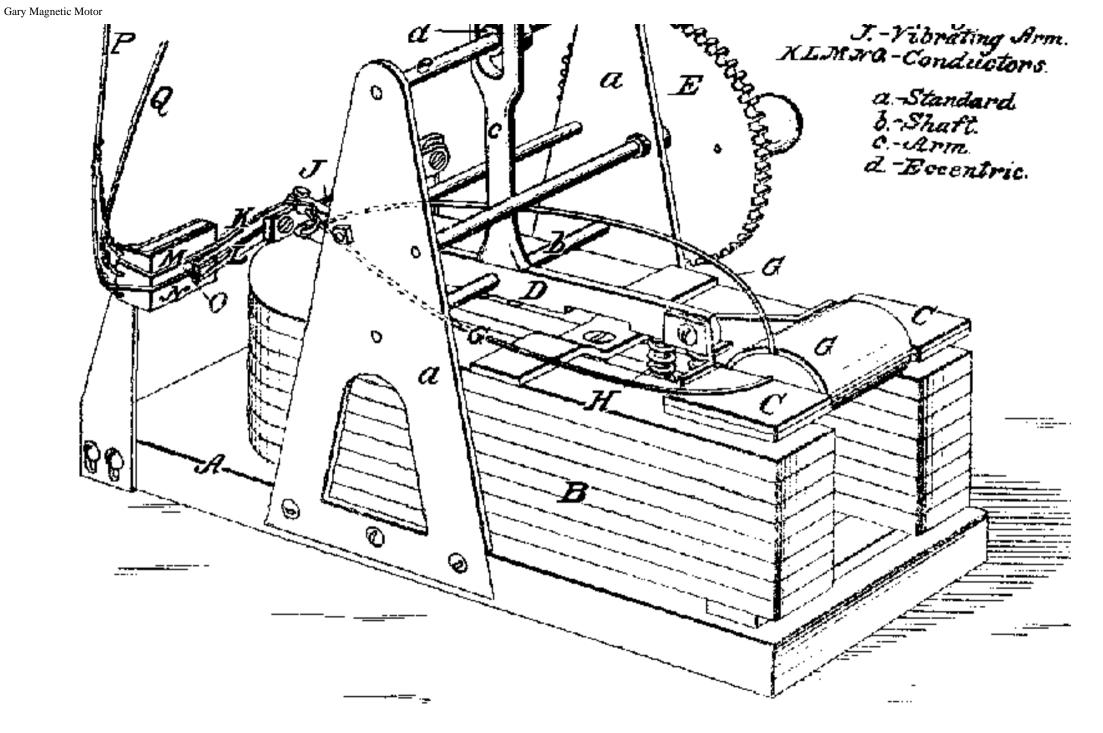
In Mr. Gary's machine, however, the piece of soft iron, or armature, coiled with wire, has only to be moved across the neutral line to securethe same result.

Every time it crosses the line it changes it polarity, and every timethe polarity changes, a spark is produced. The slightest vibration is enoughto secure this, and with each vibration two sparks are produced, just aswith each revolution in the other method. An enormous volume can be securedwith an expenditure of force so diminutive that a caged squirrel mightfurnish it. (fig. 5: This also does not appear in the Harpers article butcome from Gary's Canadian Patent.)

Canadian Patent 10,239 Gary W. Wesley

Fig.5.

A.-Frame. B.-Magnet C.-Armature D.-Lever. E.-Wheel. G.-Induction Coil H.-Spring.



With the employment of one of the smallest of the magnetic motors, powermay be supplied and electricity generated at no expense

beyond the cost of the machine.

The announcement of the invention of the magnetic motor was naturally received with incredulity, although the recent achievements in mechanical science had prepared the public for almost anything, and it could not be very much astonished at whatever might come next.

Some admitted that there might be something in it; others shrugged theirshoulders and said, "Wait and see;" while the scientific referredall questioners to the laws of magnetic science; and all believers in bookauthority responded, "It can't be so, because the law says it can't."

A few scientists, however, came forward, curious to see, and examinedMr. Gary's models; and when reports went out of the conversion of two orthree of the most eminent among them, interest generally was awakened, and professors from Harvard and from the Massachusetts Institute of Technologycalled, examined, and were impressed.

More promptly than the scientists, capitalists moved; and before sciencehad openly acknowledged the discovery and the principle of the invention,men of money were after Mr. Gary for the right to use the motor for variouspurposes: one wished to use it for clocks, another for sewing-machines, others for dental engines, and son on.

It is as yet too soon to speculate upon what may result from the discovery; but since it produces power in two ways, both directly by magnets and indirectly by the generation of unlimited electricity, it would seem that it reallymight become available in time for all purposes to which electricity mightlong ago have been devoted except for the great expense involved.

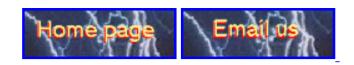
Within one year after the invention of the telephone it was in practicaluse all over the world, from the United States to Japan.

And it is not incredible that in 1880 one may be holding a magnetic motor in his pocket, running the watch which requires no winding up, and, seated in a railway car, be whirling across the continent behind a locomotive impelled by the same agency.

Harper's New Monthly Magazine - March 1879 pages 601-605

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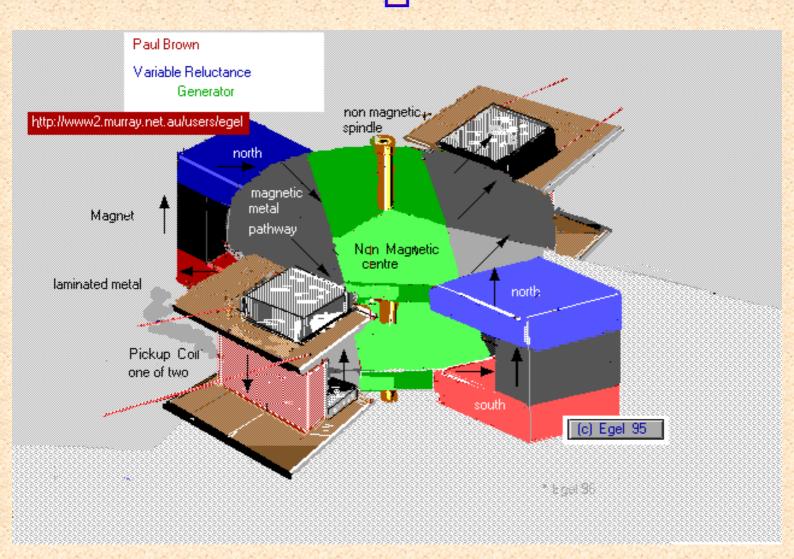
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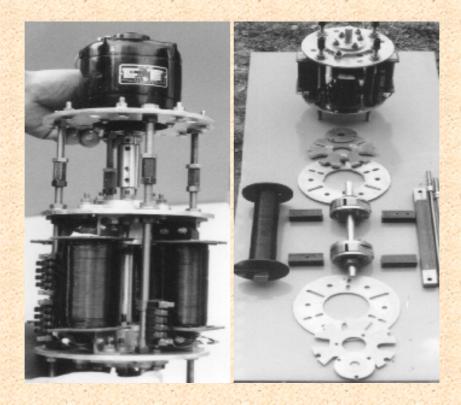
# Reluctance generator

Paul Brown Variable reluctance generator. American Inventor Patent number and address unknown If any one can help let me know so he can get the credit He deserves. I believe he has built several units but not sure how successful they were. The normal way to generate electrical current is to pass a a conductive wire through a magnetic field. In this unit there is no need to move a heavy coil of wire and metal armature thus removing some of the power loss. In this application two permanent magnets or electro magnets are placed opposite each other at 180 degrees. At ninty degrees to the magnets are mounted two field pick up coils. In the centre is a disk that has two metal magnetic influenced outer sections and a non magnetic influenced centre section. The disk is rotated at speed and when the metal sections are in a position to provide a magnetic pathway from the permanent magnets to the field pickup coils and back again this will result in a electric current being induced in the coils. By having the disk magnetic metal sections cutting in and out of the magnetic pathway will give an A.C. current/voltage output. Slightly changing the wiring setup could also give you a pulsating D.C. output. The two disks could be made by using a fibre glass mould to give a disk shape and allowing the outer sections not to be filled and when mould has been set, put compacted metal filings in these sections and then given a final layer of fibre glass to seal metal section. If you have a metal workshop you may be able to

make better disks by using an aluminium core and magnetic outer metal pieces and use allen bolts to hold it together. The unit should be built with laminated steel pole pieces to prevent magnetic strength losses and where there is a reversal of the magnetic force. There is also a need for small air gaps ,the best insulated wire and sufficient length for the correct magnetic strength. You will need to construct it on a non magnetic frame to prevent magnetic losses. Also select a suitable prime mover to drive the unit. Whether a D.C. motor, Hydro Wheel or windmill. Using this setup means no relative motion between coils and the magnetic field and the disk will accelerate into the permanent magnet poles and slows down on the way out and therefore should result in a steady speed. The voltage is directly related to the change rate of the magnetic field and speed of the rotor. Amperage is related to how long the pole faces are in position with each other.

# Paul Brown has kindly supplied me the following photographs of his invention

## email Paul Brown



#### The assembled unit and the parts used in construction





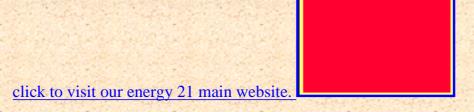


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# Electrolytic Decomposing Gas Generator by Bernard Klein Baltimore Md

Application June 29 1942 serial number 448,891

Patent April 3 1945 2,373,032

I though this invention needs to be looked at again and may give some ideas for inventors dealing with hdrogen fuels for cars and if it works could be the answer to using hydrogen without the need of safe storage compartments for hydrogen (web page master)

This invention refers to fuels for internal combustion engines and more particularly to be used in decomposing or extracting gases from liquids such as water and then arranging then for use as an explosive mixture in engines of the internal combustion type. It has among its objects to provide a device that will separate combustible gases from the liquid compounds having same chemically combined in them ,as for example :oxygen and hydrogen from water ,through an electrolytic process. Another object is to have the device of such construction as to be readily adaptable for insertion or connection among the parts of a conventional internal combustion engine of the automobile ,airplane ,boat or other type without requiring radical or complicated arrangements for the purpose and capable of practical employment.

A further object is to provide for the operation of the device in a convenient manner with adjustments it to meet varied conditions encountered during operation. A further object is to provide a device that will automatically supply treated water or other liquid medium as needed for the device.

A further object is to have the device adaptable for adjustment by remote control or at a distance from the operator or user. It is a particular object of the invention to construct a self contained unit that can be applied to an internal combustion engine; and take relatively small space and be attached thereto in a compact and attractive manner.

Other objects will become apparent as the invention is more fully set forth.

There has been difficulty here to fore in employing the combustible gases of relatively inexpensive liquids, such as water, for power development due to the cost of equipment, its cumbersome nature, and cost of operation. this invention is intended to relieve this situation by providing a simple manner for manufacture of explosive gases by decomposing same from liquids that are normally harmless and inexpensive.

A typical form of internal combustion engine furnished to propel an automobile, aircraft, boat or the like has fuel tank, carburetor, ignition.

The fuel consists of gasoline or other hydrocarbon that runs from the tank to the carburettor, a current of air is drawn over the liquid and takes up the vapour and mixes the later to form an explosive mixture, to operate the internal combustion engine. This system has been found satisfactory as long as sufficient as a sufficient

supply of gasoline or other fuel oil was available to meet it needs. Under present conditions the demand has increased and far exceeds supply. Any additional system of fuel production that will be less costly and can use ingredients that can be found readily at hand and not here to before used for the purpose herein described affords attractive possibilities. In this invention the fuel tank is filled with water to which has been added an electrolyte, usually sulphur trioxide or sulphuric acid to increase its conductivity so an electric current will pass through it. The fluid is then passed from the tank to the generating device by a pump, vacuum tank, gravity or whatever system for the fuel supply the vehicle may be equipped with. The device is preferably placed between the fuel tank and engine and used with existing carburettor. The device can be placed in the system conveniently as it takes little room, is of simple form and has effective arrangement for attachment to the system. An important feature of the device is in the fact that it has arrangements for augmenting the supply of gas generated by the device. Another important feature of the device is that part of the gas generated may be used to replenish its respective auxiliary tube.

In the drawing which indicates a form of this invention.

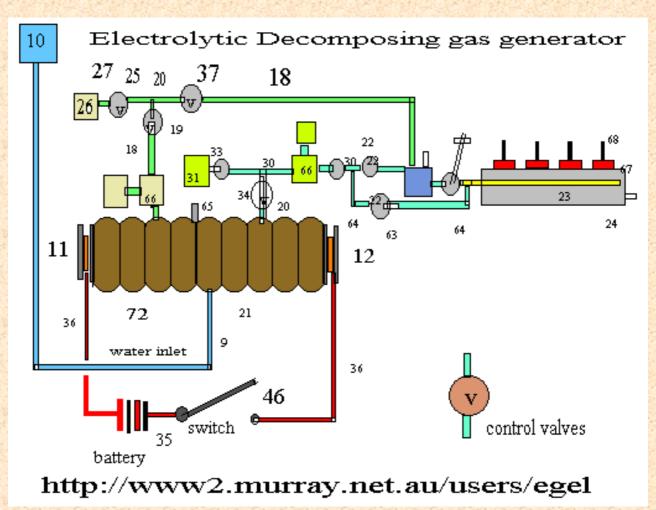


Fig1 is a diagrammatic view showing the various parts used to form a complete system embodying this invention

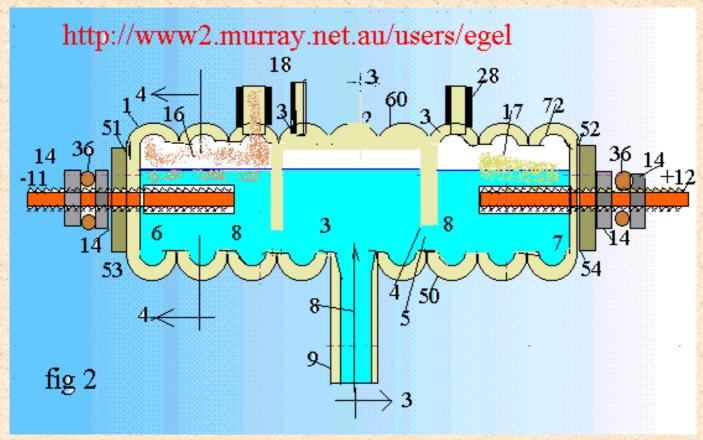


Fig2 is a longitudinal view take through the generator.

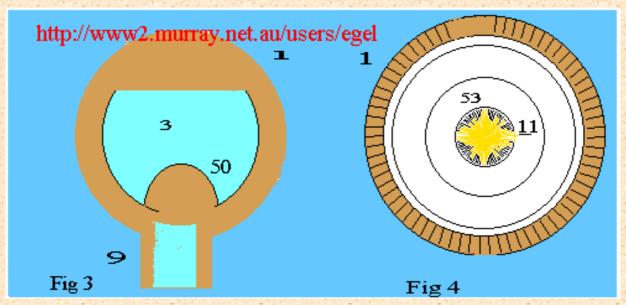


Fig3 is a sectional view taken along line 3--3 of fig 2 and fig 4 is a sectional view taken along the line 4--4 of figure 2.

Similar reference characters refer to similar parts through the drawing.

In the drawing which indicates a water generator 1 by way of example, a source of electricity 35 is employed for converting the water into oxygen and hydrogen gases. The generator is preferably of hollow cylindrical form, with its upper wall supporting partitions 3 dividing the interior into two compartments 6 and 7 respectively and with an intermediate chamber 60. A space 4 is left between the lower portion 58 of the partition and the floor 5 of the generator as indicated in figure 1. The liquid 8 is to be processed in conducted to the bottom wall 5 into the generator through a pipe 9 connected with the liquid reservoir tank 10. The end portions of the generator have screw threaded holes 51 and 52 into which insulators 53 and 54 respectively screw. The insulator 53 holds the negative cathode terminal 11 and insulator 54, the positive anode terminal

12. The insulators and terminals are water tight and are constructed to serve as stuffing boxes. The terminal 11 and 12 project into compartments 6 and 7 respectively and contact the liquid within. Electricity from a suitable source 35 feed the terminals when it is desired to decompose the liquid, which in this instance is water, into component gases oxygen and hydrogen. The water is acidulated with sulphur trioxide (SO2) to improve its conductivity and electrolytic decomposition. The current passing into the water, when the circuit 36 is operating causes hydrogen gas to liberate at the cathode terminal 11 and oxygen at the anode terminal 12. This is usually indicated by bubbles forming and arising from the terminals.

The hydrogen gas collects in the compartment 6 and rises above the water into this space 16 and flows out of the outlet 18 into piping that conducts it to a cylinder when it is stored. Oxygen accumulating at terminal 12 passes into compartment 7 thence through liquid into the space 17. From thence it passes into the piping 28. The piping is provided with check valves 19 and 34, fittings 20 and 30, carburettor 22 pipes 21,22,27,33,28 and 39, valves 25,29 and 37 as indicated in the drawing. The internal combustion engine used for the operation is designated as 24. A by pass connection with conventional accessories indicated to

eliminate the carburettor aw may be required at any time. the hook up comprises valves 63 and 61 and check valve 62 and pipes 64. The circuit 36 when its switch 46 is closed causes electricity to flow the acidulated water from anode 12 to cathode 11. This breaks up molecules of water into hydrogen and oxygen. The hydrogen arises from the cathode 11 into space 16 in chamber or compartment 6 and the oxygen from the anode terminal 12 into the compartment 7; The partition 3 serving to keep them apart and segregated.

The space 4 allows the water to move freely from one compartment of the generator to the other. The current also can pass through the water without obstruction by the partition . the partitions however mechanically prevent the hydrogen and oxygen mixing with each other in the generator .Any tendency of either hydrogen or oxygen to stray outside of their respective compartments is prevented by the intermediate chamber 60 which collects them, such stray gases are removable through an outlet pipe 65 ,provided for the purpose. The vibration of the generator under any use in the vehicle mentioned will not be sufficient to mix the gases by reason of the partitions 3 and the intermediate chamber 60 functioning as described. Pumps 66 or other conventional arrangement are utilised in the outlet piping 18 and 29, to force the hydrogen and oxygen respectively out of the compartments 6 and 7 through piping 21 and 39 to the mixer or carburettor 22 on their way to the engine 24 to be ignited by spark plugs 57 and ignition system 68.

The hydrogen and oxygen are preferably combined through the medium of the spark and in doing so explode powerfully. The explosion causes the engine pistons to reciprocate and operate the engine in the usual manner. Low pressure explosions can be induced through a stoichiometric mixture of hydrogen and oxygen at a suitable ignition temperature. Ribs 72 provide expanding mechanical space and prevent the liquid from sloshing back and forth. In the operation of the device the tank 10 is filled with water to which has been added sulphur trioxide or sulphuric acid so increasing its conductivity. The tank is located high enough so that the liquid can run down into the generator. 1 by gravity, or supplied to the gas generator by the fuel pump or other lifting method which then exists in the automobile or other vehicle to which it is applied. The anode terminal 12 is connected to the positive side of an electric battery or other electrical source, and the cathode 11 is connected to the negative side of the electric source. A switch 46 completes the electrical connections and may be placed on the instrument board convenient to the operator.

When the electric source is turned on by switch 46 bubbles will form around the cathode and anode terminals and will arise through the solution and be collected in their respective chambers or spaces. The valve 37 is opened and pump 66 started and allows gas to flow through pipes 21 and check valves 19 into carburettor or other mixing device 22 which is opened or closed by lever 38. Oxygen flows from this space 17 through check valve 34 fitting 30 pipe 28 pump 66 valve 29 and pipe 39 into the carburettor or other mixing device 22

where the hydrogen is properly mixed with air 40 or oxygen to give proper combustion after which the mixed gases are conveyed to the internal combustion engine where they are ignited similarly to present day use of gasoline or fuel oil in internal combustion engines. an auxiliary cylinder 31 of oxygen is attached to pipe 33. valve 32 to supplement the supply of gases developed by the generator ,or may be used when it is desired to remove the generator from the lines for repairs etc. The generator can be constructed compactly and mounted close to the engine. lock nuts 14 provide for adjustments of electrodes and for attachment of electric wires thereto:

The generator itself is preferably of insulating materials such as any well known plastic, in order to increase efficiency of the generator and prevent conducting of electricity to the walls where the action would be slightly short circuiting. The ribbed or corrugated bottom surface 5 serves to create an interruption in the movement of the molecule or ions energised to a breaking point by the electric current flowing from the electrode 12 and 11 respectively. The breaking point is that condition arising just prior to the separation of the water molecules ( or other substances acted upon) into their atoms oxygen and hydrogen. The effect of this curvilinear and obstructing construction seems to be that of a mechanical disturbance or collision to the flow of the ions causing them to collide more easily and to introduce separation of the atoms more quickly than without it. This improves the effectiveness of the generator and increases the efficiency of the process.

The walls of the tank 1 are given their corrugated form inside to reduce the sloshing of the water in the lower portions, whilst the upper surfaces thereof serve to entrap the gases and induce them to deposit their particles of loose water thereon and cause the latter to drip back into the main body of the water. This keeps the escaping gases relatively dry. The partitions 3 serve to co-operate with the corrugations in preventing sloshing and reducing the escape of moisture from the chamber 60 to the chambers 15 and 17. This also diminishes any tendency of the incoming water to appreciably disturb the level of the water in the electrode chambers.

The chamber 60 acts as a cushion device.



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# More recent information on the Joe cell

Part one of the joe cell "

I have recieved this additional information about the joe cell

The information is as follows

Ian Hacon the guy who sells the Joe cell phenomena book and video has sent me this additional info on the joe cell device.

Date: Thu, 03 Jun 1999 23:47:27 +1000

From: Ian Hacon

#### Dear folk

Nutech are releasing this vital information on the Joe cell. A researcher is publishing a new book based on his research and practical experience.

He has 4 cars running on Joe cells and has made a marvellous contribution in making this technology understandable and has developed the methodology etc.

This is Breakthrough information, so I hope you will all make good use of it for the betterment of mankind. The book will contain photographs of each stage of the cell coming to life and full and detailed procedures.

We know some have found this project frustrating, while many have had success to some degree. Either running totally or doubling mileage. We wish you every success.

Ian of Nutech

## Chapter 1.

"Since corrupt people unite amognst themselves to constitute a force, then honest people must do the same"

Count Leo N.Tolstoy.

#### Introduction.

#### Intention.

My intention, ( to the best of my ability ), is to remove some of the mystery, secrets, guesswork and plain mis-information that surrounds the construction of the " cell ". The aim is to help the constructor make a cell in a laid out step by step method that I employ to make my own cells. My knowledge comes from making the cells. As I have built many working cells, this experience has given me the knowledge, not by guesswork or reading someone's book or listening to second or third hand " expert " opinions. I now pass this information on to you. And it will always stay as my opinion and information, until you build your own cell. Only then will you know how to make a cell and not before!

Joe

In approximately 1992 a new form of a generator was constructed in Australia. In preparation for this book, I spoke to both the designer and his fiancee, regarding my wish to give him the due credits etc., for his 7 years of work and cooperation with all involved parties. Unfortunately due to the lunatic fringe and money grabbers that dealt with him, this poor, victimised individual has decided to relinquish any further involvement with the cell that bears his name. So in respect to his wishes, he will simply be referred to as Joe.

I would simply like to say dear Joe, that if it was not for rare individuals like you, we the vast brain washed majority would never find the true beauties of mother natures gifts.

It is now probably to late to save mother earth from the years of pollution and desecration caused by the thoughtless money grabbing multi nationals. As a species we are unique. Even a little simple bird keeps its nest clean, yet we the most intelligent of creation destroy our only home! Yet, individuals like Joe show us that there is a better way, a simple pure way, natures way. Without the benefit? of years of dogmatic mind shrinking education, Joe found by intuition how to ask nature a question in such a way that it answered. The answer was a method of powering machinery without the use of our primary resources or the creation of pollution. This method is well known to the select few and the technology has been around for centuries. Joe has made a crude version of this generator. The generator is called a Joe cell.

#### What is a Joe cell?

find out, let us look at some of the characteristics of the cell as stated by Joe.

- \* The water in the cell is not consumed.
- \* The cell runs cold to the touch.
- \* It takes a period of time before the engine will run from the cell. It then has an erratic power output and works in an intermittent fashion.
- \* When the cell is removed from the car, the engine takes an appreciable time to return to " normal " and run from the original fuel.
- \* If the cell is left in the car for a long period, the engine becomes " charged ". From this point, the cell is not required for the motor to run.

- \* All spark plug leads can be removed and the engine will still run as long as the ignition coil and distributor remain functional.
- \* The output of the cell, does not have to be connected to the internals of the engine, a close external coupling will do.
- \* The cell requires the "charging "of the water to work.
- \* The " charged " water can be poured from one container to another without losing the " charge ".
- \* The cell requires a specific style of construction, little understood by most constructors.
- \* An empirical construction style has evolved with little, if any science or success.
- \* The source of power for the cell and its use has great value for some individuals. These
- \* individuals are creating mis-information, cloaking operations and fear to the cell constructors.
- \* Human presence can affect the operation of the cell in a positive or negative way.

There is much more information on the Joe cell that is available to the privileged few, but we have enough information from the above clues to identify the energy type. From the above it is plain to see that, without a shadow of a doubt in my mind, the Joe cell is a crude Orgone accumulator, and that the cell runs on, or collects Orgone. There is a 100% correlation with Orgone energy and its properties. As these accumulators have been and are in use all over the world, the constructor can share in this vast pool of knowledge. He can bypass the myths, mis-information and the mongers of secrets and get on with scientifically based facts. Also he can be prepared to realise and meet the DANGERS that await the rash and fool hardy.

# Chapter 2. ORGONE.

As all known effects of Orgone are seen in the functioning of a Joe cell, it is reasonable to assume that the reader should have a good working knowledge of Orgone energy. Additionally, as the cell obeys all known Orgone laws and as the cells operation does not contradict even one Orgone effect, it is safe to assume that this is the energy that is utilised in the cell.

In honour of, and respect to one of the worlds' great scientists, namely Wilhelm Reich, I will continue to use the name Orgone as used by Reich. A multitude of other scientists great and small have given it a name. In a following chapter I have listed at least 80 names by various individuals that is the same or similar force.

Orgone energy is the live cosmic energy of nature. To quote Reich ,.....The Cosmic OR Energy fills the universe.....and.....it is a spontaneously pulsating, mass-free energy......

For interested readers, there is a huge collection of facts, opinions and absolute rubbish on the Internet regarding Reich and Orgone. As the aim of this book is to focus on the Joe cell, the above definition will suffice.

# Some properties of Orgone energy

Thousands of properties have been observed for the life force and I would like to list and explain the main ones relating to the cell.

- 1. It is mass free. ie. Orgone energy has no inertia or weight etc. So conventional test equipment that requires a reaction or something to " push " against to measure a force will be ineffective.
- 2. It is present everywhere. But, more importantly to the Joe cell user, the concentration is variable from place to place and from time to time. Therefore if the cell is leaky and located in a low concentration area, it may stop breeding or even loose the seed. The external signs are a motor that will not produce full power or will not run at all.
- 3. It in constant motion. It has an uneven movement from West to East at a speed considerably greater than the earths rotation. The motion is a pulsating expansion and contraction and a flow normally along a curved path. Inside an accumulator, the energy is emitted as a spinning wave. Both of these can be seen to varying degrees in a charging vat and or cell. These signs are very important to the experimenter as they are his tools in the different stages of seeding and breeding of the cell.
- 4. It negates the laws of entropy. Orgone energy flows from lower concentrations to higher concentrations ie. Orgone attracts concentrations to itself. This is the normal process of creation and as such is a proof of Orgone being a living energy. For the experimenter this is very important especially in the seeding stage. If the cell is located in an unfavourable location, it may not seed or take a long time to seed. I have had cells taking 4 weeks to seed, others take only a few days.
- 5. Matter is created from it. Under appropriate conditions, which are not rare or unusual, I have had different minerals formed from identical cells. This in my case is usually a white or green powder that forms as very fine colloid that eventually sinks to the bottom of the cell. You definitely do not want this to occur in the Joe cell as the cell will not run the car and the only solution is to completely dismantle, repolish and clean all components. For the sceptical you may assume that the deposits are coming out of the water. I strongly disagree.
- 6. It can be manipulated and controlled. We do this in the cell by forming alternate organic and non organic "cylinders" to form an accumulator for the Organe. Thus the organic layers attract and soak up the Organe and the metallic layers draw it from the organic material and radiate it into the interior of the accumulator. Additionally we use electricity, magnetism and electrolysis to assist with the breeding process.
- 7. It comes from the sun in vast quantities. As such, allowing for thermal lag, the Orgone density peaks in the afternoon and diminishes in the early morning hours. As people have found, a leaky cell will not function or "die" around 3 am to 4 am.
- 8. It is affected by weather, ie. humidity, cloud, temperature and time of day affects the accumulation of Orgone. For the experimenter with a leaky cell this explains the weird behaviour of leaky cells ie. sometimes they work other times not, but if you stand on one foot, talk to it, try different water, chemistry, more or less power etc. it will "come good ". This has created a whole religion of what you must do or not do, to such an extent that with the blind leading the blind, the cell in the hands of a casual constructor is doomed to failure.
- 9A. It moves in the direction of a magnetic field. This is highly significant to the cell builder. This factor

controls the position and polarity of the cell's internal wiring as well as controlling how much residual magnetism the steel can have and still allow the cell to work. This is critical in the choice and cutting operations of the related metals, Again a whole mythology has developed around this area. From reading previous material on the subject, it seems that the steel has to be cut by vestal virgins in the Black Forest on a moonlit night!

- 9B. It moves at right angle to an electrical field. Again highly important as it dictates polarity and wiring connection to the cell.
- 10. It is absorbed by water. This is why we use water in the cell. Of course the water has to be the right type of water. By the way, for example, we could have used bees wax, but as we want to encourage the breeding process with all the tricks in the book, the bees wax would have prevented the use of electrolysis.
- 11. It is polarised. As Orgone is polarised we can build a positive or negative cell. But, if you mix your positive and negative construction materials as most people do, then your result is a leaky or non operational cell.
- 12. It will penetrate or travel along all known materials. All bodies of continuous structure are equally good conductors eg. It may travel through 70 feet or more of metal. As such do not think that you are trapping it in the cell. The only reason it stays in the cell at all is because it wants to. It is up to the experimenter to set up a seeding and breeding environment that is conducive to Orgone and not try to create an imaginary prison.
- 13. It has a slow conduction rate. Orgone will take 20 seconds or more to traverse 50 yards of wire. For the experimenter this means that you should wait about 30 seconds on turning power on to the cell before you can expect to observe Orgone induction.
- 14. It exhibits a constant upward tendency, raising vertically. Highly important in creating a non leaky cell installation in an car.
- 15. It cannot remain in steel or water longer than about 1 hour. Simply said, if you cell is not breeding, it will die in about 1 hour. This explains the use of a 1.5 volt battery across leaky cells to maintain a breeding process.
- 16. It radiates a great distance. From a typical cell the radiation circumference is at least 160 feet. Think about it!
- 17. It follows optical laws. It can be refracted by a prism etc. This explains the reason for the mirrored or highly polished surfaces in some parts of the cell. It also allows us to control some leaking by utilising optical laws.
- 18. It surrounds itself with alternating spherical zones of opposite polarity. This is utilised by us to determine cylinder diameters and consequential spacing in the optimisation of the cell.
- 19. It is affected by living beings. Again important as the experimenter and his attitude can interact with the cell
- 20. It can only be concentrated to a finite amount. If a cell is charged to its maximum degree so that it can hold no more, it will transform itself into electricity and in this way or form find a discharge. By the visual

observation of the bubbles and surface tension of the water, we utilise this fact to our advantage.

# Chapter 3.

Comparative names for the life force

At no stage do I even remotely hint that the following terms are identical. The purpose of the list is to show the many names given to unexplainable forces of which Orgone is one.

Manna of the Polynesians. Nervous Ether. Richardson.

elan-vital. Henri Bergson. X-Force. L. E. Eeman

vis medicatrix. Hippocretes. Bio-cosmic energy. Dr. Oscar Brunler.

vis naturalis. Orgone Energy. Dr. Wilhelm Reich.

mumia. Paracelsus. Prana. Hindus.

Vital Fluid, Alchemists, Akasa, Hindus,

Animal magnetism. Mesmer Brahma. Hindus.

Magnetic Fluid. Mesmer. Manna. Israelites.

Odic Force, Baron Karl Von Reichenbach, Virtue, Jesus,

Ka. Egyptians. hike. Egyptians.

Universal life force. Baron Eugene Ferson. Life Force. Dr. Aubrey T. Westlake.

Cosmo-electric energy George Starr. Reiki. Japanese.

Ethertricity. Gaston Burridge. telesma. Hermes Trismegistus.

Pneuma. Gallien. Astral light. Kabbalists.

Spiritus. Fludd. Eckankar.

baraka. Sufis. mungo. African.

entelechy. Dreisch. Ch'i. Chinese.

Bioplasma. Russians. Arealoha. Francis Nixon.

Psychotronic energy. Czechs. Biotronic. Czechs.

Kirlian effect. kerei. Indonesians.

tondi. Sumatra. Eloptic energy. T. Galen Hieronymus.

Ether. Aristotle. tinh. Annamites of Vietnam.

elima. Nkundu. dynamis. Ancient Greeks.

Numen. Romans. El. Hebrews.

Fermi Energy. Orenda. Iroquoi.

Manitou. Algonquian. Wakan. Sioux.

Wakonda. Omaha. Maxpe. Crow.

Digin. Navaho. Dige. Apache.

Hullo. Chickasaw. Neutrino sea. P. A. A. Dirac.

Fluroplasmic energy. B. Hilton. Biodynamic Ether. Rudolf Steiner.

Eloptic radiation. Hieronymus. Logoital plasma. Hieronymus.

neutral force. Kabbala. Negative entropic energy. James DeMayo.

Scalar energy. Tachyon energy.

Vril. Latent neutral. Keely.

Neutricity. Gallimore. Pure non manifest energy. Todd R. Knudtson.

G-field. Sir Oliver Lodge. Space energy.

Cosmic energy.

# Chapter 4.

Orgone polarity.

As Orgone is polarised, either positive or negative, Orgone can be manifested sometimes as both polarities for a short period of time.

In our search for the perfect Joe cell, it is essential to utilise polarity conducive materials in the construction of the cell. With the use of suspect materials that encourages the creation or retention of both polarities, the

cell is not only a poor breeder, but also leaky.

I would strongly encourage the experimenter to choose to construct either a negative or positive cell and not

to use materials at random or what happens to be handy or cheap. This is a sure way to failure. Positive Negative Negative electricity Positive electricity Iron Selenium Copper Sulphur Tin Iodine Lead Palladium **Brass Cobalt** German silver Phosphorus Alkalies Tellurium Alkaloids Charcoal Argentinium silver Evaporation **Mercury Steaming** The base, (non pointy end), of crystals Dstillation **Friction Sound** Magnetic South Vibration Left hand Right hand Running water Tip of crystal Bismuth Magnetic North Zinc Acids Osmium Decomposition Titanium Oxides

#### Potassium Haccoid salts

#### Calcined lime Chemical reaction

As seen from the above short list, chemical reaction, in our case electrolysis, evaporation, steaming, vibration, sound and acids are the most common goings on in the cell and in the car. To rephrase, since the natural events in our cells habitat favour the acid cell, I would suggest that the experimenter builds an acid cell until he gains the knowledge of the causes of the cell behaviour.

I personally only build acid cells. I have a dislike of the corrosion associated with alkaline cells and also find that the water remains crystal clear and the insulators do not fail in my acid cells.

## Chapter 7.

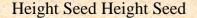
" Nature is the embodiment of the simplest conceivable mathematics."

Albert Einstein.

Seed Diameter/Height Ratio

To calculate the height of the cylinders for maximum efficiency, proceed as follows:

- 1. As covered in greater detail in the chapter on "Charging the water ", make sure that you have your chosen test current flowing through the cell. I normally adjust my electrolyte to obtain a repeatable current flow of 1 Ampere with 12 Volts across the cell.
- 2. Place a known voltage across the innermost cylinder and the outermost cylinder. For car use, I suggest 12 volts from a car battery or equivalent. The negative goes to the inside bottom of the innermost cylinder, (normally 1" diameter), and the positive goes to the outside top of the outermost cylinder, (normally 4" or 5" diameter). Measure this voltage accurately!
- 3. Now leave one lead of the volt meter on the inner cylinder and with the other lead, find the half voltage point diagonally from the inner cylinder to a point in the water. Do your best to memorise this point. Now place one lead of the meter on the outer cylinder and with the other lead, find the half voltage point diagonally towards the inner cylinder. Note this point it will be close to the first measured point, but not necessarily the same point! If there is a difference halve the difference and record.
- 4. Measure diametrically the distance from the center of the innermost cylinder to the half voltage point as measured plus the difference if any . Double this measurement! This is the diameter of the "seed "circumference. For example on a 4,3,2,1 cylinder cell the total diameter was 2.24" and for a 5,4,3,2,1 cylinder cell the total distance was 2.83"
- 5. By using the natural log of the height of the cylinder, we can interpolate and work out our optimum cylinder heights. I have worked out some standard size values for you. You can easily work out your value from the following table.



(cyl.)(dia.)(cyl.)(dia.)

6" 1.79" 13" 2.56"

6.5" 1.87" 13.5" 2.60"

7" 1.95" 14" 2.64"

7.5" 2.01" 14.5" 2.67"

8" 2.08" 15" 2.71"

8.5" 2.14" 15.5" 2.74"

9" 2.20" 16" 2.77"

9.5" 2.25" 16.5" 2.80"

10" 2.30" 17" 2.83"

10.5" 2.35" 17.5" 2.86"

11" 2.40" 18" 2.89"

11.5" 2.44" 18.5" 2.92"

12" 2.48" 19" 2.94"

12.5" 2.53" 19.5" 2.97"

21" 3.00"

6

So in 4. above we would use inner cylinder of about 9.4" for the 4 cylinder cell and we would use 17" for the 5 cylinder cell. If this height is too long for you can use the next sub multiple for the longer cylinders ie. 8.5" for the 17" cylinder etc. There is a corresponding loss in "breeding "output, but as long as your cell is not too leaky and you are not travelling in a strip of low level Orgone you should get away with it.

7. At no stage should you use inner cylinders of a length of less than 7" of cylinder height for the most common cubic capacity car engines. Of course for test cells and lawn mowers etc. you will be able to get away with lower surface area cylinders.

# Chapter 12.

Do not over analyse or over experiment.

This will destroy the experiment and it's creative Orgonomic force.

Dr. Wilhelm Reich

When things go wrong.

well, my dear reader, you are reading this section for alternative reasons, some are;

- A. You always read a book or notes from cover to cover beefer you start a construction project. Great, good idea, read on.
- B. You are an armchair scientist and you are reading this information to see how it fits in with your own pet opinions on the subject. Good luck and I hope if you find something to contribute, you will do so freely and in brotherly love.
- C. You are reading this chapter because you have made a cell by other methods and are looking for a quick fix. I would strongly recommend that you read and absorb all the previous chapters, as you may have a borderline cell and it may be better to construct a new cell.
- D. You are here because you have followed exactly, all my suggestions, and you car will not run on the cell.

n the above, I am only interested in reader D.

# Approach to the problem

All problems irrespective of complexity can be solved. in a methodical rational fashion If it looks insurmountable, break it down into convenient smaller section's that you can cope with. Have this smaller section cover one topic only. Make sure that you have a working knowledge of the topic. Take your time, and have somebody else to talk with regarding your chosen solution and approach.

It is important that you change one variable at a time only! If you change variables in a haphazard method or without recording you observations, at the end of the day, you will be worse of than when you started. I would suggest that you break up your problem into the following topics.

# Fault finding topics

1. The water.

2. The cell construction.

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- 3. The charging operation.
- 4. Cell to car interface.
- 5. Car modifications.
- 6. Geographic location.
- 7. Y factor.

#### 1. The water

The single most common problem that you will encounter is the water. As Joe remarked on many times, the "water goes bad ". Not a scientific explanation but well said.

So, what are some of the problems with the water?

A. Is the water dead or polluted right from the start? If you collected, transported and stored the water personally, you should know its history. Re read Chapter 8. If you still doubt your water try the following. Orgone accumulates in water and as such, when you transfer the water out of the cell, you take the charge with it. Therefore, if you, or an acquaintance has a good, ie. stage 3 cell, the water can now be substituted into the suspect cell. On now powering up the suspect cell, within 1 minute you cell should be at stage 3. If the suspect cell does not come up to stage 3, the water is not at fault! The above is by far the easiest way to test a suspect cell, unfortunately you will need another cell or external help.

Note. Do not leave the charged water outside its cell for longer than 1 hour as it is not breeding.

- B. Has the pH of your water changed? Simply run your pH test on the cell water. The reading should be the same. If not either the cylinders or the insulators are breaking down and reacting with the water and electrolyte. Make sure that you followed charging, insulator and cylinder material type recommendations.
- C. Is the water clear? As in B., the cylinders or insulators are breaking down. Or the cell has gone into a base matter creation mode. As this topic is highly controversial and not pertinent to this subject, your only option is to completely dismantle, polish and clean the cell and or replace the insulators. Fill with fresh juvenile water. Go through charge stages as per Chapter 9.
- D. Is there any residue in the sump? As in B. and C. above.
- E. Are the stage 3 breeding indicators behaving the same? Read chapter 9 and make sure that the behaviour of the bubbles and meniscus are the same, especially the long term bubble retention. Again if all else fails try the voltage check.

- F. Have you changed locations and the cell is now sitting in a low density Orgone strip? Make sure that the cell is at stage 3. Read Chapter 9.
- G. Have you accidentally shorted out the cell or reversed polarity to it? See if it goes back to stage 3 if you apply power to it for 1 minute. If not dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9..
- H. Have you allowed the seed to die? Read Chapter 9. Go through stage 1, stage 2 and stage 3 process. The cell may go to stage 2 or even stage 3 within 3 minutes.
- I. Has the cell fallen over at any stage? Try 1 minute charge and see if the cell goes to stage 3. If not, dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9.

## 1a. Cell maintenance.

I have found after a cell has been in operation for about 6 months, although there is no external indications of malfunction, ie. the cell is happily breeding, it is a good idea to do the equivalent of an oil change and grease. You may find one or more of the following;

- \* There is a light deposit on the cylinders particularly the outside of the 1 inch and 2 inch.
- \* The cylinders may have sagged from the vibration, ie. they are not flat on the top horizontal alignment...
- \* If rubber insulators are used, you will find that the have developed a set.
- \* Some of the insulators particularly the inner top ones may have a light white or grey deposit on them.
- \* There may be a slight suspension or colloid towards the bottom of the cell.
- \* There may be slight indications of a brown sediment on top of the water.
- \* The cell metal parts may have become magnetised.
- \* The lower insulators for the bolt may have shrunk and could be weeping.
- \* The electrical connections to the cell may be loose or corroded.
- \* The compression fitting for the aluminium pipe may be loose.
- \* The short piece of rubber or neoprene hose to the blanking plug may have aged.

The cure for the above are self explanatory. The only difficult one is if the cell has become magnetised. You may be able to degauss the cell or at worst you may have to have the offending cylinder replaced or heat treated. When you demagnetise your cell find a better location for it, or it will only happen again!

I do a regular 6 month service on my cells. The steps I perform are as follows; I pour out the charged water into a 5 litre glass container and put it in a cool dark area. Obviously the glass cylinder is clean and only used for you Joe cell work! Remember you have approximately 1 hour to replace the charged water back into a seeding and breeding cell. I next dismantle the cell and clean all surfaces with mild acetic acid. I find that it is not necessary to repolish the cylinders, but you may do so if it makes you feel better. I rotate any rubber insulators 180 degrees so as to use a fresh surface with no set. I lubricate my bolt and associated insulators with Vaseline and reassemble the cell. By this time the charged water has been sitting for about 1/2 hour in the glass cylinder and the majority of the sediment has settled to the bottom of the glass container. I now pour the charged water back into the cell using a paper coffee filter to catch any sediment. I stop pouring the charged water into the cell, when the first drops of water with the sediments starts to leave the glass container. This water I discard or have analysed to amuse myself. I now top up the cell with fresh juvenile water and connect the cell to the power supply. Within seconds you will see a fine white cloud develop on top of the water. This is the residue of the acetic acid that you used to clean the cell with. I remove this simply by wiping the top of the water surface with a paper towel. Within 1 minute your cell will be back at stage 3. That's it, you have just completed you 6 month service.

Note. I will repeat again in case you have forgotten, but all water, containers, funnel etc. must have only juvenile water used in the cleaning or transferring of water for the cell maintenance. It requires a very small quantity of tap water that has been "enhanced by good old mankind to kill the cell. Don't blame me if you have to start at stage 1 again by being lazy.

## 2. The cell construction

Needless to say, you should have followed the cell construction Chapters to the letter. If you did not, you obviously know how to make a different type of cell, and these notes will not be 100% relevant, or you have chosen to be creative, frugal, haphazard, or slap happy at the wrong time. I repeat, you are not making a toaster! You are trying to induce the life force to work for you. You cannot capture the life force as in a cage. It will enter and exit as it sees fit. It can penetrate all materials!

If the cell was working at stage 3 and now will not work.

- A1. A common problem is that the cell cylinders have moved due to rough handling, vibration, or the wrong diameter insulators. The fix is a dismantle and re alignment. Make sure that you hands are clean!
- A2. Another common problem is the covering of the cylinders and insulators with various residues. This can be seen on the dismantled cell, as an easy removable film on the cylinders and insulators. In this case treat as a dead cell and dismantle, polish and clean all components after finding the cause of the problem. The usual causes are wrong welding material or flux, wrong cylinder material type, wrong insulator material type, or water problems as in section 1. above. Fill with fresh juvenile water and start at stage 1.
- A3. The cell material has been magnetised by locating the cell near starter cables or other high current carrying wiring eg. Hi-Fi wiring, fog lamp or other types of ancillary lights wiring, winch wiring, etc. In this case find the magnetised component or components with you test magnet and replace or de-magnetise the affected components. A hot under bonnet location will cause similar problems. After fixing the cell relocate the cell or the offending items.
- A4. The insulators or the cylinders are eaten away to some degree. You will pick this up in the discolouration of the water. If you followed my instructions this will not occur. The problem is incompatible steel or

insulators with the water electrolyte combination. In any case treat the cell as dead, replace faulty components etc. as in A2

If the cell never worked at stage 3.

- B1. The cylinder material type. As mentioned in Chapter 6, the material that you use is critical in you early learning stages. All 316L is not the same! Re read Chapter 6.
- B2. The cell cylinder dimension is wrong. Re read Chapter 6 and Chapter 7. The cylinders must be level at the critical chamber separation area which are formed by the tops of the internal cylindrical tubes. Re check that the cylinders are level. You should see no light when measuring with a straight edge.
- B3. The cylinder finish. As the top and bottom cuts are finished in a lathe, they should be absolutely smooth, ie. no file or cutting marks. Similarly there should not be any heat bands where the cylinders were cut. The surface of the rest of the cylinder does not have to be mirror smooth, but make sure that there is no longitudinal marks or scratches. If you followed Chapter 6, they will be Ok.
- B4. Make sure that the welding is done as per Chapter 6. Make sure that all internal irregularities caused by the welding process are removed, without causing excessive localised hot spots.
- B5. Make sure that all threaded couplings from the cell to the engine is metal to metal joints and the threads are not covered in sealants or Teflon tape etc.
- B7. Make sure that the cell is air tight. If you apply your power source for a minute or two to the cell and block the outlet of the aluminium pipe with you finger only, you will feel the release of pressure on removal of your finger. Do not do this near flames and or explosive gasses! This will also check that your cell is not open circuit or shorted and that it is electrolysing.
- B8. In B7 above, the most common electrical problems are the push fit of the 1/2 inch bolt into the 1 inch pipe, and the insulators between the 1 inch bolt and the lower cell exit point.
- 3. The charging operation

The failures can be sub divided into 3 sections;

A. Failure to get to stage 1. If you cannot get the water to electrolyse at all, you have not read Chapter 9. Even blind Freddie and his dog can do this. Hang you head in shame and take up another interest! Seriously, not many things can go wrong. If your power source is putting out about 12 Volts and if you have added the electrolyte as described, then you must have some bubble activity in the water. If still no bubbles in the water, connect a 12 Volt car globe of any type to the very ends of the leads that you are connecting to the cell. The lamp will light if you power source and your leads are Ok. Now remove the lamp and put the positive lead to the outside surface of the cell and the negative lead to the 1 inch bolt that connects to the 1 inch cylinder. If you still have no bubbles, the 1 inch bolt connection to the 1 inch tube is faulty, but highly unlikely. Re check the insulators that insulate the 1 inch bolt from the outer container. As there is now water in the cell you will not be able to do your insulation test but you should still read more than 10 Ohms resistance from the bolt to the case. Be careful of misleading readings if the cell is acting as a battery, as you Ohm measurement will be useless.

- B. Failure to get to stage 2. By this I mean that the cell has not seeded and remains at the electrolysis stage. As explained, is the cell will not seed, the indication is there is no change in bubble size or surface tension. Boy oh boy, I have been here many a time myself and I suggest the following;
- B1. The first and most common is the covering of the cylinders with a coating of various chemicals. In my early days, when I took the lazy way out and brazed or silver soldered my casing joints, this compound ended up all over the rest of the cell due to electrolysis. As the positive is the donor surface and the outer casing including welds, sealants etc., this fact aggravated the plating process.
- B2. Another failure and resulting contamination, was the use of the wrong type of sealant on the central insulator for the sealing of the 1/2 inch bolt where it passes out through the bottom of the cell.
- B3. Likewise, when I decided to press fit my outer cell components, I used an automotive silicon gasket cement on the joints. This also ended up plating the whole cell.
- B4. If the water smells un-healthy or there is scum floating around, the water has gone bad. Replace with fresh water and go back to stage 1.
- B5. Check that you insulators have retained the original manufactured colours. That is, if red rubber, make sure they are still red, if silicone tubing, make sure it is still clear etc. The insulators may be fine for stage 1 electrolysis, but may be very leaky to Orgone.
- B6. You working area or you may be detrimental to the seeding of the cell. See 6. and 7.
- B7 You are not covering the cell overnight and or between experiments. As previously explained, we want to keep a very mild air seal on the cell. This is easily done by placing a lid on the test cell or by having a spare aluminium plug in the end of the hose where it fits onto the engine fitting. Again I must repeat, DO NOT. use worm drive clips on both ends of the rubber coupling sleeve. The rubber sleeve must act as an one way exit for any pressure in the cell. The internal cell pressure must remain very close to atmospheric during operation.
- B8. You are just too impatient! It may take 4 weeks to seed the cell! Just spend a few minute a day with it and go and do something else.
- B9. You have used the wrong materials. This has already been covered. Please read 2.
- B10. You have used the wrong water. Ditto. Please read 1.
- B11. You are using the wrong charging method. Ditto. Please read 3.
- Note. For all problems in this section due to contamination of the cell by deposits, water or materials, dismantle the cell, polish, clean and refill with juvenile water.
- C. Failure to get to stage 3. This is the failure of the cell to breed. Again to repeat, this is the failure of the cell to keep increasing the initial seed density to a greater but still finite Orgone energy limit. Indicators will be a lack of long term bubble and surface tension retention and an obvious non operation or marginal operation. Usually you will get to stage 3 very soon ie. within days of stage 2. Another way of describing the failure of running at stage 3, is that the cell is leaky to such an extent, the Orgone force cannot accumulate sufficient density for our need's.

C1. The most common fault of the cells in not breeding, or insufficient breeding, is caused by marginal water, construction dimensions and materials. Please make sure that you have followed these notes to the letter. If you have modified or substituted components etc., you obviously know something that I do not know and if your cell had worked, I would love to hear from you. But as you are reading this and if you cell is not working, I suggest you follow my instructions to the letter, or try somebody else's, "how to build a Joe cell "book.

- C2. Your working are or you may be detrimental to the cell's operation. Read 6. and 7.
- 4. Cell to car interface.

If you are looking for faults in this area, you know that you cell is at stage 3, but the engine refuses to run from the cell.

# A1. Outlet pipe from cell.

A lot of different diameters and materials will work. I would suggest, like Joe that you use 20 mm. aluminium pipe. Due to electrolytic action copper will either pollute the cell, or pollute itself. The short piece of rubber or neoprene must not have any clips on the end that attaches over the blind aluminium plug. The idea is to let any pressure "burp "out, but not to let any air in. The fitting should act as a one way valve to pressure from the cell caused by the electrolytic action. The engine end of the aluminium pipe should have you Positive electrical connection secured to the pipe by means of the same short piece of hose being slipped over it. This end should have a clip to squeeze the hose and the electrical fitting to the pipe. What you are doing is providing your Positive connection at the very end of the outlet pipe. You Negative of course will go to the cars body, (we are presuming a modern car that has a Negative earth system). The pipe fitting to the top of the cell must be air tight without the use of sealants or Teflon tape etc. The compression fitting will do a good job of this. Try to twist the aluminium pipe out of the compression fitting, if tight, you will not be able to budge it. You pipe should also have some form of insulation around it to prevent contacts to the rest of the metallic parts of the car. Ideally, the cell should be similarly protected. Remember, just one short circuit and the cell is dead!

A2. Electrical connections. The Positive wire coming from the end of the aluminium pipe should go via a 5 Amp fuse to you " ignition on " wiring. By this I mean that the cell should only have the car power connected to it when the ignition is on. Some people prefer to run this wire via an off/on switch that is located in the car. When you connect your Negative to the car, it is preferable to connect it directly to the block if you earth straps from the motor or gearbox are suspect. Either way, with the ignition on, you should measure 12 Volts Positive on the cell body and 12 Volts Negative on the central bolt fitting. If not check you wiring, fuse, any switches, etc. The most probable cause of no Voltage is a blown fuse because you have shorted the cell. Find you short, replace the fuse and make sure that the cell goes to stage 3. If not, pull the cell out clean, polish, new water etc. ie. start again. The other most common problems are the use of sealants on the compression fitting. This is easy to find and fix. If you have 12 Volts across the cell, that does not mean necessarily that you have your 1 Amp current flow. To check this, temporally disconnect the Negative end of your cell from the car body or motor and put you Amp meter in series with the central bolt and the car connection. You should read your 1 Amp current flow. If not you have some high resistance connection's or wiring or the cell is faulty. As you are reading this because you know you cell is not faulty, the problem is either you aluminium pipe connection or you wiring. Locate the problem step by step, making sure that you do not short out or apply reverse polarity to the cell.

A3. Cell design. If you have made a cell with the wrong taper to you cone, the Orgone will focus before it gets to the motor and the cell will work brilliantly on the bench, but it will not run the car. The only reason this has occurred is that you did not build a cell as described in these notes.

A4. Cell location. Check as previously explained that the cell is located in a favourable location in the car. Is it in a cool place? is it level? Is it located as far as possible from high current wiring. Is it located in a low vibration area? Not like some rocket scientist who strapped it to his engine!!! As Orgone has a vertical preference once it leaves the cell, reduce horizontal pipe runs to a minimum. A cell located in the boot, with a 4 meter run to the engine is not a great idea. Again, a non leaky cell can run 60 meters or more into a horizontal tube, but why tempt fate? As far as the cell ( but not the passenger ) is concerned, for you first cell temporary location, the passenger foot well, with a pipe through the bulk head and a short, ( less than a meter ) pipe to the plug located at the rear of the engine ( non V8 ) works well.

Note. At this point of the trouble shooting list, you know that you cell is at stage 3 and that it is connected correctly to the car. So if things are still not working, leave this area alone! Do not undo what you know is working ie. Don't dismantle your cell or associated connections to the car, they are Ok.! Leave them alone and look for problems in the only remaining areas you have not covered, ie. Section 5, 6, and 7. Unless you keep a systematic approach to the installation and trouble shooting you will never get the cell to run the car.

#### 5. Car modifications.

For a start, I will again state the obvious, some cars will be easier to modify than others. Or more importantly, not all persons will be able to modify all cars! So unless you are masochistic and want to make your friend's life a misery, choose an easy car! This of course may not be old faithful that is sitting in your garage. You should also have followed Chapter 10. before you read this.

You are reading this because, you KNOW that your cell is still breeding, ie. running at stage 3, your car connections are ok. and you electrical connections are ok. You have started your car on petrol and after it has warmed up, you either have turned of the electrical fuel pump, or you have turned of the fuel to or from the mechanical pump. Now as the fuel is used up in the fuel bowl or bowls the engine falters and stops, (at this stage, I am not talking about fuel injected motors). That is how I would expect you to test the change over phase. You are really pushing your luck, if you walk up to a stone dead car, remove the fuel to the engine and start cranking! I hope you have plenty of fully charged batteries!

The car will either run, run erratically or not at all.

1. Car shows no sign of running from the cell. By this I mean, that as soon as the motor runs out of fuel it stop. A lot of people get here, but blame the wrong components. As stated above, you are here because you know all sections up to here are working ok. This only leaves this Section and 6 and 7. So lets presume that the car is at fault as that is the present topic.

I can tell you for a fact, that a 1971 V8 Rover will start first shot and run like a dream, likewise a 1100cc Mini Minor will not even think of staring first time. Why? There is a lot of pet theories floating around but as these are my notes I will give you my theory based on logic.

Note, the following is a theory and eventually may be proven wrong. but the way I see it is, that the water and the cylinder bores in the motor act as a single layer Orgone accumulator, ie. an Organic material, ( water ), surrounding a non Organic cylinder, ( the bore ). As such an engine with a bore that is fully surrounded with water will be far superior than an engine that uses siamesed bores or casting methods, without the benefit of

the totally water surrounding cylinder. Now as most aluminium blocks have metal sleeve cylinders pressed into the aluminium block for bores, this feature allows for a full water circulation and completes our single layer Orgone accumulator. It also makes it less leaky and more conducive to conversion to a Joe cell system. Remember Orgone loves water.

The above gives me a reason why some motors start first shot and others may take weeks to kick in. Two other effects hinder or help the above. The first is, that Orgone seems to "like "to travel in aluminium or it finds aluminium more difficult to penetrate. So it would have a tendency on leaving our aluminium pipe to either prefer the aluminium block or, once it was inside the block, it may have a greater difficulty in "leaking "out. I would be the first to admit that I do not understand this effect, but it is definitely there. As more information comes to hand, I will update these notes. The second is the easier conversion of V8 motors. As our blanking entry plug is located in the vee formed by the two banks of 4 cylinder's, the Orgone distribution from the cell is ideal, ie. it is a central entry, nearly equidistant and close to all cylinders. Another important feature is that the entry point it is on the cold side of the motor, ie. the exhaust system is on the "other side " of the cylinders. This also give a cross flow motor an advantage.

So what is to be made from the above? I would suggest, like Joe, to start on an easy conversion until you build up your own confidence and hence the "Y" factor. Either go and see a converted car so you can believe, or convert an old Rover or Leyland V8 as a group effort. I cannot see why the different club's and interest groups cannot pool together and purchase an old wreck.

If you insist in converting your cast iron whatever, be prepared to wait for the molecular changes that seems to occur to cast iron, siamesed bore and manifold type motors. As Joe stated, this may take 3 or 4 weeks. I have personally installed cells that are stage 3 and left them "running" on the car. The car was driven normally on petrol or gas, until the idle or engine operation noticeably changed. This was the indicator that the "molecular" changes have occurred and the car was ready. What you also may want to try is to replace the normal radiator water with charged stage 3 water. This should speed up the acclimatisation process. As most modern motors run some form of inhibitors and anti freeze additives in the water, you will have to consider the consequences of playing around with this mixture. The down side of dumping the additives may be increased corrosion on alloy component's, ie. head, manifold, water pump etc. Due to the tendency of the motor to run much cooler on the Joe cell, I would recommend that you leave the Glycol in the water. Obviously you throw all new car warranties out the window, the moment that you add the Joe cell and its related conversions to you car.

A2. Fuel injection cars. The simplest way to treat these cars is to perform a full conversion to gas. In this way you have a duel fuel system, ie. Joe cell or gas. Plus you pick up the advantages of a longer life span for your engine as per Chapter 10.

So really all that I can suggest in this section is that if the car will not start at ALL and all other Sections been covered, you should give the conversion a maximum of 4 weeks for the cell to take over. If the cell does not kick in that period, the chances are indeed slim that it will ever work. All cars including fork lifts, dragsters and diesel motors that Joe converted eventually ran! If your car will not, consult your favourite "expert", or drop me a line only as a last resort when you have exhausted all other avenues. Please be reasonable, realise that I am only one person, I have a life and family, I do not get paid for my time by you or the hundreds of others requiring help. Irrespective, I will do my best to help.

A3. Car runs erratically. This could be caused by many things.

- \* The cell is marginal. Check that it is still at stage 3.
- \* The cell has become magnetised. See previous section.
- \* The day is hot, or the cell is too hot. Feel the cell!
- \* The day is wet or humid. See section 6.
- \* You or your passengers or animals are interacting with a marginal cell. See section 7.
- \* Your ignition timing is not optimised. Adjust!
- \* Your water has gone " off ", or you water level has gone down. Rectify!
- \* Your cell cylinders are polluted. Dismantle and clean.
- \* You are in a high DOR area with a marginal cell. Hopefully you can drive out of to before the cell dies.
- \* You are in a strip of low or reversed Orgone. As above.
- \* Sun or planetary activity is detrimental to cell output. Change over to "normal "fuel and wait for more favourable times.

A4. The car runs. Great! Good for you. But, please remember that it will not run all the time and will stop unexpectantly and with no warning signs, so always have a duel fuel system set up and ready to "kick in ". It is highly embarrassing being thousands of kilometres from home and asking the local mechanic to fix your Joe cell conversion! You should see an interesting look on his face.

The performance of your car will be determined on the reserve of Orgone density you have on demand. A leaky or under capacity cell will not give you maximum power. A good cell will give you at least the same and usually a greater power range with a sweeter running and more tractable motor.

## 6. Geographic location.

As mentioned, Orgone is not a constant, or even density cover on this planet. Some of the resulting problems are;

- \* The density varies seasonally.
- \* The density varies with the time of day.
- \* The density varies with planetary motions.
- \* The density varies with the sun's cycle.
- \* The density varies with altitude.

- \* The density varies with geographic location.
- \* The density varies with the "users" of the Orgone energy eg. a nearby car.
- \* The density varies with the weather.
- \* The density varies with the introduction of pollutants.
- \* the density varies with the earths and cosmic magnetism.

As you can see from the above, it is a wonder that we can use it at all, with our crude knowledge and even cruder cell. The main solution is to have a cell that is not too leaky. This means that the cell is always over producing thus giving you some valuable time to drive out of the unfavourable locality. This is why I have suggested that you should have a duel fuel system and at no stage rely on the cell alone. It is one thing to have it fail on your garage bench and a completely different thing to have it fail in the outback.

Orgone has a very big disliking for any form of man made electromagnetic radiation. So any large high voltage power line, transmitters, airport radar, military installations or radio active sources will set up a reaction with the Orgone to create DOR. This may be so severe, that as Joe say's, " the water has gone bad ". Unfortunately, as you are probably already anticipating what I am going to write, this requires a clean of the cylinders and insulators, fresh water, etc.

#### 7. The Y factor.

or the rational, proof only, and died in the wool scientific types, you are going to hate this one! Basically as Reich discovered, the Y factor simply stands for You. Yes, unfortunately when you get to the grey areas where known science merges into the unknown, you enter areas that will stretch your belief system if you so allow it. I could have very easily left the so called non scientific mumbo jumbo out of this book and so given myself "scientific credibility" whatever that means. Luckily, as I am self funded and do not live on grants by writing "selected" papers, no multi national can conveniently shut me up or rephrase the above to suit their needs.

In actuality, it is immaterial if you believe or do not believe in the Y factor, either way it exists and you really should consider the concept of all creation being intimately linked permanently and instantly.

The Y factor will make your Joe cell either not seed at all or not breed or breed poorly or behave in an intermittent fashion depending on the living energies around it at any one time. This is not a fable coming out of my demented brain, but an observed fact, recorded from all over the world for countless centuries.

The best procedure with the cell, or for that matter any endeavour is to treat it with an open mind. You do not have to believe that it will work, but similarly you should not doubt that it can work. Do not analyse too much or apply blinkers to you thinking process by presuming that you have learned all that there is to know and this cell could never work. Unless you are the Almighty himself, you will learn new things every day for the rest of your. I have talked to many, many intelligent individuals that simply refuse to believe that a car can run on what they see as nothing, nor how this nothing can get into a "solid metal" engine through no openings and produce no measurable pollution. But these same individuals who consider themselves sane, with reservations for my sanity, are quite happy to spend large sums of money or follow some outlandish new age fad in medicine or self healing techniques with even less proof or science!

#### CLOSING COMMENT.

My dear patient reader. At no stage have I said that the Joe cell is similar to making a bread toaster. As you are dealing with a little known mass less life force, you are behind the 8 ball right from the start, your battle is uphill and lonely, with jeering and laughing "experts" on both sides waiting for you to fall. Similarly at no stage have I said that all people can convert all cars. Likewise, once you have converted your chosen car, there is no guarantee in how long it will run, before the breeding stops and or the seed dies.

With the right mind set, all the above are minor problems and enjoyable challenges. But if you approach this conversion, in a rush, not really believing in your heart that it can work, or with the intention of making lots of quick money, the Y factor is going to bite you! Don't even start, you are wasting your time and money. Think about it! If it was so easy and if all and sundry could exploit the life force, why is it not in mass production out in the real world? The answer is simple. It is exactly the mind set of these type of individuals that prevents them from utilising mother nature's secrets.

May aim has been to show you a method of cell construction that works for me. Obviously, there are many different ways of encourage the life force to enter an accumulator, storing it, increasing the stored density and finally utilising the force as you make it work on its release. I have read all materials available to me relating to the life force and its utilisation. Over 6 years, I have compiled, analysed and experimented with the combinations that showed the greatest potential. I am not infallible, nor do I claim I make the best cells. I only claim that I make cells that work! You are reading some of this work. As I give you this information freely, I hope that you will also distribute it freely. What you do with this knowledge is your decision. Hopefully, as a result of your efforts you will share any new knowledge or short cuts with the rest of us, so we can all grow together as a brotherhood.

## Chapter 12.

Do not over analyse or overexperiment.

This will destroy the experiment and it's creative Orgonomic force.

Dr. Wilhelm Reich

When things go wrong.

well, my dear reader, you are reading this section for alternative reasons, some are;

- A. You always read a book or notes from cover to cover before you start a construction project. Great, good idea, read on.
- B. You are an armchair scientist and you are reading this information to see how it fits in with your own pet opinions on the subject. Good luck and I hope if you find something to contribute, you will do so freely and in brotherly love.
- C. You are reading this chapter because you have made a cell by other methods and are looking for a quick fix. I would strongly recommend that you read and absorb all the previous chapters, as you may have a

borderline cell and it may be better to construct a new cell.

D. You are here because you have followed exactly, all my suggestions, and you car will not run on the cell.

In the above, I am only interested in reader D.

Approach to the problem

All problems irrespective of complexity can be solved. in a methodical rational fashion If it looks insurmountable, break it down into convenient smaller section's that you can cope with. Have this smaller section cover one topic only. Make sure that you have a working knowledge of the topic. Take your time, and have somebody else to talk with regarding your chosen solution and approach.

It is important that you change one variable at a time only! If you change variables in a haphazard method or without recording you observations, at the end of the day, you will be worse of than when you started. I would suggest that you break up your problem into the following topics.

# Fault finding topics

- 1. The water.
- 1a. Cell maintenance.
- 2. The cell construction.
- 3. The charging operation.
- 4. Cell to car interface.
- 5. Car modifications.
- 6. Geographic location.
- 7. Y factor.

#### 1. The water

The single most common problem that you will encounter is the water. As Joe remarked on many times, the "water goes bad ". Not a scientific explanation but well said.

So, what are some of the problems with the water?

A. Is the water dead or polluted right from the start? If you collected, transported and stored the water personally, you should know its history. Re read Chapter 8. If you still doubt your water try the following. Orgone accumulates in water and as such, when you transfer the water out of the cell, you take the charge with it. Therefore, if you, or an acquaintance has a good, ie. stage 3 cell, the water can now be substituted into the suspect cell. On now powering up the suspect cell, within 1 minute you cell should be at stage 3. If the

suspect cell does not come up to stage 3, the water is not at fault! The above is by far the easiest way to test a suspect cell, unfortunately you will need another cell or external help.

Note. Do not leave the charged water outside its cell for longer than 1 hour as it is not breeding.

- B. Has the pH of your water changed? Simply run your pH test on the cell water. The reading should be the same. If not either the cylinders or the insulators are breaking down and reacting with the water and electrolyte. Make sure that you followed charging, insulator and cylinder material type recommendations.
- C. Is the water clear? As in B., the cylinders or insulators are breaking down. Or the cell has gone into a base matter creation mode. As this topic is highly controversial and not pertinent to this subject, your only option is to completely dismantle, polish and clean the cell and or replace the insulators. Fill with fresh juvenile water. Go through charge stages as per Chapter 9.
- D. Is there any residue in the sump? As in B. and C. above.
- E. Are the stage 3 breeding indicators behaving the same? Read chapter 9 and make sure that the behaviour of the bubbles and meniscus are the same, especially the long term bubble retention. Again if all else fails try the voltage check.
- F. Have you changed locations and the cell is now sitting in a low density Orgone strip? Make sure that the cell is at stage 3. Read Chapter 9.
- G. Have you accidentally shorted out the cell or reversed polarity to it? See if it goes back to stage 3 if you apply power to it for 1 minute. If not dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9..
- H. Have you allowed the seed to die? Read Chapter 9. Go through stage 1, stage 2 and stage 3 process. The cell may go to stage 2 or even stage 3 within 3 minutes.
- I. Has the cell fallen over at any stage? Try 1 minute charge and see if the cell goes to stage 3. If not, dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9.

#### 1a. Cell maintenance.

I have found after a cell has been in operation for about 6 months, although there is no external indications of malfunction, ie. the cell is happily breeding, it is a good idea to do the equivalent of an oil change and grease. You may find one or more of the following;

- \* There is a light deposit on the cylinders particularly the outside of the 1 inch and 2 inch.
- \* The cylinders may have sagged from the vibration, ie. they are not flat on the top horizontal alignment..
- \* If rubber insulators are used, you will find that the have developed a set.
- \* Some of the insulators particularly the inner top ones may have a light white or grey deposit on them.

- \* There may be a slight suspension or colloid towards the bottom of the cell.
- \* There may be slight indications of a brown sediment on top of the water.
- \* The cell metal parts may have become magnetised.
- \* The lower insulators for the bolt may have shrunk and could be weeping.
- \* The electrical connections to the cell may be loose or corroded.
- \* The compression fitting for the aluminium pipe may be loose.
- \* The short piece of rubber or neoprene hose to the blanking plug may have aged.

The cure for the above are self explanatory. The only difficult one is if the cell has become magnetised. You may be able to degauss the cell or at worst you may have to have the offending cylinder replaced or heat treated. When you demagnetise your cell find a better location for it, or it will only happen again!

I do a regular 6 month service on my cells. The steps I perform are as follows; I pour out the charged water into a 5 litre glass container and put it in a cool dark area. Obviously the glass cylinder is clean and only used for you Joe cell work! Remember you have approximately 1 hour to replace the charged water back into a seeding and breeding cell. I next dismantle the cell and clean all surfaces with mild acetic acid. I find that it is not necessary to repolish the cylinders, but you may do so if it makes you feel better. I rotate any rubber insulators 180 degrees so as to use a fresh surface with no set. I lubricate my bolt and associated insulators with Vaseline and reassemble the cell. By this time the charged water has been sitting for about 1/2 hour in the glass cylinder and the majority of the sediment has settled to the bottom of the glass container. I now pour the charged water back into the cell using a paper coffee filter to catch any sediment. I stop pouring the charged water into the cell, when the first drops of water with the sediments starts to leave the glass container. This water I discard or have analysed to amuse myself. I now top up the cell with fresh juvenile water and connect the cell to the power supply. Within seconds you will see a fine white cloud develop on top of the water. This is the residue of the acetic acid that you used to clean the cell with. I remove this simply by wiping the top of the water surface with a paper towel. Within 1 minute your cell will be back at stage 3. That's it, you have just completed you 6 month service.

Note. I will repeat again in case you have forgotten, but all water, containers, funnel etc. must have only juvenile water used in the cleaning or transferring of water for the cell maintenance. It requires a very small quantity of tap water that has been "enhanced" by good old mankind to kill the cell. Don't blame me if you have to start at stage 1 again by being lazy.

#### 2. The cell construction

Needless to say, you should have followed the cell construction Chapters to the letter. If you did not, you obviously know how to make a different type of cell, and these notes will not be 100% relevant, or you have chosen to be creative, frugal, haphazard, or slap happy at the wrong time. I repeat, you are not making a

toaster! You are trying to induce the life force to work for you. You cannot capture the life force as in a cage. It will enter and exit as it sees fit. It can penetrate all materials!

If the cell was working at stage 3 and now will not work.

- A1. A common problem is that the cell cylinders have moved due to rough handling, vibration, or the wrong diameter insulators. The fix is a dismantle and re alignment. Make sure that you hands are clean!
- A2, Another common problem is the covering of the cylinders and insulators with various residues. This can be seen on the dismantled cell, as an easy removable film on the cylinders and insulators. In this case treat as a dead cell and dismantle, polish and clean all components after finding the cause of the problem. The usual causes are wrong welding material or flux, wrong cylinder material type, wrong insulator material type, or water problems as in section 1. above. Fill with fresh juvenile water and start at stage 1.
- A3. The cell material has been magnetised by locating the cell near starter cables or other high current carrying wiring eg. Hi-Fi wiring, fog lamp or other types of ancillary lights wiring, winch wiring, etc. In this case find the magnetised component or components with you test magnet and replace or de-magnetise the affected components. A hot under bonnet location will cause similar problems. After fixing the cell relocate the cell or the offending items.
- A4. The insulators or the cylinders are eaten away to some degree. You will pick this up in the discolouration of the water. If you followed my instructions this will not occur. The problem is incompatible steel or insulators with the water electrolyte combination. In any case treat the cell as dead, replace faulty components etc. as in A2

If the cell never worked at stage 3.

- B1. The cylinder material type. As mentioned in Chapter 6, the material that you use is critical in you early learning stages. All 316L is not the same! Re read Chapter 6.
- B2. The cell cylinder dimension is wrong. Re read Chapter 6 and Chapter 7. The cylinders must be level at the critical chamber separation area which are formed by the tops of the internal cylindrical tubes. Re check that the cylinders are level. You should see no light when measuring with a straight edge.
- B3. The cylinder finish. As the top and bottom cuts are finished in a lathe, they should be absolutely smooth, ie. no file or cutting marks. Similarly there should not be any heat bands where the cylinders were cut. The surface of the rest of the cylinder does not have to be mirror smooth, but make sure that there is no longitudinal marks or scratches. If you followed Chapter 6, they will be Ok.
- B4. Make sure that the welding is done as per Chapter 6. Make sure that all internal irregularities caused by the welding process are removed, without causing excessive localised hot spots.
- B5. Make sure that all threaded couplings from the cell to the engine is metal to metal joints and the threads are not covered in sealants or Teflon tape etc.
- B7. Make sure that the cell is air tight. If you apply your power source for a minute or two to the cell and block the outlet of the aluminium pipe with you finger only, you will feel the release of pressure on removal of your finger. Do not do this near flames and or explosive gasses! This will also check that your cell is not

open circuit or shorted and that it is electrolysing.

B8. In B7 above, the most common electrical problems are the push fit of the 1/2 inch bolt into the 1 inch pipe, and the insulators between the 1 inch bolt and the lower cell exit point.

3. The charging operation

The failures can be sub divided into 3 sections;

A. Failure to get to stage 1. If you cannot get the water to electrolyse at all, you have not read Chapter 9. Even blind Freddie and his dog can do this. Hang you head in shame and take up another interest! Seriously, not many things can go wrong. If your power source is putting out about 12 Volts and if you have added the electrolyte as described, then you must have some bubble activity in the water. If still no bubbles in the water, connect a 12 Volt car globe of any type to the very ends of the leads that you are connecting to the cell. The lamp will light if you power source and your leads are Ok. Now remove the lamp and put the positive lead to the outside surface of the cell and the negative lead to the 1 inch bolt that connects to the 1 inch cylinder. If you still have no bubbles, the 1 inch bolt connection to the 1 inch tube is faulty, but highly unlikely. Re check the insulators that insulate the 1 inch bolt from the outer container. As there is now water in the cell you will not be able to do your insulation test but you should still read more than 10 Ohms resistance from the bolt to the case. Be careful of misleading readings if the cell is acting as a battery, as you Ohm measurement will be useless.

- B. Failure to get to stage 2. By this I mean that the cell has not seeded and remains at the electrolysis stage. As explained, is the cell will not seed, the indication is there is no change in bubble size or surface tension. Boy oh boy, I have been here many a time myself and I suggest the following;
- B1. The first and most common is the covering of the cylinders with a coating of various chemicals. In my early days, when I took the lazy way out and brazed or silver soldered my casing joints, this compound ended up all over the rest of the cell due to electrolysis. As the positive is the donor surface and the outer casing including welds, sealants etc., this fact aggravated the plating process.
- B2. Another failure and resulting contamination, was the use of the wrong type of sealant on the central insulator for the sealing of the 1/2 inch bolt where it passes out through the bottom of the cell.
- B3. Likewise, when I decided to press fit my outer cell components, I used an automotive silicon gasket cement on the joints. This also ended up plating the whole cell.
- B4. If the water smells un-healthy or there is scum floating around, the water has gone bad. Replace with fresh water and go back to stage 1.
- B5. Check that you insulators have retained the original manufactured colours. That is, if red rubber, make sure they are still red, if silicone tubing, make sure it is still clear etc. The insulators may be fine for stage 1 electrolysis, but may be very leaky to Orgone.
- B6. You working area or you may be detrimental to the seeding of the cell. See 6. and 7.

- B7. You are not covering the cell overnight and or between experiments. As previously explained, we want to keep a very mild air seal on the cell. This is easily done by placing a lid on the test cell or by having a spare aluminium plug in the end of the hose where it fits onto the engine fitting. Again I must repeat, DO NOT. use worm drive clips on both ends of the rubber coupling sleeve. The rubber sleeve must act as an one way exit for any pressure in the cell. The internal cell pressure must remain very close to atmospheric during operation.
- B8. You are just too impatient! It may take 4 weeks to seed the cell! Just spend a few minute a day with it and go and do something else.
- B9. You have used the wrong materials. This has already been covered. Please read 2.
- B10. You have used the wrong water. Ditto. Please read 1.
- B11. You are using the wrong charging method. Ditto. Please read 3.
- Note. For all problems in this section due to contamination of the cell by deposits, water or materials, dismantle the cell, polish, clean and refill with juvenile water.
- C. Failure to get to stage 3. This is the failure of the cell to breed. Again to repeat, this is the failure of the cell to keep increasing the initial seed density to a greater but still finite Orgone energy limit. Indicators will be a lack of long term bubble and surface tension retention and an obvious non operation or marginal operation. Usually you will get to stage 3 very soon ie. within days of stage 2. Another way of describing the failure of running at stage 3, is that the cell is leaky to such an extent, the Orgone force cannot accumulate sufficient density for our need's.
- C1. The most common fault of the cells in not breeding, or insufficient breeding, is caused by marginal water, construction dimensions and materials. Please make sure that you have followed these notes to the letter. If you have modified or substituted components etc., you obviously know something that I do not know and if your cell had worked, I would love to hear from you. But as you are reading this and if you cell is not working, I suggest you follow my instructions to the letter, or try somebody else's, " how to build a Joe cell " book.
- C2. Your working are or you may be detrimental to the cell's operation. Read 6. and 7.
- 4. Cell to car interface.

If you are looking for faults in this area, you know that you cell is at stage 3, but the engine refuses to run from the cell.

A1. Outlet pipe from cell.

A lot of different diameters and materials will work. I would suggest, like Joe that you use 20 mm. aluminium pipe. Due to electrolytic action copper will either pollute the cell, or pollute itself. The short piece of rubber or neoprene must not have any clips on the end that attaches over the blind aluminium plug. The idea is to let any pressure "burp" out, but not to let any air in. The fitting should act as a one way valve to pressure from the cell caused by the electrolytic action. The engine end of the aluminium pipe should have you Positive electrical connection secured to the pipe by means of the same short piece of hose being slipped over it. This end should have a clip to squeeze the hose and the electrical fitting to the pipe. What you are doing is

providing your Positive connection at the very end of the outlet pipe. You Negative of course will go to the cars body, (we are presuming a modern car that has a Negative earth system). The pipe fitting to the top of the cell must be air tight without the use of sealants or Teflon tape etc. The compression fitting will do a good job of this. Try to twist the aluminium pipe out of the compression fitting, if tight, you will not be able to budge it. You pipe should also have some form of insulation around it to prevent contacts to the rest of the metallic parts of the car. Ideally, the cell should be similarly protected. Remember, just one short circuit and the cell is dead!

A2. Electrical connections. The Positive wire coming from the end of the aluminium pipe should go via a 5 Amp fuse to you " ignition on " wiring. By this I mean that the cell should only have the car power connected to it when the ignition is on. Some people prefer to run this wire via an off/on switch that is located in the car. When you connect your Negative to the car, it is preferable to connect it directly to the block if you earth straps from the motor or gearbox are suspect. Either way, with the ignition on, you should measure 12 Volts Positive on the cell body and 12 Volts Negative on the central bolt fitting. If not check you wiring, fuse, any switches, etc. The most probable cause of no Voltage is a blown fuse because you have shorted the cell. Find you short, replace the fuse and make sure that the cell goes to stage 3. If not, pull the cell out clean, polish, new water etc. ie. start again. The other most common problems are the use of sealants on the compression fitting. This is easy to find and fix. If you have 12 Volts across the cell, that does not mean necessarily that you have your 1 Amp current flow. To check this, temporally disconnect the Negative end of your cell from the car body or motor and put you Amp meter in series with the central bolt and the car connection. You should read your 1 Amp current flow. If not you have some high resistance connection's or wiring or the cell is faulty. As you are reading this because you know you cell is not faulty, the problem is either you aluminium pipe connection or you wiring. Locate the problem step by step, making sure that you do not short out or apply reverse polarity to the cell.

A3. Cell design. If you have made a cell with the wrong taper to you cone, the Orgone will focus before it gets to the motor and the cell will work brilliantly on the bench, but it will not run the car. The only reason this has occurred is that you did not build a cell as described in these notes.

A4. Cell location. Check as previously explained that the cell is located in a favourable location in the car. Is it in a cool place? is it level? Is it located as far as possible from high current wiring. Is it located in a low vibration area? Not like some rocket scientist who strapped it to his engine!!! As Orgone has a vertical preference once it leaves the cell, reduce horizontal pipe runs to a minimum. A cell located in the boot, with a 4 meter run to the engine is not a great idea. Again, a non leaky cell can run 60 meters or more into a horizontal tube, but why tempt fate? As far as the cell ( but not the passenger ) is concerned, for you first cell temporary location, the passenger foot well, with a pipe through the bulk head and a short, ( less than a meter ) pipe to the plug located at the rear of the engine ( non V8 ) works well.

Note. At this point of the trouble shooting list, you know that you cell is at stage 3 and that it is connected correctly to the car. So if things are still not working, leave this area alone! Do not undo what you know is working ie. Don't dismantle your cell or associated connections to the car, they are Ok.! Leave them alone and look for problems in the only remaining areas you have not covered, ie. Section 5, 6, and 7. Unless you keep a systematic approach to the installation and trouble shooting you will never get the cell to run the car.

#### 5. Car modifications.

For a start, I will again state the obvious, some cars will be easier to modify than others. Or more importantly, not all persons will be able to modify all cars! So unless you are masochistic and want to make your friend's life a misery, choose an easy car! This of course may not be old faithful that is sitting in your

garage. You should also have followed Chapter 10. before you read this.

You are reading this because, you KNOW that your cell is still breeding, ie. running at stage 3, your car connections are ok. and you electrical connections are ok. You have started your car on petrol and after it has warmed up, you either have turned of the electrical fuel pump, or you have turned of the fuel to or from the mechanical pump. Now as the fuel is used up in the fuel bowl or bowls the engine falters and stops, (at this stage, I am not talking about fuel injected motors). That is how I would expect you to test the change over phase. You are really pushing your luck, if you walk up to a stone dead car, remove the fuel to the engine and start cranking! I hope you have plenty of fully charged batteries!

The car will either run, run erratically or not at all.

A1. Car shows no sign of running from the cell. By this I mean, that as soon as the motor runs out of fuel it stop. A lot of people get here, but blame the wrong components. As stated above, you are here because you know all sections up to here are working ok. This only leaves this Section and 6 and 7. So lets presume that the car is at fault as that is the present topic.

I can tell you for a fact, that a 1971 V8 Rover will start first shot and run like a dream, likewise a 1100cc Mini Minor will not even think of staring first time. Why? There is a lot of pet theories floating around but as these are my notes I will give you my theory based on logic.

Note, the following is a theory and eventually may be proven wrong. but the way I see it is, that the water and the cylinder bores in the motor act as a single layer Orgone accumulator, ie. an Organic material, (water), surrounding a non Organic cylinder, (the bore). As such an engine with a bore that is fully surrounded with water will be far superior than an engine that uses siamesed bores or casting methods, without the benefit of the totally water surrounding cylinder. Now as most aluminium blocks have metal sleeve cylinders pressed into the aluminium block for bores, this feature allows for a full water circulation and completes our single layer Orgone accumulator. It also makes it less leaky and more conducive to conversion to a Joe cell system. Remember Orgone loves water.

The above gives me a reason why some motors start first shot and others may take weeks to kick in. Two other effects hinder or help the above. The first is, that Orgone seems to "like " to travel in aluminium or it finds aluminium more difficult to penetrate. So it would have a tendency on leaving our aluminium pipe to either prefer the aluminium block or, once it was inside the block, it may have a greater difficulty in "leaking "out. I would be the first to admit that I do not understand this effect, but it is definitely there. As more information comes to hand, I will update these notes. The second is the easier conversion of V8 motors. As our blanking entry plug is located in the vee formed by the two banks of 4 cylinder's, the Orgone distribution from the cell is ideal, ie. it is a central entry, nearly equidistant and close to all cylinders. Another important feature is that the entry point it is on the cold side of the motor, ie. the exhaust system is on the "other side " of the cylinders. This also give a cross flow motor an advantage.

So what is to be made from the above? I would suggest, like Joe, to start on an easy conversion until you build up your own confidence and hence the "Y" factor. Either go and see a converted car so you can believe, or convert an old Rover or Leyland V8 as a group effort. I cannot see why the different club's and interest groups cannot pool together and purchase an old wreck.

If you insist in converting your cast iron whatever, be prepared to wait for the molecular changes that seems to occur to cast iron, siamesed bore and manifold type motors. As Joe stated, this may take 3 or 4 weeks. I have personally installed cells that are stage 3 and left them "running" on the car. The car was driven

normally on petrol or gas, until the idle or engine operation noticeably changed. This was the indicator that the "molecular" changes have occurred and the car was ready. What you also may want to try is to replace the normal radiator water with charged stage 3 water. This should speed up the acclimatisation process. As most modern motors run some form of inhibitors and anti freeze additives in the water, you will have to consider the consequences of playing around with this mixture. The down side of dumping the additives may be increased corrosion on alloy component's, ie. head, manifold, water pump etc. Due to the tendency of the motor to run much cooler on the Joe cell, I would recommend that you leave the Glycol in the water. Obviously you throw all new car warranties out the window, the moment that you add the Joe cell and its related conversions to you car.

A2. Fuel injection cars. The simplest way to treat these cars is to perform a full conversion to gas. In this way you have a duel fuel system, ie. Joe cell or gas. Plus you pick up the advantages of a longer life span for your engine as per Chapter 10.

So really all that I can suggest in this section is that if the car will not start at ALL and all other Sections been covered, you should give the conversion a maximum of 4 weeks for the cell to take over. If the cell does not kick in that period, the chances are indeed slim that it will ever work. All cars including fork lifts, dragsters and diesel motors that Joe converted eventually ran! If your car will not, consult your favourite "expert ", or drop me a line only as a last resort when you have exhausted all other avenues. Please be reasonable, realise that I am only one person, I have a life and family, I do not get paid for my time by you or the hundreds of others requiring help. Irrespective, I will do my best to help.

- A3. Car runs erratically. This could be caused by many things.
- \* The cell is marginal. Check that it is still at stage 3.
- \* The cell has become magnetised. See previous section.
- \* The day is hot, or the cell is too hot. Feel the cell!
- \* The day is wet or humid. See section 6.
- \* You or your passengers or animals are interacting with a marginal cell. See section 7.
- \* Your ignition timing is not optimised. Adjust!
- \* Your water has gone " off ", or you water level has gone down. Rectify!
- \* Your cell cylinders are polluted. Dismantle and clean.
- \* You are in a high DOR area with a marginal cell. Hopefully you can drive out of to before the cell dies.
- \* You are in a strip of low or reversed Orgone. As above.
- \* Sun or planetary activity is detrimental to cell output. Change over to "normal "fuel and wait for more favourable times.
- A4. The car runs. Great! Good for you. But, please remember that it will not run all the time and will stop

unexpectantly and with no warning signs, so always have a duel fuel system set up and ready to "kick in ". It is highly embarrassing being thousands of kilometres from home and asking the local mechanic to fix your Joe cell conversion! You should see an interesting look on his face.

The performance of your car will be determined on the reserve of Orgone density you have on demand. A leaky or under capacity cell will not give you maximum power. A good cell will give you at least the same and usually a greater power range with a sweeter running and more tractable motor.

### 6. Geographic location.

As mentioned, Orgone is not a constant, or even density cover on this planet. Some of the resulting problems are;

- \* The density varies seasonally.
- \* The density varies with the time of day.
- \* The density varies with planetary motions.
- \* The density varies with the sun's cycle.
- \* The density varies with altitude.
- \* The density varies with geographic location.
- \* The density varies with the "users" of the Orgone energy eg. a nearby car.
- \* The density varies with the weather.
- \* The density varies with the introduction of pollutants.
- \* the density varies with the earths and cosmic magnetism.

As you can see from the above, it is a wonder that we can use it at all, with our crude knowledge and even cruder cell. The main solution is to have a cell that is not too leaky. This means that the cell is always over producing thus giving you some valuable time to drive out of the unfavourable locality. This is why I have suggested that you should have a duel fuel system and at no stage rely on the cell alone. It is one thing to have it fail on your garage bench and a completely different thing to have it fail in the outback.

Orgone has a very big disliking for any form of man made electromagnetic radiation. So any large high voltage power line, transmitters, airport radar, military installations or radio active sources will set up a reaction with the Orgone to create DOR. This may be so severe, that as Joe say's, " the water has gone bad ". Unfortunately, as you are probably already anticipating what I am going to write, this requires a clean of the cylinders and insulators, fresh water, etc.

#### 7. The Y factor.

For the rational, proof only, and died in the wool scientific types, you are going to hate this one! Basically as Reich discovered, the Y factor simply stands for You. Yes, unfortunately when you get to the grey areas where known science merges into the unknown, you enter areas that will stretch your belief system if you so allow it. I could have very easily left the so called non scientific mumbo jumbo out of this book and so given myself " scientific credibility " whatever that means. Luckily, as I am self funded and do not live on grants by writing " selected " papers, no multi national can conveniently shut me up or rephrase the above to suit their needs.

In actuality, it is immaterial if you believe or do not believe in the Y factor, either way it exists and you really should consider the concept of all creation being intimately linked permanently and instantly.

The Y factor will make your Joe cell either not seed at all or not breed or breed poorly or behave in an intermittent fashion depending on the living energies around it at any one time. This is not a fable coming out of my demented brain, but an observed fact, recorded from all over the world for countless centuries.

The best procedure with the cell, or for that matter any endeavour is to treat it with an open mind. You do not have to believe that it will work, but similarly you should not doubt that it can work. Do not analyse too much or apply blinkers to you thinking process by presuming that you have learned all that there is to know and this cell could never work. Unless you are the Almighty himself, you will learn new things every day for the rest of your. I have talked to many, many intelligent individuals that simply refuse to believe that a car can run on what they see as nothing, nor how this nothing can get into a "solid metal" engine through no openings and produce no measurable pollution. But these same individuals who consider themselves sane, with reservations for my sanity, are quite happy to spend large sums of money or follow some outlandish new age fad in medicine or self healing techniques with even less proof or science!

#### CLOSING COMMENT.

My dear patient reader. At no stage have I said that the Joe cell is similar to making a bread toaster. As you are dealing with a little known mass less life force, you are behind the 8 ball right from the start, your battle is uphill and lonely, with jeering and laughing "experts" on both sides waiting for you to fall. Similarly at no stage have I said that all people can convert all cars. Likewise, once you have converted your chosen car, there is no guarantee in how long it will run, before the breeding stops and or the seed dies.

With the right mind set, all the above are minor problems and enjoyable challenges. But if you approach this conversion, in a rush, not really believing in your heart that it can work, or with the intention of making lots of quick money, the Y factor is going to bite you! Don't even start, you are wasting your time and money. Think about it! If it was so easy and if all and sundry could exploit the life force, why is it not in mass production out in the real world? The answer is simple. It is exactly the mind set of these type of individuals that prevents them from utilising mother nature's secrets.

May aim has been to show you a method of cell construction that works for me. Obviously, there are many different ways of encourage the life force to enter an accumulator, storing it, increasing the stored density and finally utilising the force as you make it work on its release. I have read all materials available to me relating to the life force and its utilisation. Over 6 years, I have compiled, analysed and experimented with the combinations that showed the greatest potential. I am not infallible, nor do I claim I make the best cells. I only claim that I make cells that work! You are reading some of this work. As I give you this information freely, I hope that you will also distribute it freely. What you do with this knowledge is your decision. Hopefully, as a result of your efforts you will share any new knowledge or short cuts with the rest of us, so we can all grow

together as a brotherhood.

#### **GLOSSARY**

Acid A substance which releases hydrogen ions when it is added to water. The hydrogen ions is solvated ie. a water molecule adds on to it, to give the oxonium ion.

Accumulator In our case a rechargeable Ozone concentrating container

Alkali A base which is soluble in water. They are usually metal hydroxides eg. sodium hydroxide, but ammonia solution is also an alkali.

Alloy Is a mixture which is made up of two or more metals or more metals or which contains metals and non-metals.

Aluminium The most abundant metal in the earths crust, (approximately 8% by mass). It is obtained by electrolysis of Bauxite

Ampere This is the unit of electric current. It measures the rate of flow of charge. 1 Amp = 1 coulomb/second.

Anion A negatively charged ion.

Anode When a solution undergoes electrolysis the electrode with the Positive potential is called the anode. In the Joe cell, it is the outer casing.

Atom The smallest indivisible particle of an element that can exist.

Battery A device which converts chemical energy into electrical energy.

Brass Is an alloy of copper and zinc.

Bronze The combination of >90% copper and <10% tin.

Capillarity The tendency of the water in a Joe cell to move up the sides of the cylinders depending on the relative attraction of the water molecules to each other and to the cylinder walls.

Cathode The Negatively charged pole in a battery or electrolytic cell.

Cation A positively charged ion.

Cell Defined in our case as an accumulator of Orgone energy.

Conductor an electrical conductor is a substance which allow an electric current to flow through it.

Current Electric current is the movement of electrons through a conductor. It is measured in Amperes.

DC Direct Current. The type of electrical current produced form a simple cell or battery.

Distilled water Tap water and rain water are not pure. They contain salts and dissolved gases. Water is often distilled to increase purity. Most of the salts are left behind but the water may still contain dissolved gases. The presence of carbon dioxide reduces the pH of the water considerably.

Electrode An electrode is a conductor which dips into an electrolyte and allows the current ( electrons ) to flow to and from the electrolyte.

Electrolyte An electrolyte is a solution which contains ions.

Electrolysis When a direct current is passed through a liquid which contains ions( an electrolyte ), chemical changes occur at the two electrodes.

Element A pure substance which cannot be broken down into anything simpler by chemical means.

Fuel A fuel is a substance that releases heat energy when treated in a certain way. In most fuels, the energy is released by combustion. So strictly speaking, when the car is running on the Joe cell, it is not using any fuel.

Hydrogen A gaseous diatomic element. The atom consists of one proton and one electron.

Insulator. A substance which in our case is a poor conductor of both electricity and Orgone.

Ions A species which possesses an electrical charge. When an atom gains or loses an electron it becomes an ion.

Ionisation When an atom loses or gain electrons it becomes an ion. This gain or loss is termed ionisation.

Iron The most widely used metallic element. One of the main problems with iron is that it rusts.

Leaky The inability of our cell to retain the Orgone charge over a period of time.

Litmus This is extracted from lichen and used as an acid-base indicator.

Mass This is how much material a substance possesses. It is usually measured in grams or kilograms.

Meniscus The curved upper surface of the water in the Joe cell, caused by capillarity action.

Molecule A molecule is defined as the smallest particle of an element or compound which exists independently.

Nucleus This is the part of an atom where the mass is concentrated. It contains protons and neutrons.

Neutrons This is one of the particles which are found in the nucleus of all atoms except hydrogen. It has approximately the same mass as the proton but no charge.

Nitrogen It is an unreactive diatomic gas which forms about 78% of the atmosphere.

Orgone The cosmic life force. see section on Orgone in book.

Oxonium ion The loss of an electron from a hydrogen atom leads to the formation of a hydrogen ion. This is a proton.

Oxygen A gaseous non metallic element. It makes 21% of the atmosphere.

Petrol A mixture of hydrocarbons which is used as a fuel.

pH pH scale is a measure of the acidity or alkalinity of a solution. The lower the value, the more acidic is the solution. ie. the larger the concentration of oxonium ions there are within it. A neutral solution, where the concentration of oxonium and hydroxide ions are equal, has a pH of 7.

Example, Strong acid = 0, weak acid = 4, water = 7, ammonia solution = 10, strong alkali = 14.

Pipette A piece of glassware used for measuring and transferring a volume of liquid.

Polymer Polymers are large molecules in which group of atoms are repeated.

Proton A positively charged subatomic particle found in the nucleus of the atom.

Rubber A natural polymer. It is a hydrocarbon. rubber is a good insulator.

Seeding The initial capture of the Orgone force in our cell.

Steel Is an alloy which contains iron as the main constituent.

Sump The lower 1 inch area under the cylinders in a Joe cell.

Suspension When a solid is added to a liquid and the solid neither dissolves in the liquid nor sinks to the bottom, the mixture is referred to as a suspension because the solid is suspended in the liquid.

Vinegar A solution which is made by the action of bacteria on wine or cider. It contains about 4% ethanoic acid. It is used widely in the food industry for preserving foods.

Water Water is an oxide of hydrogen. It is one of the most common compounds on the earth. it does not conduct electricity in its pure state although it can be electrolysed if small amounts of acid or alkali are added. the products are hydrogen and oxygen. The water which we drink is never pure.

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Part one of the joe cell article "





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## **RUNNING CARS ON ZERO POINT / ORGONE ENERGY.**



The car experiments were carried out on

Please take note the photographs show a test unit made of glass and stainless steel to give you some idea of what the units look like ,Later and better units have been made totally out of stainless steel (food grade only).

A plastic unit was constructed but was discontinued due to possible dangers invovled.

This danger was found to have been avoided when units were constructed in rigid stainless steel.

This is only a brief overview and description of the JOE device.

It seems to have some things in common with the Stanley Meyers concepts but does not need the complex electronics that Stan is said to have used, and also it seems that the Joe's unit can be built by anyone with access to food grade stainless steel and some home workshop tools.

The ability to run cars without fuel of any type has been claimed to have beendone and demonstrated here in Australia in the last two years.

Originally when I heard of the device it seemed too good be be true but must admit I less skeptical after seeing the details.



# The test unit mounted in the car the normal fuel line was removed notice the reading on the vacuum gauge

The person that discovered this information has been harassed and threatened by some idiots and maybe vested interests.

They also stole all of thise 'Wizards' gear out of his shed. Itonly goes to show, it is gutless idiots that do this type of stuff. They must want us all to die from pollution and poisoning.

The inventors name has not been released to me apart from being called Joe.

I will call him the WIZARD'.

This persons work is along the same lines a William Reich.

#### BASICS of the ivention:

When a automotive engine runs on a fuel, the incoming air's characteristicfrequency changes because it interacts with the fuel. As the fueltravels along the manifold with the air it starts to spread(ATOMISATION)this give a greater contact area with the air .



The unit under test on the work bench notice the negative terminal at bottom of jar and the twin positve leads in the top of open glass jar and connected to stainless cylinders.

When the mix is in the chamber and the spark plug fires the airreturns to its low frequency, releasing energy.

Some of the gases in the air have to react with the fuel to lowerthe fuels energy state. This is the pollution bit.

What if we could increase the frequency and the energy of theincoming air without fuel. That would mean NO pollution in theend process.



another view of glass test unit mounted in automobile

This is what the 'Wizard' has done. The device is simple in principle, but without the right knowledge of the materials required andthe correct characteristics of each material it will not work. The cell consists of stainless steel tubes 1,2,3,4 inches in diameter outer casing again Stainless steel 5 inches in diameter no weldingcan be done any where on the unit.

The ends should be dome type and presses on to the outer casewhen complete. The top has a 3/4 inch hole tapped in it to allow a luminium delivery tube to be screwed in. The bottom has a holedrilled in it to allow a electrode to pass through the case without electrical contact.

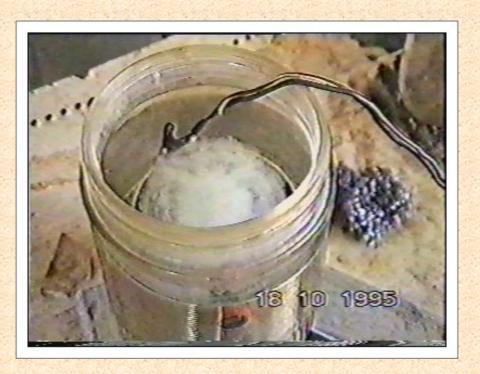


close up view of the glass unit prior to being charged

All insides of the tubes should be as polished as possible without the use of chemical or abrasive or steel brushes. (elbow greaseand vinegar) The inner tubes are insulated from each other and the 1 inch one is connected to the bolt through the bottom.

The delivery tube and outer case must be isolated from the restof the car. The deliver tube runs towards the carby or throttlebody. At about 4 inches from the air metering device(carby orthrottle)the aluminium stops and a piece of rubber hose connects to BLANK fitting on the device without hose clamps.

The cell is filled with specially charged water and the timing adjusted over a couple of days. At the end the fuel is cutoff all together and the motor will be running with a advance between 25 and 80 degrees. Castiron engines are the hardest todo.



# This photo taken just a current is beig applied notice the gas bubbles being formed, a few seconds later the entire glass is filled with a white mass of bubbling foam

Aluminium is the easiest to do. Some aluminium engines one takea day of driving to completely cut over. The exhaust is ice cold, the radiator has ice on it and it has twice the power of a petrolengine. I believe it may be worthwhile to remove the water from the block and replace it with Auto Transmission Fluid as it freezesat a much lower temperature.

I would expect that the water pump vanes would need to be clippedor drilled to decrease efficiency and drag in the oil. The bolton the bottom is connected to the chassis. This may seem too simplebut if done correctly it works.

Iam currently working on my VN commodore and my other projectis a turbocharged intercooled 13B rotary. I do not know what isgoing to happen with the turbocharged engine.

If I can make it work there will not be a engine that couldn'tbe converted including diesel's (replace injectors with sparkplugs and electronic timing unit about \$440). Imagine ever truckand car in Australia using no fuel creating no pollution.

A wonderful place, however the government and fuel companies willdo every thing that they can to stop us the people. I thoughtthat they are our servants.(I wish)

This cell functions as a tree does, it is a biocapacitor or aself charging capacitor like the "ARK of Covenent" tostop the charging you must enclose the capacitor in Aluminium.

Added Benefits: Your car will not rust the paint will not oxidisethe oil will last many times longer the energy around the carwill keep you healthy and heal your ills.

#### WATER:

The water used must be as clean as possible and alive (none treatedwater) once it is energised via a special process the water canbe used in the cell.

All the impurities will be removed with this process that uses low voltage electricity.

There has been some other written work on this subject howeverI believe that none of the money raised by the sale of this informationhas been given to 'Wizard' to help recover from his losses.

They do give him credit but he should get something for his trouble. This idea alone could be worth Billions world wide. The 'Wizard'has many other wonderful inventions however the world may notbe ready for them yet.

## **Stainless Steel Specifications**

As Copied from <a href="http://www.sppusa.com/reference/white\_paper/wp\_ss.html">http://www.sppusa.com/reference/white\_paper/wp\_ss.html</a>

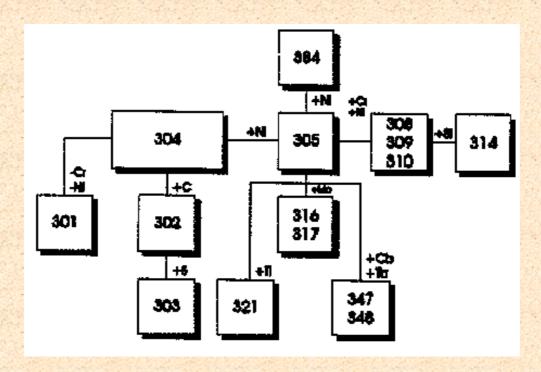
As Joes devices uses a special grade of stainless steel it may be of interest to intending builders of the device to know the differences and types

#### Stainless Steel

Stainless steel is primarily when corrosion or oxidation are a problem. The function that they perform cannot be duplicated by other materials for their cost. Over 50 years ago, it was discovered that a minimum of 12% chromium would impart corrosion and oxidation resistance to steel. Hence the definition "Stainless Steels", are those ferrous alloys that contain a minimum of 12% chromium for corrosion resistance. This development was the start of a family of alloys which has enabled the advancement and growth of chemical processing and power generating systems upon which our technological society is based.

Subsequently several important sub-categories of stainless steels have been developed. The sub-categories are austenitic, martensitic, ferritic, duplex, precipitation hardening and super alloys.

#### Austenitic Grades



Austenitic grades are those alloys which are commonly in use for stainless applications. The austenitic grades are not magnetic. The most common austenitic alloys are iron-chromium-nickel steels and are widely known as the 300 series. The austenitic stainless steels, because of their high chromium and nickel content, are the most corrosion resistant of the stainless group providing unusually fine mechanical properties. They cannot be hardened by heat treatment, but can be hardened significantly by cold-working.

#### Straight Grades

The straight grades of austenitic stainless steel contain a maximum of 8% carbon. There is a misconception that straight grades contain a minimum of 3% carbon, but the spec does not require this. As long as the material meets the physical requirements of straight grade, there is no minimum carbon requirement.

#### "L" Grades

The "L" grades are used to provide extra corrosion resistance after welding. The letter "L" after a stainless steel type indicates low carbon (as in 304L). The carbon is kept to .03% or under to avoid carbide precipitation. Carbon in steel when heated to temperatures in what is called the critical range (800 degrees F to 1600 degrees F) precipitates out, combines with the chromium and gathers on the grain boundaries. This deprives the steel of the chromium in solution and promotes corrosion adjacent to the grain boundaries. By controlling the amount of carbon, this is minimized. For weldability, the "L" grades are used. You may ask why all stainless steels are not produced as "L" grades. There are a couple of reasons:

#### "L" grades are more expensive

Carbon, at high temperatures imparts great physical strength

Frequently the mills are buying their raw material in "L" grades, but specifying the physical properties of the straight grade to retain straight grade strength. A case of

having your cake and heating it too. This results in the material being dual certified 304/304L; 316/316L, etc.

#### "H" Grades

The "H" grades contain a minimum of 4% carbon and a maximum of 10% carbon and are designated by the letter "H" after the alloy. People ask for "H" grades primarily when the material will be used at extreme temperatures as the higher carbon helps the material retain strength at extreme temperatures.

You may hear the phrase "solution annealing". This means only that the carbides which may have precipitated (or moved) to the grain boundaries are put back into solution (dispersed) into the matrix of the metal by the annealing process. "L" grades are used where annealing after welding is impractical, such as in the field where pipe and fittings are being welded.

Type 304 The most common of austenitic grades, containing approximately 18% chromium and 8% nickel. It is used for chemical processing equipment, for food, dairy, and beverage industries, for heat exchangers, and for the milder chemicals.

Type 316 Contains 16% to 18% chromium and 11% to 14% nickel. It also has molybdenum added to the nickel and chrome of the 304. The molybdenum is used to control pit type attack. Type 316 is used in chemical processing, the pulp and paper industry, for food and beverage processing and dispensing and in the more corrosive environments. The molybdenum must be a minimum of 2%. Type 317 Contains a higher percentage of molybdenum than 316 for highly corrosive environments. It must have a minimum of 3% "moly". It is often used in stacks which contain scrubbers.

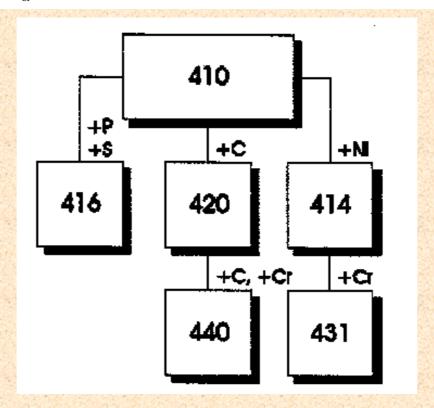
Type 317L Restricts maximum carbon content to 0.030% max. and silicon to 0.75% max. for extra corrosion resistance.

Type 317LM Requires molybdenum content of 4.00% min

Type 317LMN Requires molybdenum content of 4.00% min and nitrogen of .15% min Type 321

Type 347 These types have been developed for corrosive resistance for repeated intermittent exposure to temperature above 800 degrees F. Type 321 is made by the addition of titanium and Type 347 is made by the addition of tantalum/columbium. These grades are primarily used in the aircraft industry.

Martensitic Grades



Martensitic grades were developed in order to provide a group of stainless alloys that would be corrosion resistant and hardenable by heat treating. The martensitic grades are straight chromium steels containing no nickel. They are magnetic and can be hardened by heat treating. The martensitic grades are mainly used where hardness, strength, and wear resistance are required. Type 410 Basic martensitic grade, containing the lowest alloy content of the three basic stainless steels (304, 430, and 410). Low cost, general purpose, heat treatable stainless steel. Used widely where corrosion is not severe (air, water, some chemicals, and food acids. Typical applications include highly stressed parts needing the combination of strength and corrosion resistance such as fasteners.

Type 410S Contains lower carbon than Type 410, offers improved weldability but lower hardenability. Type 410S is a general purpose corrosion and heat resisting chromium steel recommended for corrosion resisting applications.

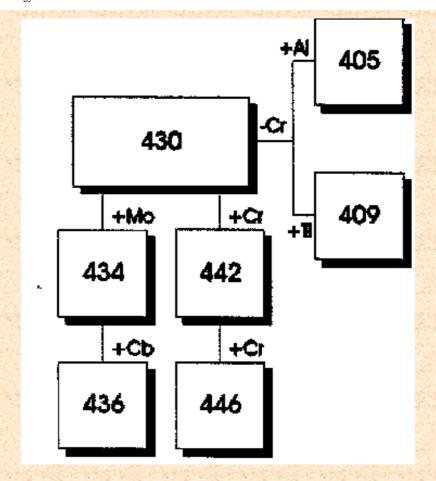
Type 414 Has nickel added (2%) for improved corrosion resistance. Typical applications include springs and cuttlery.

Type 416 Contains added phosphorus and sulfer for improved machinability. Typical applications include screw machine parts.

Type 420 Contains increased carbon to improve mechanical properties. Typical applications include surgical instruments.

Type 431 Contains increased chromium for greater corrosion resistance and good mechanical properties. Typical applications include high strength parts such as valves and pumps. Type 440 Further increases chromium and carbon to improve toughness and corrosion resistance. Typical applications include instruments.

#### Ferritic Grades



Ferritic grades have been developed to provide a group of stainless steel to resist corrosion and oxidation, while being highly resistant to stress corrosion cracking. These steels are magnetic but cannot be hardened or strengthened by heat treatment. They can be cold worked and softened by annealing. As a group, they are more corrosive resistant than the martensitic grades, but generally inferior to the austenitic grades. Like martensitic grades, these are straight chromium steels with no nickel. They are used for decorative trim, sinks, and automotive applications, particularly exhaust systems.

Type 430 The basic ferritic grade, with a little less corrosion resistance than Type 304. This type combines high resistance to such corrosives as nitric acid, sulfur gases, and many organic and food acids.

Type 405 Has lower chromium and added aluminum to prevent hardening when cooled from high temperatures. Typical applications include heat exchangers.

Type 409 Contains the lowest chromium content of all stainless steels and is also the least exp ensive. Originally designed for muffler stock and also used for exterior parts in non-critical corrosiveenviornments.

Type 434 Has molybdenum added for improved corrosion resistance. Typical applications include automotive trim and fasteners.

Type 436 Type 436 has columbium added for corrosion and heat resistance. Typical applications include deep-drawn parts.

Type 442 Has increased chromium to improve scaling resistance. Typical applications include furnace and heater parts.

Type 446 Containes even more chromium added to further improve corrosion and scaling resistance at high temperatures. Especially good for oxidation resistance in sulfuric atmospheres.

#### Duplex Grades

Duplex grades are the newest of the stainless steels. This material is a combination of austenitic and ferritic material. This material has higher strength and superior resistance to stress corrosion cracking. An example of this material is type 2205. It is available on order from the mills.

#### Precipitation Hardening Grades

Precipitation hardening grades, as a class, offer the designer a unique combination of fabricability, strength, ease of heat treatment, and corrosion resistance not found in any other class of material. These grades include 17Cr-4Ni (17-4PH) and 15Cr-SNi (15-5PH). The austenitic precipitationhardenable alloys have, to a large extent, been replaced by the more sophisticated and higher strength superalloys. The martensitic precipitation-hardenable stainless steels are really the work horse of the family. While designed primarily as a material to be used for bar, rods, wire, forgings, etc., martensitic precipitation-hardenable alloys are beginning to find more use in the flat rolled form. While the semiaustenitic precipitation-hardenable stainless steels were primarily designed as a sheet and strip product, they have found many applications in other product forms. Developed primarily as aerospace materials, many of these steels are gaining commercial acceptance as truly cost-effective materials in many applications.

#### Superalloy Grades

Superalloys are used when 316 or 317 are inadequate to withstand attack. They contain very large amounts of nickel and/or chrome and molybdenum. They are usually much more expensive than the usual 300 series alloys and can be more difficult to find. These alloys include Alloy 20 and Hastelloy.

#### Additioal information on the Joe cell

Additioal information on the Joe cell as of November 99





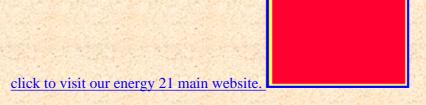
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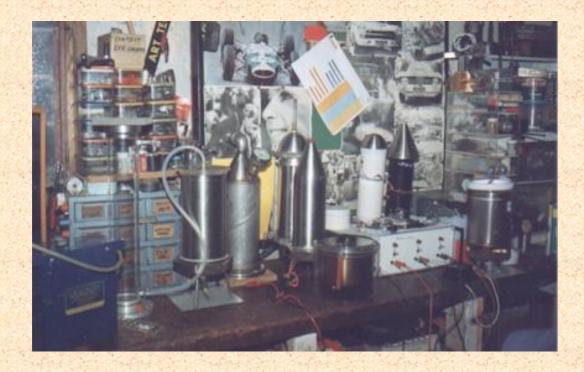


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1

#### The Joe cell



The Joe cell is an alleged free-energy device said to be capable of running motor vehicles without fuel.

The device has the appearance of a domed, sealed electrolysis cell and is connected to the engine via an aluminium tube. It contains no moving parts but is required to be filled with water 'charged' by a particular method. When the device is functional the engine operates, appears to develop more power than usual, operates at lower than ambient temperature and does not use either gasoline or water. That is, the cell does not operate by dissolution of the water into hydrogen and oxygen. No voltage is applied to the cell when running, except in cases where the cell may be 'leaky'.

The device was invented in the early 1990s by a New South Wales resident, "Joe", who after a serious car accident suffered a near-death-experience. As a consequence Joe claims to have developed psychic abilities. He claims to be able to manifest strong healing powers and also to make psychic readings from the examination of exploded party balloons. In addition to the cell, Joe has invented various other subtle energy and water magnetisation devices under the instruction of a higher spiritual power.

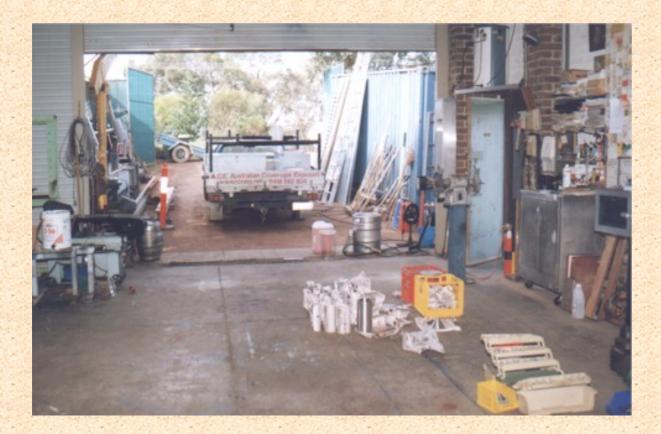
There have been a number of attempts to reproduce these devices by various parties, however to date most have not been successful. There appear to be various subtle factors required to get the cell to work, but since Joe works mainly by intuition he is not always able to specify precisely why any particular configuration of cell not constructed by him is non-functional. Some claim that Joe is a fraud and that the cell is bogus. Others claim to have constructed cells that operate successfully. One of the latter is Alex Schiffer, a free energy researcher from Melbourne, who has recently produced the <a href="Experimenter's Guide to the Joe Cell">Experimenter's Guide to the Joe Cell</a> which gives instructions on how to build a functioning cell.

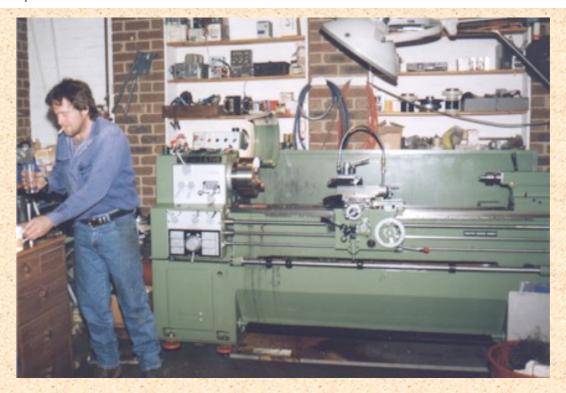
As of August 2001, Joe cell kits are available from

NuTech is now selling Joe Cell kits. I do not know how real this is and do not endorse their product but I thought this might be of interest.

#### Joecell kits

The notion that the cell is a transducer, collector or generator of 'orgone', 'psychic, 'chi', 'prana' or similar energetic concept is given credence by recent anectdotal stories. In one instance, a vehicle said to be operating on the cell levitated off the ground, yet was nevertheless able to be driven and steered normally with the wheels not touching the ground. In another instance, related by Robert Craig, a visitor to his workshop caused a 'breeding' cell to react abnormally merely by the presence of that particular visitor in the vicinity of the cell. The water began to pulse in an agitated fashion, and appeared to recede into the tubes. A photograph of the cell in this condition is available.





#### Other sites:

Nutech (source of book referred in 'Experimenters Guide to the Joe Cell)

http://encyclopedia.educator.webjump.com/orgone.html

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Charging the water cell

Connectioning to motors

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Brotherhood of Man A Joe cell parts supplier

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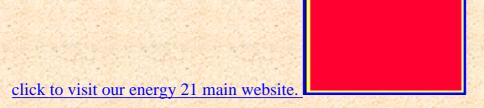


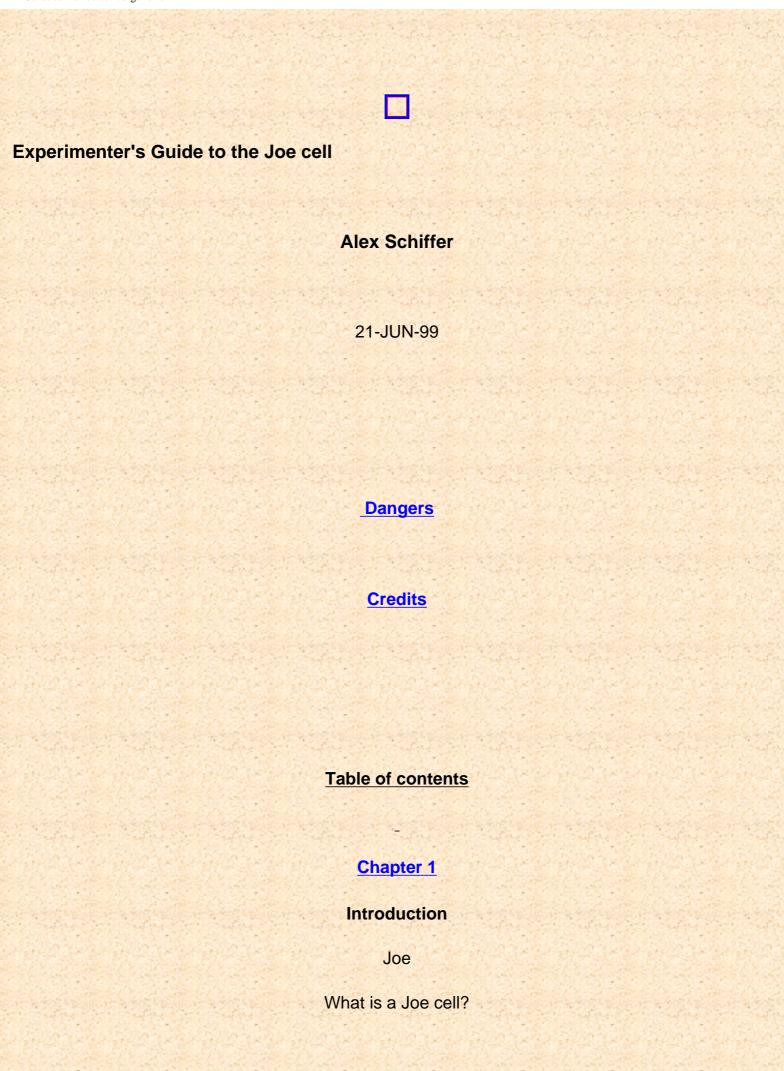
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### **Chapter 2**

### **Orgone**

Some properties of Orgone

### **Chapter 3**

### Comparative names for the life force

### **Chapter 4**

### **Orgone polarity**

### **Chapter 5**

### Theory of cell design

Theoretical requirements

Making a theoretical cell

Capacitor effect

End results

### **Chapter 6**

### Materials and cell design

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Selection of materials

Machining operations

**Options** 

### Assembly

### **Chapter 7**

### Seed diameter/height ratio

Final notes on the above

### **Chapter 8**

### Water type and its relation to the cell

Water type

pH

General notes

### **Chapter 9**

### Charging the water

Preparation

The charging process

Additional notes

Final comments on charging the cell

Special notes on stage 3 water

Miscellanea

### **Chapter 10**

Cell connection to motors and motor modification

Cell location and mounting Cell electrical connections Cell to engine tube Blind plug location Ignition timing Motor modifications **Chapter 11** When things go wrong Approach to the problem Fault finding topics The water Cell maintenance The cell construction The charging operation Cell to car interface Car modifications Geographical location Y factor

### **Chapter 12**

Closing comments

### Miscellaneous thoughts

**Emerald Tablet** 

Cone angle calculation

Electrolysis process

Rotating fields

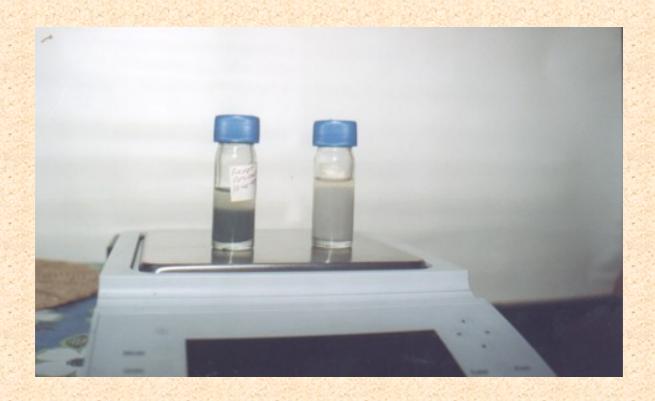
The past

The present

The future

**Bibliography** 

**Glossary** 



Colloidal precipitate referred to in Chapter 2. The darker material on the left responds to a magnet, material on right does not. It is believed at present that this material does not come from either the stainless stell tube material or from dissolved salts in the water. It was not possible to weigh the

material properly without drying it, however the amount of solid in each jar is estimated to weigh less than 1gm.



View of a 'test cell' used for charging water.



Test cell showing bubbles developing during electrolysis at stage 2.



Test cell showing bubbles developed during electrolysis at stage 3. At this stage the cell is breeding, or attracting organe energy into the water.

\*\*\*\*\*\*\*\*\*\*

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Update17081999

#### DANGERS.

I would like to mention here the special dangers that are associated with the use of the life force, more particularly the Orgone energy. I presume that the reader is familiar with the arts required to experiment with hydrogen and oxygen, and is also competent in the use of the tools required to achieve the required results. You have read the disclaimer and I will leave it at that.

As you may be unfamiliar with Orgone, I would like to mention some additional precautions.

Orgone is very sensitive to disturbances and agitations from many sources. Thus the Orgone energy is very easily excited or irritated to produce toxic effects.

#### The following should be avoided:

- \* Any cathode ray device such as a TV sets, computers, oscilloscope, etc.
- \* Microwave ovens, fluorescent lights, luminous face watches, smoke detectors and electric blankets.
- \* Mobile phones and towers, courier radio telephone service or similar instrumentalities, airport radar and communication services, TV, AM, FM radio transmitters, radio traffic lights, police radar, high tension power lines, nuclear power plants, nuclear waste or storage facilities, and past or present nuclear testing areas.

The above electromagnetic and nuclear devices and materials are known to irritate Orgone energy, driving it into a severely excited state which Reich identified as the *Oranur effect*. These effects persist long after the irritation is removed (years). Under such persisting agitation, the Orgone energy eventually becomes immobilised and "dead". Reich identified this deadened energy state as *Dor* (*Deadly Orgone*). A typical human reaction to Dor is lethargy, immobilisation and emotional remoteness. The most important effect is, that it tends to drive latent medical symptoms to the surface.

# YOU HAVE BEEN WARNED!

If Oranur or Dor is present, an accumulator will amplify these tendencies.

If my cells "play-up", I feel very tired, my face looks and feels bloated, I have trouble with my eyes, and I feel as if I was sun burnt. You should dismantle the cell immediately and find the cause. As for yourself, have a cold shower as soon as possible and you should feel better.

\*\*\*\*\*\*\*\*\*\*\*\*\*

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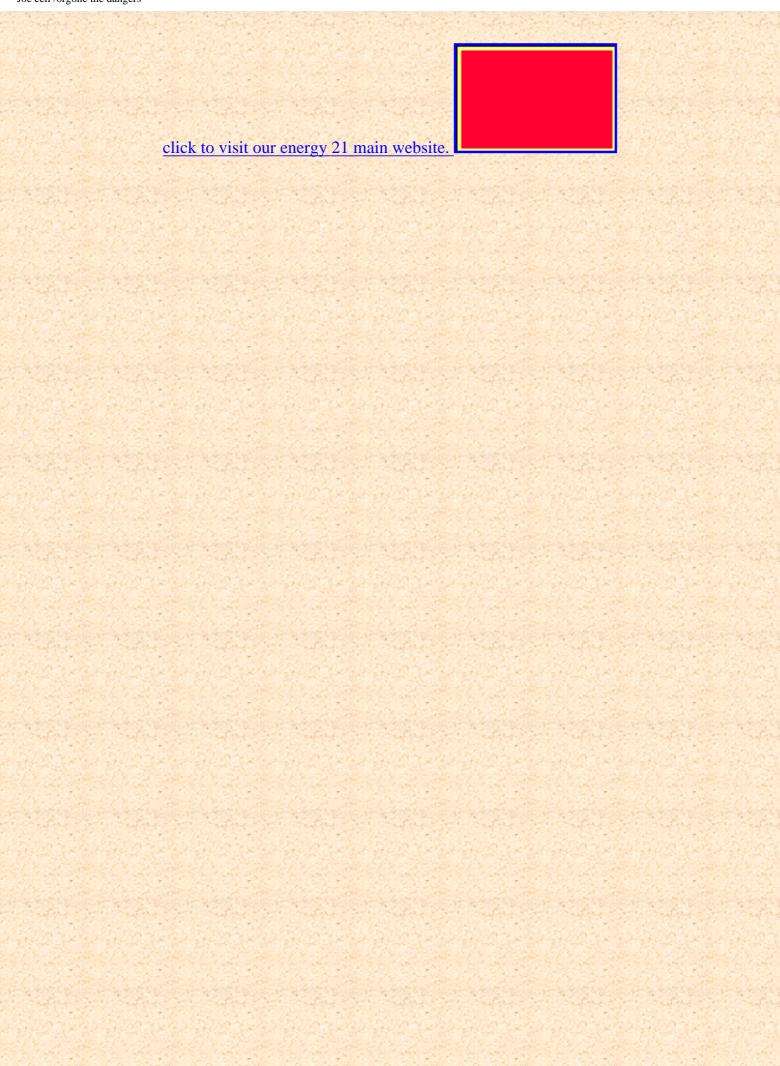
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# Encyclopedia of free energy volume v3

Seeking natures free energy sources and related devices

Main Index Page















Our Introductions

It is Energy 21 belief there are many sources of energy. That mankind could know be using now but for various reasons this technology has been prevented from be used by us.

This volume is following on from previous editions and we hope that knowledge contained within will provide with you with some form of enlightenment.

We are somewhat limited in what we found and some Research is imcomplete others may need to fill the Geoff gaps enjoy.

Flying Craft

Unusual Motors/ generators

The Hamel flying saucer under construction
The David Hamel Picture book
Flying a UFO
The Hamel 45 gallon drum experiment oscillator
The Hamel Spinner
David Hamel update
Further David Hamel update
The Hamel free energy generator
The New Searl effect generator
The Viktor Scauberger flying machine

#### Gas and Fuel Ideas

Aqua Fuel Construction Project
A variable ply orgone pump
Running your car on orgone and water
Additional Joe cell information
Electrolytic decomposing gas generator

### Wind power

Pulsating wind generator
Unusual green wind generator
Turbine based on the work of
Viktor Scauberger.

Brown reluctance generator
Faraday Homopolar generator
Wesley Gary Magnetic Motor
Green's Unusual wind generator
Simple battery motor
The new Searl effect generator
Mk1 electrostatic motor
Mk2 electrostatic motor
Electrostatic motor
The Wimshurst electrostaic machine

#### Misc

The Coanda Effect
The Inventions of Hans Coler
Solar Cooking
The Inventions of Lester Hendershot
Lord Kelvin Electrostatic experiments
Centrifugal Pump
A magnetic electrical rectifier
The coil/orac effect
Some magnetic experiments
The swiss ml Testakica
Earth Batteries
Edwin Gray pulse discharge motor
Some experiments
The twin core power cord antenna

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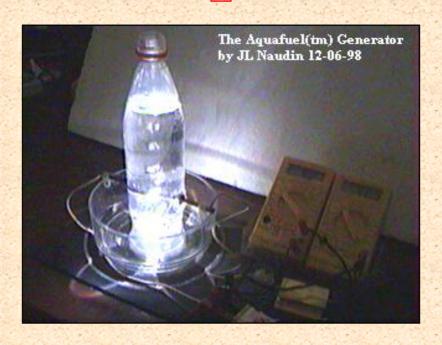
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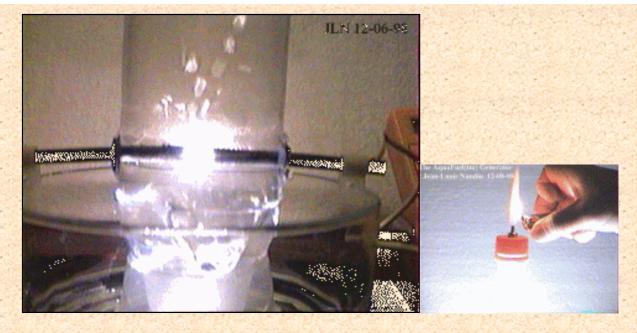
The AquaFuel(tm)generator

How to generate gasfrom water for use as Fuel

created on 12-06-98 - JLN Labs- last update on 12-08-98

Today (on 12-06-98), I have built and reproduced successfully a very simple AquaFuel™ generator: "The AquaFuel™ is anonfossil combustible gas discovered by Mr. Bill Richardson and currently developed by Technology Licensing (TTL)> of Largo, Florida, which is produced by an electric discharge of carbon arcs within distilled, fresh, salt or other types of water, thus beingessentially composed of Hydrogen, Oxygen, Carbon and their compounds". This technology has already been patented (US#5,159,900and US#5,417,817and US#5,435,274).

This generator produces a mixture of carbon monoxide and hydrogen(COH<sub>2</sub>) and this is a gas wich burns very cleanly inoxygen or air, and it can be used as fuel for an internal combustion engine. When burned, COH<sub>2</sub> produces carbondioxide and water vapor, so it generates very little, if any,pollution to the environnement.



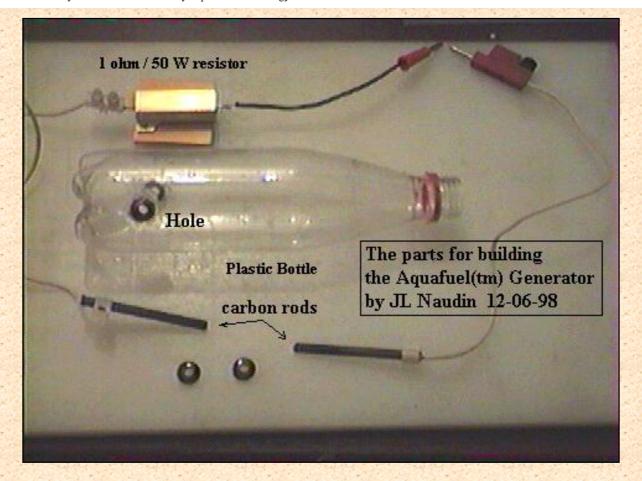
This simple experiment is only fortesting purposes and only for a proof of the concept. This small generator can't be used for a long working period and it must be used only for demonstration.

You need to get very few materials and it is very simple to build and test it....

BeCarefull, this device generates an explosive gas, you must conduct this test in awell ventiled room or better in open air, you must not smoke during the test. Don't forget that the carbonmonoxide (CO) is a very toxic gas, so never breath this gas before burningit. This experiment is not intended for the inexperienced. User of this document should be very carefull to try anything out! If you do it the risk of anyresults is just yours. I take no responsibility of anything that might happen, let it be of a wrong information or anything else.

#### You need only to get:

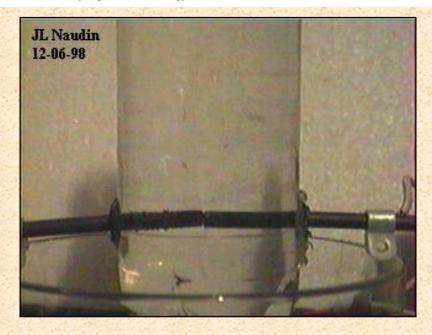
- A little plastic soda bottle,
- two carbon rods (70mm length, 6mm diam)
- one 1 ohm 50Watts resistor
- a DC Power supply which is able to deliver 35v / 10A
- some wires, plugs and silicon cement.



Very few material is needed.....



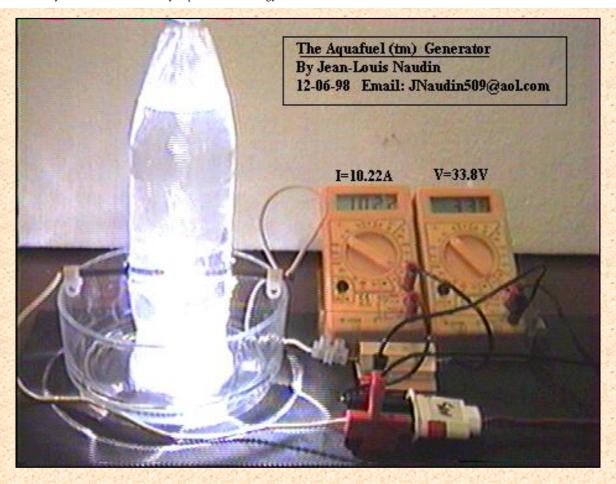
1) Drill two opposite holes (10mm diam)at 60mm from the bottom of the bottle and insert the carbon rodswith a rubber washer and glue the washer with silicon cement. Isuggest you to make one of the carbon rod into round shape. Thetwo carbon rods must be just slightly incontact before you switch on (see below).

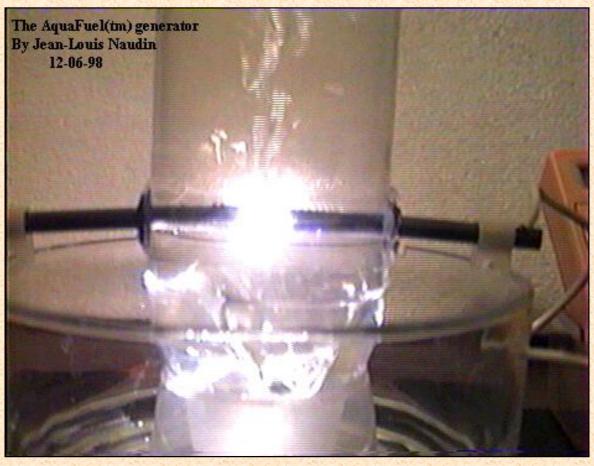


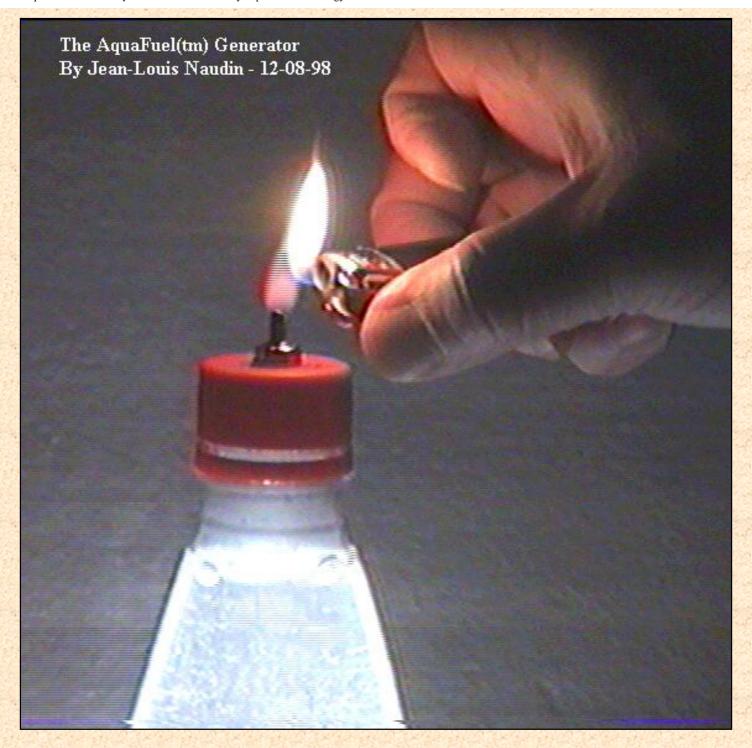
2) Connect the 1 ohm 50W resistor inseries with one of carbon rod and one pole of your DC power supply (set for 34V/15A DC), the other pole of your power supply isconnected to the other carbone rod. You may add some additionalmultimeters for measuring the Current and the Voltage input. Fillup your generator with only distilled or fresh water.



4) Now, your are ready to produceAquaFuel(tm).....







For more technical informations, you may visite the main TTL web site at http://www.toupstech.com/aquafuel/index.html

AquaFuel $^{\rm TM}$  is a registered trademark of Toups TechnologyLicensing (TTL) Some reference documents:

- Infinite Energy Vol.2, No9, 1996
- Infinite Energy Vol.2, No10, 1996
- Infinite Energy Vol.2, No11, 1997
- Infinite Energy Vol.4, No19, 1998

If you need more informations or if youhave any suggestions send me yourFeedback

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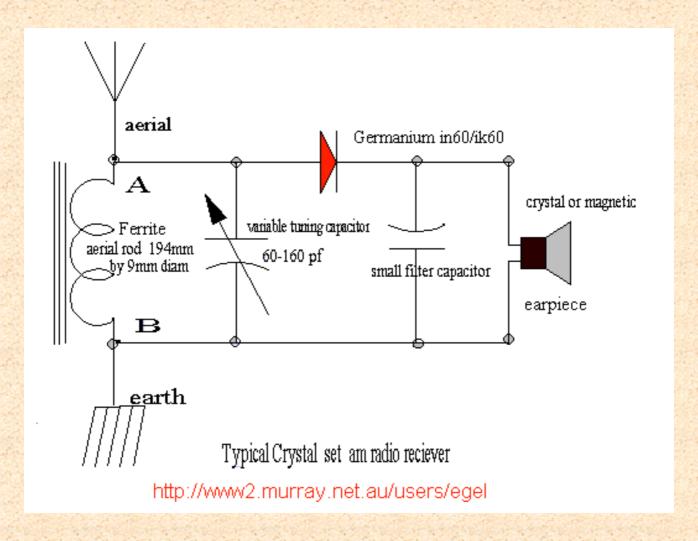
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## The Power Cord Antenna



Above is a typical circuit that as a young adult I constructed to listen to a couple of local radio stations and I think it cost me about four dollars then ,maybe it would now cost ten or eleven dollars now.

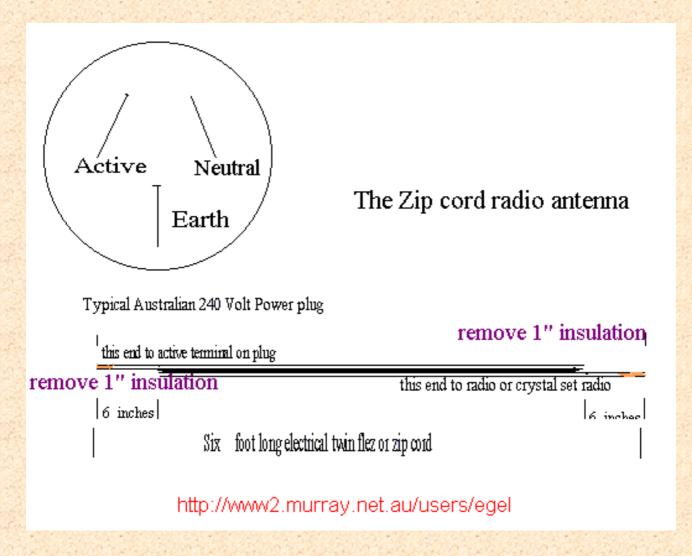
- All parts can be readily obtained from your local electronics or hobby shop. (Dick Smith and Tandy in Australia)
- This circuit would have been know to Nicola Tesla as he design a similar circuit.
- Normally you would only use a small ferrite bar for the coil or indeed only an air coil inductor winding.
- Many would have only built them to receive the local radio stations twenty miles distance or less but more than this can be

accomplished with just experimenting with the coil winding sizes and longer distances covered..

By winding just one loop to many loops around the suggested ferrite rod size many shortwave stations could be heard and in some instances the tuning capacitor could be done away with.

The constructor normally be told that a high and long antenna and earth are required but below I described a aerial

that requires no more than six feet of zip cord or twin lighting flex.



Please note I take no responsibility if you construct the above and you construct or put it together incorrectly and you should do so under adult supervision (by the way the idea does work)

Putting it together.

#### DO THE FOLLOWING ONLY UNDER ADULT SUPERVISION

Obtain for yourself a NEW six foot length of twin flex

from each end and at opposite side remove six inches of the flex cord as in illustration.

from the length remaining cut away an inch of insulation to leave the wire.

# At this stage and this is important

Test to see that you have no conduction between the two bare wires at each end of the zip cord.

This can be done with a multi meter tester or a torch globe and battery.

If the meter zeros out, or the globe lights up, assuming the bulb is working then do not use this cord and try and make a new one again.

#### DO THE FOLLOWING UNDER ADULT SUPERVISION

- The plug diagram is an Australian wiring standard and may be different in other countries so check to see and be sure what you are about to do.
- Be sure to wrap insulation tape where wire has been removed at the six inches cut mark for extra safety
- Remember one of the wire Leads will be live with electricity, so keep it away from water and skin contact.
- Connect one of your bare on inch wire lengths to the active side of the electrical plug and place into electrical power point and the other end to your receiver, be it a crystal radio or a normal radio or even a TV and then listen to your receiver you will be to hear a strong clear signal if within range of transmitter..
- Please note TV reception has a limited range.
- This can also be connected to an electrical light fitting and get the same result.
- Don't use the earth connection on the plug just in case your home has been incorrectly wired and your earth has power
- running through it.
- If your house has installed wiring by a licensed contractor he is likely to have done this correctly.

#### **HOW IT WORKS**

- Around us at all times there are radio signals these interact with any long leads and overhead power lines are no different..
- The radio signal travel along these lines and into your home why not make use of these.
- The zip cord acts as a signal transformer and places the signals from one side of the cord to other cord on the opposite
- side and these are fed to your receiver..

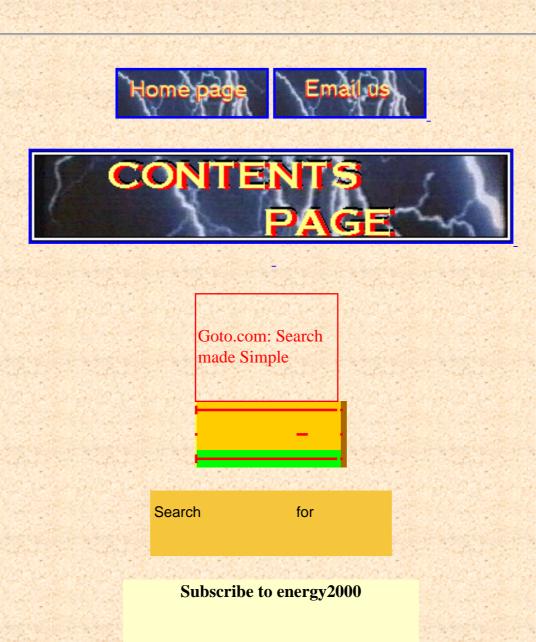
I have received short wave signals on a simple crystal set up as of the first above diagram from 1000 kilometres away

The information is supplied as an Educational reference only and no responsibly is taken for anyone actually using

this information to make this antenna.

Remember Safety first at all times.

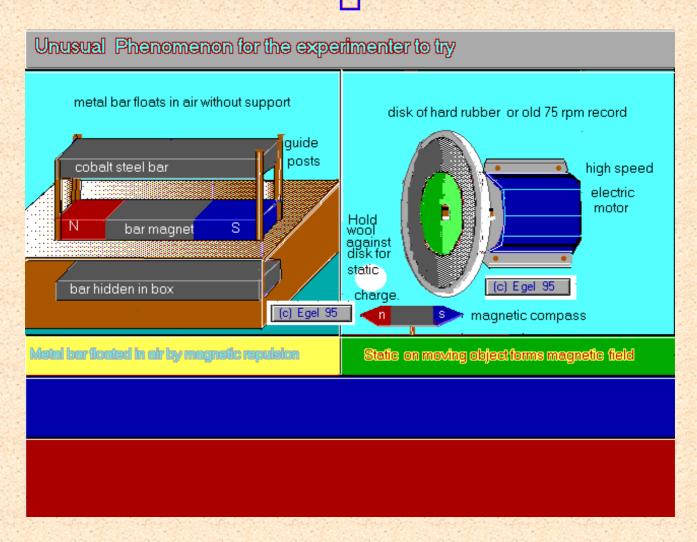
Geoff



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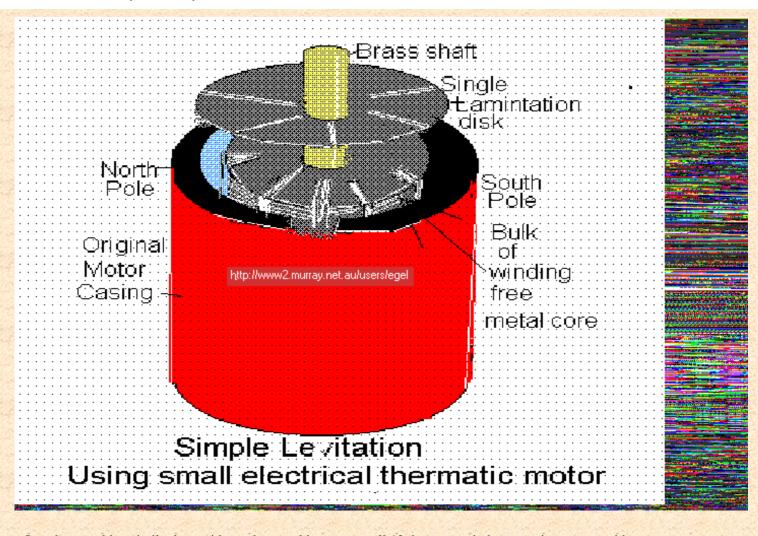


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# **Experiments to try**

The floating iron bar. I came across this in an experimenters book. Not really an energy device but interesting and maybe it will teach something to us about magnetic fields. Just the same I am assuming that readers are familiar with the notion of two magnets with the same poles facing each other, tend to repel each other. This device is interesting in that claims it will repel and levitate an iron bar. I think it was originally made as a magic trick, to construct this device you will need the following two metal bars of the same size [cobalt steel prefered as it can be magnetised more strongly than others. A bar magnet of the same size and length a hollow wooden box. Construction Mount a metal bar in the inside of a wooden box Just above it on the top of box fix the magnet into position so that it will not move Around the magnet place some guides so that the other cobalt metal bar can float upwards but not sideways. The floating bar is actually supported by the lines of the magnet force repelling similar magnetic poles



I made something similar by accident when working on a small 12 dc motor windscreen wiper motor with permanent magnet field poles. [curved ceramic magnets]

Experiment. First remove the armature and take all wire winding off it. Remove the circular laminated armature core sections one by one. Make a new shaft out brass rod, aluminium may work as well, as long as it not influenced by a magnetic field. Fit all laminated core pieces back onto the brass shaft. They do not need to be secured tight except that they cannot drop off the bottom. They should be close together and the former wiring winding slots can be in any position. Keep one laminate core piece apart one. The two curved magnets from stator are placed round the sides of armature core and moved so that magnetic gaps on both sides are the same. The top laminated core piece should be level with top of curved magnets when placed upright with the shaft facing upwards Four inches of the shaft should be above the magnets top most position when rested flat. This part of the shaft should be a smaller diameter to allow easy movement of the remaining laminate piece up and down, or you can drill out the centre of laminated piece to the correct diameter. The bottom of the shaft should not protruded pass bottom magnet level, so the two magnet curved bottoms can rest flat on the base. Slide the last remaining laminated armature piece on to the top of shaft carefully and watch it float in the air held in place by the shaft.

Henry A. Rowland a noted American physicist of the 1940's made the unusual discovery that a moving electrostatic charged object influences a magentic compass. The experiment here consists of a disk of hard rubber or an old phonograph record connected to shaft of an electric motor. The disk is given an electrostatic charge by rubbing it with a piece of woollen cloth. The disk is then spun and a magnetic compass is bought in close to the spinning disk. The compass is deflected and the faster the spin the greater the deflection. It appears that a magnetic field is not only set up by a current moving through a wire but by a moving electrostatic field as well. If static electricity can produce a magnetic field can it also be repelled by one. Can this magnetic field be used to generate a flowing electric current





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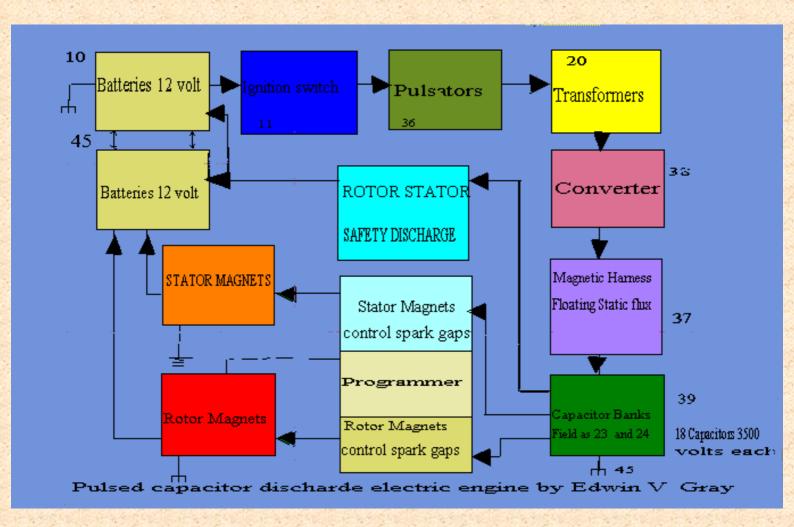
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# The Edwin Gray Pulsed Capacitor Discharge Electric Engine



In the early seventies there was constructed an interesting electric motor using energy in storage capacitors to fire across spark gap and to provide power to electromagnets in a repulsion mode

The U.S patent filed November 2 1973 Appl no 412,415 3,890,548

Assigne Evgray Enterprises Inc, Van Nuys Calif

Primary Examiner Robert K.Schaefer

Assistant Examiner John J Feldhaus

Attorney Agent or Firm Gerald L Price.

# Information from the patent abstract

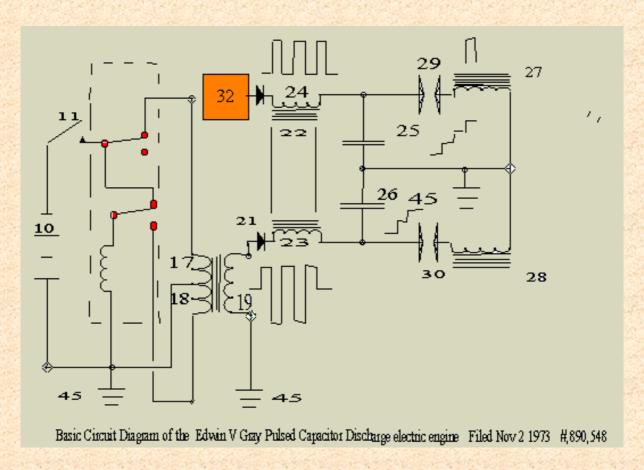
This is disclosed herein an electric machine or engine in which a rotor cage having an array of electromagnets is rotatable in an array of electromagnets as fixed electromagnets are juxtaposed against moveable move able ones

The coils of the electromagnets are connected in the discharge path of capacitor charged to relatively high voltage and discharged through electromagnetic coils when selected rotor and stator elements are in alignment, or when the fixed electromagnets and movable electromagnets are juxtaposed.

The discharge occurs across spark gaps disclosed in alignment with respect to the desired juxtaposition of the selected moveable and stationary electromagnets.

The capacitor discharges occur simultaneously through juxtaposed stationary moveable electromagnets wound so there respective cores are in magnetic repulsion polarity, thus resulting in the forced motion of moveable electromagnetic elements away from the juxtaposed stationary electromagnetic elements at the discharge ,thereby achieving motion.

In an engine the discharges occur successively across selected ones of the gaps to maintain continuous rotation, Capacitors are recharged between successive alignment positions of particular rotor and stator electromagnets of the engine.



# **Background of the invention**

There is no know engine or motor operated on the principle of the present invention, that a capacitor charged to relatively high voltage from a low voltage dc source is discharged across a spark gap to provide current through motor driven coils in the discharge path., these being solenoids which generate motion by magnetic repulsion of juxtaposed pairs of coils.

The solenoids are preferably configured in motor and stator assemblies to effect motion of the rotor elements with respect to the rotor.

The present invention utilises this principle to provide a rotary motion machine or engine which can develop

considerable torque through the magnetic repulsion of rotor and stator cores wound with coils through which capacitors are discharged synchronously with the positioning of rotor coils opposite particular stator coils.

Similarly a linear action can be achieved with a stationary electromagnet juxtaposed against a movable electromagnet and the moveable electromagnet can perform work with a tool or piston attached thereto.

A novel control mechanism in associated with the rotor is the engine to position discharge elements appropriately to create the desired discharge through the electromagnetic when the juxtaposed rotor and stationary electromagnets are in alignment.

The electromagnets in the stator and rotor are so arranged that the control mechanism can advance or retard the discharge points relative to rotor-stator positions for control of rotational speed.

The discharge overshoot or back emf from the collapsing fields in the capacitor discharge is used to engerize external batteries for construction of power.

The recovered energy thus stored may be used to operate equipment associated with the engine or motive force producing device.

The engine or rotary electric machine of the invention is believed to operate on the principle of conservation of energy, in that once rotation is achieved ,current is needed only at the instant of a capacitor discharge in order to advance the rotor.

The rotor moves to the next discharge point on the inertia of the repulsion action.

The capacitor is recharged during the interval and stores energy until discharge at the next rotor stator coil coincidence. Thus, the new engine produces torque and stores the excess energy for subsequence use.

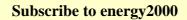
In the linear motion device according to the invention only a single pulse discharge is needed to perform work

The applications of the engine include use as an electric automotive engine which is economical and which can regenerate a part of the energy consumed to provide power to other loads in the automotive vehicle. As a linear actuator an economical use of power is possible because each stroke will result from a single discharge pulse of a capacitor through a coil..





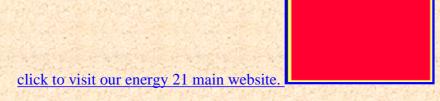
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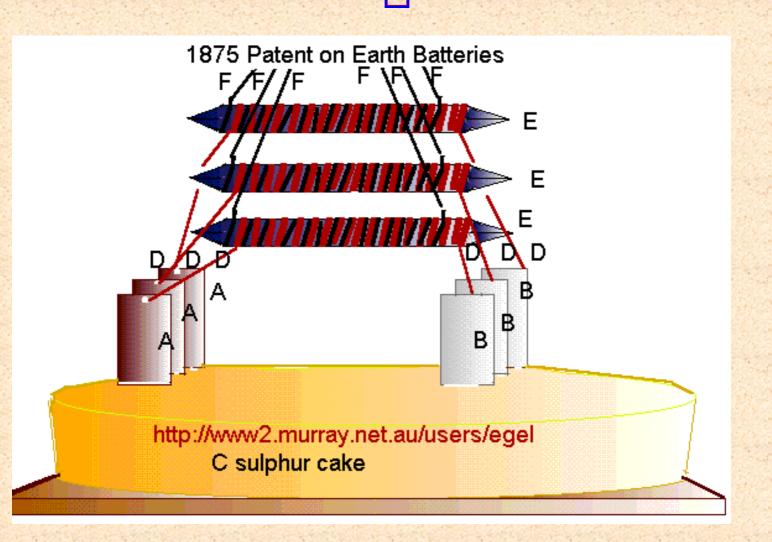


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James C Bryan of Philadephia January 27 1875

#### 1875 Patent on Earth Batteries

There has recently been a question on Earth batteries on the Free energy newsgroup as so many were unaware of the existence of such a device and must admit that I was ignorant of the device myself until I came across this patent and so I reproduce an except from the patent application below.

"The object of my invention is to produce a current of electricity from an earth battery or batteries capable of generating a constant current of considerable intensity to be used for lightning rod and other purposes where voltaic batteries using solutions are now applied.

It is known that if different elements-for instance sheets of zinc and copper-be buried or placed in the earth ,a current of electricity is generated; but I have discovered that if such elements be partly embedded in sulphur so that the dampness of the earth may act in conjunction with the sulphur on the metals, a more intense will be created.

I utilise this in the following way: The current is collected by insulated wires coiled around nickel plated steel

magnets, which are planted north and south in the earth to receive the magnetic current of the earth; a secondary coil or coils of insulated wire surrounds the coil or coils around the magnets and receives by induction, electricity from both the voltaic and magneto-electro batteries.

In the drawing, the voltaic battery is composed of several pieces or plates of chemically pure zinc **B**, and the same number of copper, A they are embedded in a cake of sulphur **C** and are connected by a large insulated wire **D**, which being the primary coil between dissimilar elements is extended, without insulation to the base of the sulphur cake **C**, and also in a spiral coil or coils around steel magnets **E**, which are pointed magnetised and nickel plated.

These batteries are planted in the earth north and south, to receive the earths current of electricity according to the magnetic poles.

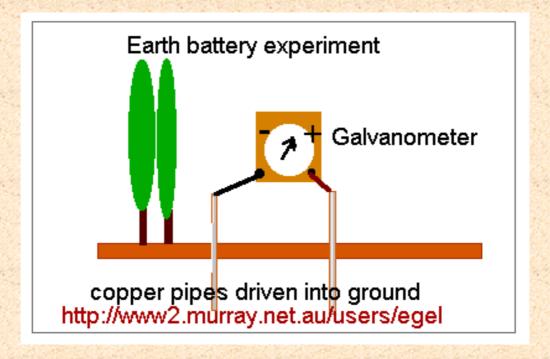
The primary coil or coils **D** are surrounded by secondary insulated wire F, in a spiral coil or coil to receive by induction ,electricity from the batteries current through **D** 

#### end of patent extract

For those that are interested I recommend you getting a copy of the Borderlands Journal issue volume L111 number one first quarter 1997.

Where there is an interesting article giving more details are other related research into this interesting field..

In the article it is suggested that if you want to try the idea of earth batteries for yourself

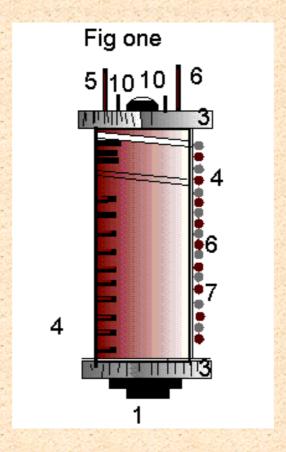


If you want to try it then get two copper rods or pipe and drive them into the ground and then connect a galvanometer(place them near a tree for better results.) apparently the needle always points positive although it may take time for the current and voltage to build up.

It seems that early engineers and telegraph operators knew of the effects of these ground currents when their Edison batteries they had used went flat and long time depleted and their telegraph kept giving out sparks

sometimes of greater intensity than when they had been using batteries.

# The Stubblefield Earth Battery



Electrical Battery by

#### NATHAN B.STUBBLEFIELD OF MURRAY KENTUCKY

The following is a reproduction of Nathan B. Subblefield Patent the drawing may be inaccurate due to some difficulty in reading of the patent drawings Geoff

#### ASSIGNOR OF ONE HALF TO WILLIAM G.LOVE OF SAME PLACE

Specification forming part of letters patent no 600,457 dated march 9 1898

Application filed October 24,1896 serial number 609969 no model

To all whom it may concern.

Be it known that I Nathan B Stubblefield a citizen of the United states of America, residing at Murray in the county of Calloway and

[5]

State of Kentucky have invented a new and useful Electrical Battery of which the following is a specification.

This invention relates to electrical batteries and it has for its objects to provide a

[10]

novel and practical battery for generating electrical currents of sufficient force for practical use, and also providing means for generating not only a constant primary current but also an induced momentary secondary

[15]

current. it is well know that if any voltaic couple be immersed in water placed in moist earth the positive element of the couple will undergo a galvanic action of sufficient intensity

[20]

to produce current when the terminals of the couple are bought in contact, and this form of battery is commonly as the "water Battery ", usually employed for charging electrometers, but are not capable of giving

[25]

any considerable current owing to their great internal resistance. Now the principle involved in this class of batteries is utilised to some extent in carrying out the present invention, but I contemplate, in connection

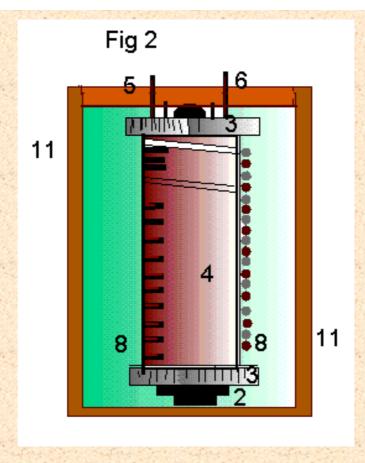
[30]

with water or moisture as the electrolyte, the use of a novel voltaic couple constructed in such a manner as to greatly multiply or increase the electrical output of ordinary voltaic cells, while at the same time producing in

[35]

operation a magnetic field having a sufficiently strong inductive effect to induce a current in a solenoid or secondary coil..To this end the invention contemplates a form of voltaic battery having a magnetic.

[40]



induction properties of sufficient intensity, so as to be capable of utilisation for practical purposes, and in the accomplishment of the results sought for the invention further provides a construction of battery capable of

[45]

producing a current of practically constant electromotive force and being practically free of the rapid polarization common in all galvanic or voltaic batteries . With these and many other objects in view

[50]

the invention, combination, arrangement of arts herein after more fully described, illustrated and claimed.

In the drawings Figure 1 is a side elevation of an electrical battery constructed in

[55]

accordance with this invention. Fig 2 is a central longitudinal sectional view of the battery, showing the same immersed in water as the electrolyte. Fig 3 is an enlarged sectional view of a portion of the battery, showing

[60]

more clearly the manner of winding the voltaic couple or in other words, the wires comprising the couple. Fig 4 is a vertical sectional view of the battery, shown modified for use with an induction-coil.

[65]

referring to the accompanying drawings the numeral 1 designates a soft-iron core-piece extending longitudinally of the entire battery and preferably in the form of a bolt having at one end a nut 2 which permits of

[70]

the parts of the battery being readily assembled together and also quite readily taken apart for the purpose of repair, as will be readily understood. The central longitudinally-arranged core-piece 1 of the battery has

[75]

removably fitted on the opposite ends thereof the oppositely - located end heads 3,confining there between the magnetic coil-body 4 of the battery , said heads 3 being of wood or equivalent material. The coil -body 4 of the battery

[80]

is compactly formed by closely-wound coils of a copper and iron wire 5 and 6, respectively, which wires form the electrodes of the voltaic couple, and while necessarily insulated from each other, so as to have no metallic

[85]

contact, are preferably wound in the manner clearly illustrated in fig 3 of the drawings.

In the preferred winding of the wires 5 and 6 copper wire 5 is incased in an insulating covering 7, while the iron wire 6

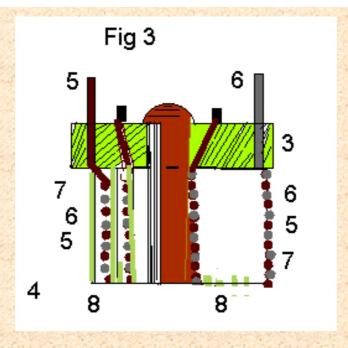
[90]

is a bare or naked wire, so as to be more exposed to the action of the electrolyte and at the same time to intensify the magnetic field that is created and maintained within and around the coil-body 4 when the battery is in operation

[95]

and producing an electrical current. While the iron wire is preferably bare or naked for the reasons stated, this wire may also be insulated without destroying the operativeness of the battery, and in order to secure

[100]



the best results the wires 5 and 6 are wound side by side in each coil or layer of the windings, as clearly shown in FIG 3 of the drawings, so that in each coil or layer of the windings

[2]

there will be alternate convolutions of the copper and iron wires forming

[5]

the voltaic couple, and it will of course be understood that there may be ant number of separate coils or layers of the wires according to the required size and capacity of the battery. Each coil or layer of the windings

[10]

is separated from the adjacent coils or layers by an interposed layer of cloth or equivalent insulating material 8 and in a similar layer of insulating material 9 also surrounds the longitudinal core-piece 1 to insulate from this core-piece

[15]

the innermost coil or layer of the windings. The terminals 10 of the copper and iron wires 5 and 6 are disconnected so as to preserve the character of the wires as the electrode of the

[20]

voltaic couple; but the other or remaining terminals of the wires are bought into contact through the interposition of any electrical instrument or device with which they may be connected to cause the electric currents

[25]

generated in the coil-body 4 to flow through such instrument or device. In the use of the battery constructed as

described the same may be immersed in a cell or jar 11, containing water as the electrolyte

[30]

but it is simply necessary to have the coil-body 4 moist to excite the necessary action for the production of a current in the couple, and it is also the contemplation of the invention to place the battery in moist earth, which

[35]

alone is sufficient to provide the necessary electrolytic influence for producing an electric current. It has been found that by reason of winding the couple of copper and iron wires into a

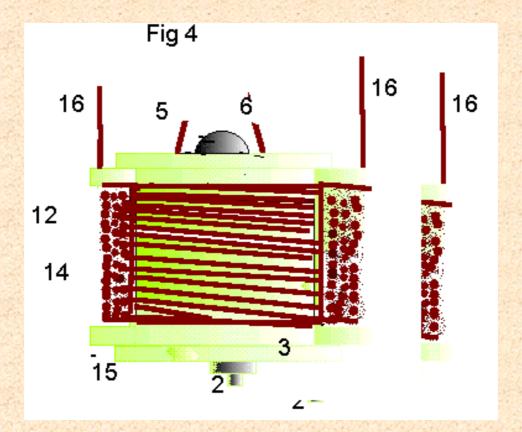
[40]

coil-body the current traversing the windings of this body will produce a magnetic field within and around the body of sufficiently strong inductive effect for practical utilisation by means of a solenoid or secondary coil 12 as illustrated in Fig 4 of the drawings. The solenoid or

[45]

secondary coil 12 is of an ordinary construction, comprising a wire closely wound into a coil of any desired size on

[50]



an ordinary spool 13 and increased within a protective covering 14 of mica, celluliod or equivalent material. The spool 13 of the solenoid or secondary coil may be conveniently secured directly on the exterior of the

[55]

coil-body 4 between the heads 3 with a suitable layer or wrapping of insulated material 15, interposed between the spool and the body 4, and the terminals 16 of the solenoid or secondary coil may be connected up with any

[60]

instrument usually operated by a secondary currents- such for instance as a microphone-transmitter or telegraphic relay. The magnetic field produced by the current traversing the coil-body 4 induces a secondary

[65]

current in the solenoid or secondary coil 12 when the ordinary make and break of the primary current produced within the coil 4 is made between the terminals of said coil 4. It will therefore be seen that the construction of the battery illustrated in FIG 4 is practically

[70]

a self generating induction-coil, and it cab be used for every purpose that a coil of this character is used, for as long as the coil-body 4 is wet or damp with moisture electric currents will be produced in the manner

[75]

described. It will also be obvious that by reason of the magnetic inductive properties of the coil-body 4 the core-piece 1 will necessarily be magnetised while a current is going through the body 4 so that the battery

[80]

may be used as a self-generating electromagnet, if so desired, it being observed that to secure this result is simply required connecting the extended terminals of the wires 5 and 6 together after wetting or dampening

[85] the coil-body.

Many other uses of the herein-described battery will suggest themselves to those skilled in the art, and I will have it understood that any changes in the form, proportion and the

[90]

minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention what

[95]

is claimed and desired to be secured by letters Patent is-

1 A combined electrical	battery and	electomagnet,	for use	with	water as an	n electrolyte	,comprising a soft	t-iron
core-piece and a								

[100]

voltaic couple of copper and iron wires insulated from each other and closely and compactly wound together in separate insulated layers wound together in separate insulated layers to produce a solid coil-body surrounding the soft-iron core-piece, substantially as

[105]

set forth.

2 An electrical battery for use with water as an electrolyte comprising a voltaic couple of insulated copper wire and bare iron wire closely wound into a coil-body substantially

[110]

as described.

3 An electrical battery for use with water as an electrolyte comprising a voltaic couple of insulated copper and bare iron wire wound side by side in separate insulated layers

[115]

to produce a coil-body, substantially as described.

4 An electrical battery ,for use with water as an electrolyte ,comprising a voltaic couple having its separate electrodes insulated from

[120]

each other and closely wound into a compact coil-body forming a self-generating primary coil when moistened and a solenoid or secondary coil fitted on the coil-body of the couple, substantially as set forth.

[125]

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

#### NATHAN B STUBBLEFIELD

Witnesses

John H Siggers

#### W.B.Hudson

If anyone has experimented and had experience with this energy source could you let me know what you did and how you went and inform yours truly of some of the results you achieved







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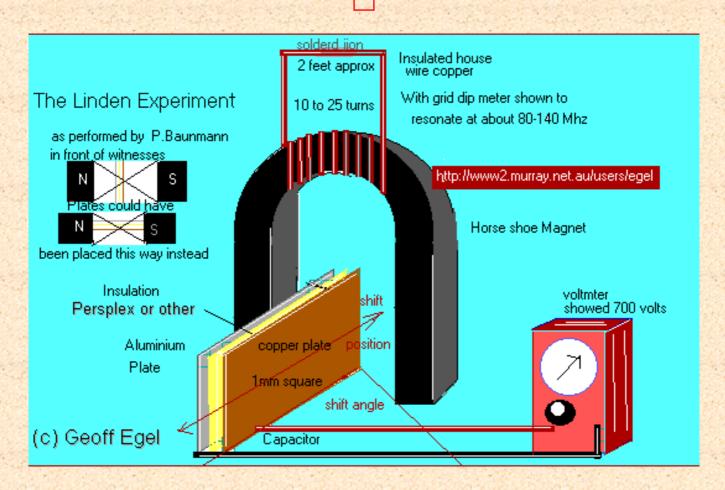
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# The Swiss ML Testakica

This machine exists today in a commune near Bern Switzerland and could have the answers to our energy needs.

The Unit is started by hand by revolving the two disks in opposite directions and continues to move without further input.

This device has only two moving parts namely the bearing races at the centre of the disk.

The disk are made of acyclic plastic upon which are placed flata series of fifty blade type steel or aluminium sections equallyspaced around the middle sections of each disk.

The speed of the revolving disks is about 50 to 60 rpm limited to this by magnetic impulses from the magnetic section on therim.

To those that have seen this powerhouse in operation it is certainthat useable power is being extracted from the environment and some is being used to run the machine.

This is an energy system which relies on the self moving wimhurstelectro static generator for the high voltage and somehow themembers of this commune have found a way to extract, amplify and convert this energy to powerful useful levels.

The Swiss M/l converter is based on a modified wimhurst electrostatic machine.

My people have seen the swiss m/l converter in operation but todo date no one has been able to understand

or successfully reproduced the results as claim by the Swiss communegroup Methernith in Linden.

But to one fortunate individual had a visit to Paul B.who is claimed to have had said that if they could understand the above following experiment they would be close to understanding how the devicewas able to work.(as illustrated above)

It consists of two plates of metal one aluminium the other copperseparated by a insulator of some unknown

material could be paper or plastic(unknown)

It also included a horse shoe magnet wrapped with a coil of wireand both ends soldered together.

Paul B placed this capacitor made of the differing metals betweenthe poles of a horse shoe magnet and

then asked a witnesses to connect the plates to two probes of a voltmeter to each plate and to their surprise

found a voltage of seven hundred volts which occasionally droppedin value..

I have communicated with some people how have performed the aboveexperiment with little result however.

#### WHAT I THINK HAPPENED ALTHOUGH I DON'T KNOW FOR SURE

PB may have conditioned the insulator of perspex of other similarinsulator by the following means without

revealing what he had had done.

It is known that if you heat perspex until soft to touchand becomes tacky and you then subject the heated mass to

a high voltage field via means of metal plates on each side of perspex mass and leave it there

until the perspex is

cool .Removing the applied high voltage charge

an electrostatic high voltage charge may still be continouslytaken from those metal plates

something like this also happens with the electrostatic microphones in modern tape recorders..

What part the magnet and the coil and differing face metal plates plays in additional to the electrostatic charge is yet to be determined by yours truly.

Looking at other parts of the machine the pickup fields that don'ttouch the spinning disks are also made up

of perforated Aluminium separated with a perspex insulated and withcopper behind it.

I would like to know if any one has performed the above experimentand got a successful result.

#### BASED OF THE WIMHURST MACHINE

The theory of operation of a wimhurst machine is. The disks areof plastic, glass, hard rubber or in one case I saw old phonographrecords.

The contra rotating disk causes air molecules to become electrically activated by the fictional movement of the air both disks causes.

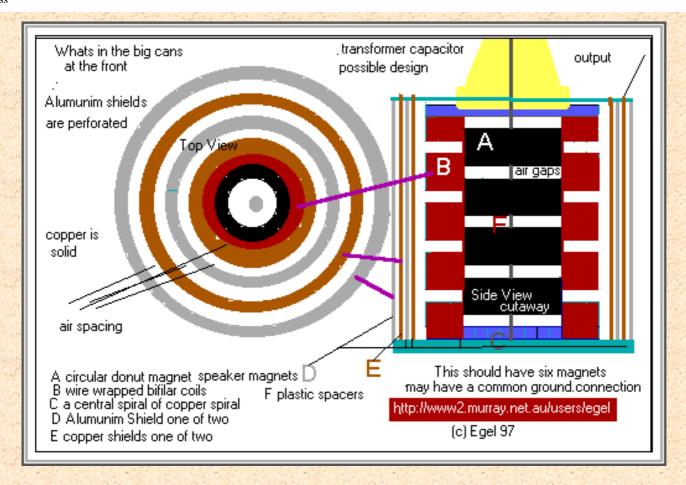
This rotating action causes the disks to become continually charged an electrostatic charge builds up, causing a flash over.

To stop this flash over, a series of foil sections are attached to the centre portion of each disk and equally spaced and backto back with foil sections on the outer sides.

To remove the charge, collection arms are arranged to collectthe charge and transfers the charge to a storage capacitor. At 45 degrees to these collection points is a neutralising bar that extends to full length of the disk and has brushes at both ends. A neutralising brush equals the charges on the metal foil positional both positions on both sides.

The neutralising bar on opposite side disk is at ninety degrees to the one for the other side.

#### WHATS IN THE BIG CAN



For many the cans in front of the Testakica have proved to be bit of a mystery.

From information I have obtained the general opinion is that theabove diagram is close to explaining what in the twin cans. Itseems to a combination of two copper cylinders interlaid withtwo perforated alumina screens

In the middle are six or more doughnut magnets upon which arewrapped coils some think they could be bifilar in nature.

Between each magnet there is an air gap made possible by the plasticspacers between each of them.

In the middle of the magnets there is a single spiral of copperor aluminium metal.

It is possible although not confirmed that there is a common groundat the bottom of each can connecting all these elements.

Don't quote me on this but it reminds me of an automotive transformed connected in reverse and shielded with copper and aluminium shielding.

I not sure what roles the magnets provide but tesla used a magnetfield in his designs to give a dc voltage output

like modern day rectifiers in some of his AC circuits.

The magnets may also work similiar to work carried out by CaptainHans Coler.



Some facts know about this machine.

Constant Power output 230 volts at 13 amperes for a 3kw ratingpulsed DC

Dimensions 110cm wide 45 cm deep 60cm high

43.23 wide 17.68 deep weight approximately 20kg/ or 44 lbs X23.58

Self propulsion by way of the esf flow principle of motorisedbrushes to revolve the twin disks.

the machine is started by hand revolving the disk after this noadditional input power is required.

Once unit is functioning it is not able to be moved with the machinecoming to a st op.

The temperature in the area of the machine tends to become cooler.

P.B. seems to be in the area next to or by the machine when firststarted.

#### **Additional Information**

There also seem to be a four inch single disk version that gaveout 300 watts but I know only little of this at the moment.

Although not always seen a small motor is used to turn bothdisks at a constant speed in opposite directions in both devices.

From the weird science on the other sites section you can downlandseveral small mpeg videos

of the machine in operation. I have 25 minute video of the Swiss ML in operation in the Australian Pal format.

I am continually searching for addition information about thisdevice and if there is anyone who has additional information onit's construction and operation I would be most grateful as Ihave already built a wimhurst machine, I would now like to construct ML machine.

If you have any information on this device and you send it tome it will be kept confidential if you so wish.

## Letters

.Some late information I have recieved (28/Sept/97)unconfirmed.

The correspondent has written to me

I currently think the energy comes from a different dimension, and that a toroidal-type oscillating magnetic field can be a catalyst for an energy transfer. (This is a loose and poor description)"In the middle of the magnet stacks in the largecontainers could be a "wire". Now, this is what Don Kelly from S.E.A. tells me.an electrode like the one Prof. Stefan Marinov described in the smallmachine. In a post card Prof. S. M. Said, "The capacitors have a cylindricalgrid, cylindrical plastic insulator and a copper spiral in the center. I sawin one of the small machines there are NO MAGNETS."

About the permanent magnets, The chief technician (Luzi Cathomen) told afreind of mine (The Linden Report 1994)that the ends of the magnets or inthe cass of the magnet stacks between the magnets seems to work the best. The toriod coil could just be used for energy storage but I don't know.

If you or some one else could get the Linden Experiment (according to U.P.Sander) to work then the Testatika could be explained. Insted of a twofoot loop try hooking your Wim. static generator up to the Wires around thehours shoe magnet then try placing the flat Cu. Al. capacitor between thepoles. may be d/c power would come out insted of the static electricitygoing in.







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# **Some Interesting Magnet Experiments**

# The Push-Pull Magnet

Here's an interesting "push-pull magnet you can play with. This magnetboth attracts and repels another magnet depending on how close it is to theother magnet. The "push-pull" magnet is constructed by stackingtogether four or more ceramic disk magnets like the ones you can get at the craft store. (See Fig. 1) The magnets colored green all pointin the same direction, with the repelling pole pointed toward the magnetthat's hanging from the little swing. (I made my swing out of heavycardboard backing from a writing tablet)

The red colored magnet is turned to face opposite from all the others in the stack., so that it alone attracts the swinging magnet. It will have tobe held in place to prevent it from flying away from the rest of the stack. I used masking tape for that.

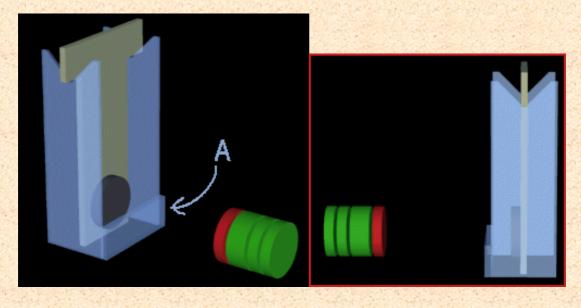


Fig. 1

Now as you push the stack of magnets closer to the hanging magnet you cansee how strongly it is repelled by the stack. But when the stack getsclose enough, suddenly the swinging magnet is attracted to the stack. Onceyou have the swinging magnet stuck to the cardboard stop labeled "A" (whichprevents the swinging magnet from touching the "push-pull" magnet) you canslowly pull the stack away. Using 4 magnets in the stack (3/4 inchdiam ceramic "craft" magnets, with the red one turned in reverse) when the stack is about 10 or 12 millimeters from the stop the swinging magnet willno longer be attracted, but will suddenly be repelled and will swing awaywith considerable force.

Moving the stack closer again the swinging magnet can be pushed closer to the stack. Again at 10 to 12 mm away it will suddenly stop being repelled and will be attracted to the stack.

The whole setup can be made with cardboard and white glue. The dimension of the swinging part is shown in Fig. 2. Other parts are scaledaccordingly. The crossbar part of the T-shaped swing sets into V-shaped groovesin the tops of the side supports. Two of the magnets can be attached to theswing by simply putting one on each side of the cardboard strip and lettingtheir mutual attraction hold them there. Or they can also be white-gluedto the swing.

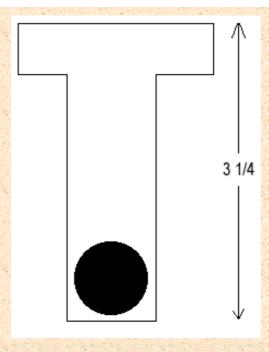


Fig. 2.

Using more magnets in the stack (still keeping only one reversed) will result a larger repulsive force, but a smaller region of attraction. Fewermagnets will result in weaker repulsion, and a much larger area where attractiveforces predominate.

# **Food For Thought**

Now since it can be shown that there is a region of zero force near the poleof the magnet it should be possible to arrange a way for one magnet to beslid into place very close to the stack, staying always at the zero-forcedistance. Then, if the movable magnet were to be pushed slightly awayfrom the stack it would experience an area of increasing repulsion and thatforce might be used to supply energy to an over-unity motor.

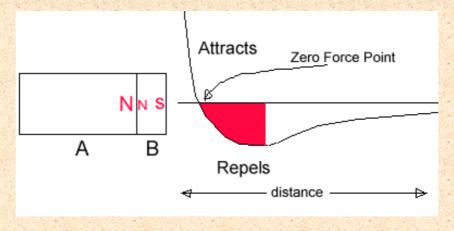


Fig. 3. Force vs distance

emial the original author of this sections

Check out the floating metal bar and a simple experiment that floats a metal disk above a permanent magnet field this web master discovered by accident and detials is at my website page. Floating disk demostration location

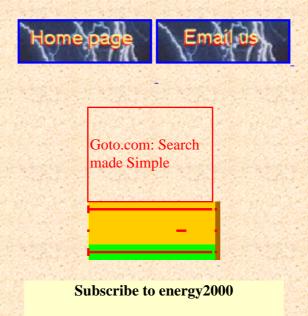
This and a another floating bar and magnet design that has been around since the 1930's. These details can be found at my website at Floating bar demostration location

Now check out this web site on the The Gary Effect Magnet motor first discovered in the 1870and it may you several times to read and understand the details until you grasp the how it works.

This motor was first built and constructed in the 1870's and was reported in Harpers New Monthly magazine magazine March 1879 The following website has the best explanation I have seen yet.

Canadian Patent 10,239 By Gary W. Wesley.

The Gary effect Magnet motor

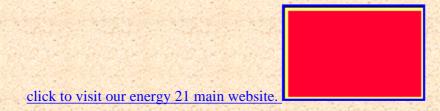


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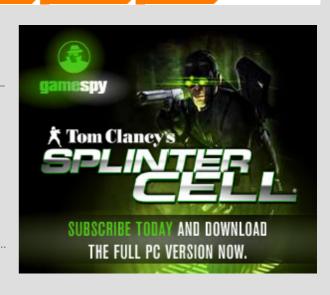
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# THE COIL / ORAC EFFECT: EXPERIMENTAL OBSERVATIONS

by Nicholas A. Reiter

#### INTRODUCTION

During the months of December 1988 and January 1989, I conducted a series of experiments which yielded results that I believe may add to the existing body of physical orgonomy, or at least may confirm and extrapolate upon certain littler recognized orgonotic phenomena.

The experiments this report will deal with were a direct offshoot from a search for electronic of electro-mechanical OR instrumentation. As the reader will see, it was by sheer chance that I stumbled across the effects described in the following sections.

I cannot over-emphasize the importance of other experimenters duplicating my observations. It must be done. Yet, because a large part of the observed phenomena was dependant upon a singular and rather antique piece of instrumentation, it may be difficult to reproduce my procedures and results verbatim. However, I will try to give as much information as possible to the reader so that he/she may be able to improvise equipment and follow through with experimentation.

#### THE INITIAL EXPERIMENT

Leading up to what I consider to be the first of my series of experiments, I had been observing the operation of different electronic components inside an ORAC. After observing some interesting charge/discharge phenomena with a capacitor, I thought that it might prove worthwhile to try a coil inside the ORAC. The piece I used was an antenna base coil from a marine radio set. It consisted of 90 turns of bare silvered 18 ga. copper wire wound air core on plastic strips. The windings were spaced. The coil was about 6 inches long and about 1.5 inches wide. The coil was connected via clip leads to an old (pre-1940s) but perfectly functional galvanometer. I then placed the coil inside my ORAC. (7"X7"X7" ten layer sheet steel/fiber sheet box).

Upon inserting the coil, I observed a slow, steadily increasing deflection of the galvanometer's needle. After about 20 seconds, the meter reached a maximum reading, and remained steady. Removing the coil from the ORAC caused the needle to drop slowly back to zero. Later calibration of the galvanometer (hereafter referred to as the GV) with a millivolt source and a precision resistor revealed that the level of deflection I witnessed was equal to about 30 microamperes (uA). Yet the behavior of the GV indicated a rather un-electrical nature of the current.

I then tried positioning the coil in different configurations within the ORAC, whereupon I made the following observation:

- 1. The strongest meter deflection occurred when the coil was placed upright along an inner wall or corner of the ORAC.
- 2. Flipping the coil end for end would always cause the polarity of the meter deflection to reverse. This reversal was, however, a slow movement as opposed to a quick reversal which one would expect from an electrical current.
- 3. The polarity seemed to be due to the position of the coil relative to the ORAC. A later experiment using a slightly shorter coil showed that when the coil is positioned horizontally within the ORAC, the current drops to nearly zero.
- 4. Positioning the coil immediately outside of the ORAC gave similar, though weaker, indications. As the coil was moved further away from the ORAC, the effect diminished further. The effect was no longer noticeable at distances greater than about 3 inches from the ORAC.

At this point, I felt that what I was seeing would have to be divided into 3 different components for any effective analysis:

- 1. The nature of the current and its coupling or induction into the coil.
- 2. The characteristics of the conduction of the current.
- 3. The mechanics of the deflection of the D'arsonval movement of the GV.

Focusing on one section of my initial set-up at a time, I conducted a series of experiments that included trying various coils, different materials, different meters, etc. The following three sections of this report are a compilation of all of my observations.

#### COIL / ORAC COUPLING

A number of different coils were tried in place of the original one.

- 1. Loosely wound helixes of copper wire, with no insulation, and of large diameter, gave best results.
- 2. The number of turns in a coil did not seem to be as large an influence as other factors. In fact, a single wire loop, or a bare strip of copper worked, though poorly.
- 3. The polarity effect noticed in the first experiment was observable only with coils. With single loops or metal strips, the polarity seemed almost random.
- 4. Coils wound on an iron core gave no indication at all.
- 5. Coils wound on plastic or paper gave slight current indications.
- 6. Coils with no core or coil form gave best indications.
- 7. Wire insulation, in all cases, seemed to interfere with the production of the current.

Different ORACs were tried.

- 1. A 2 layer wood/steel box ORAC, a 6 layer plastic/steel wool cylinder ORAC, and a 10 layer aluminum/fibre sheet cylinder ORAC were used in lieu of the original box ORAC. All gave similar results, though the aluminum/fibre sheet ORAC caused some erratic movement of the GV needle.
- 2. Flipping ORACs on their sides, or placing them upside down did not seem to make any difference. Current polarity seemed to be totally dependent on the coil position relative to the ORAC.
- 3. When water in a tin cup was brought near the ORAC, the current reading would drop minutely. Dunking one end of a spare clip lead into the water, and draping the other end into the ORAC, would cause the current to drop faster, usually to zero. I consider this to be a key observation.
- 4. Number 3 was repeated with a ceramic cup. The same results followed. Upon removal of the water and the clip lead, the current would very slowly come back up.
- 5. Laying hands upon the ORAC would cause the current to increase, though sometimes only slightly.
- 6. Moving the coil inside the ORAC, in any direction, would cause the current to momentarily jump and then settle out at a slightly higher level.
- 7. The highest readings attained with any combination were in the vicinity of 60uA.

#### CONDUCTION OF THE CURRENT

A number of different conductors were tried besides the original clip leads.

- 1. Bare single or multi-strand conductors worked best.
- 2. Soldered connections gave the same results as slip leads. However, old clip leads with the cadmium plating worn off of the clips gave erratic readings.

- 3. All connections had to be clean and tight.
- 4. Again, wire insulation seemed to damped the effect.
- 5. Crossing wires, even when insulated, would sometimes damped the effect.
- 6. Copper, tinned copper, silver, gold, and lead all conducted the current with equal results.
- 7. Aluminum, steel, and iron wire seemed to block the current entirely.

Standard carbon resistors of different values were put into the circuit.

- 1. Resistors put in series would damped the current, though a high ohmage resistor did not seem to cut back the current any more than a low valued one.
- 2. Resistors put in parallel with the coil or GV would not decrease the measured current, but sometimes did reverse the polarity of the current!

#### THE GALVANOMETER REACTION

Here lies the portion of my experiments which is the most difficult to explain or present. Quite simply put, I was unable to read any of the aforementioned current effects on any instrument except my antique galvanometer! As I mentioned earlier in this report, the GV was, and is, electrically functional. Using a calibrated millivolt source and a 1.105K ohm resistor, I was able to calibrate the GV, which is unmarked, except for a numerical scale. The meter works.

I have not been able to find any other meter, D'arsonval or otherwise which will read the currents I observed with the GV. I have tried over 10 different brands of micro-ampere range D'arsonval style meters with no success. I was also unable to read the currents with either a Fluke or a Simpson digital multi-meter.

After discovering this paradox, my next step was to take the cover off of my GV and examine its construction. Not surprisingly, I found the GV to have a simple, un-shunted, magnet deflected D'arsonval movement almost identical to any of the other meters I tried. I did find one difference, however. The coil of the GVs meter movement is wound without a frame or support, and apparently is held together by its own shellac coating. On all of the other, modern meters I tried, the movement coils are wound on tiny aluminum frames! I believe that it is this aluminum frame which prevents any modern meter from reading the currents I observed.

#### SUMMARY OF OBSERVATIONS

From these experimental observations, I have drawn the following conclusions:

- 1. When a helix or loop of copper is placed in or near an ORAC, a current of seemingly un-electrical characteristics is generated or induced within said helix or loop.
- 2. Upon reaching a given level for a given coil arrangement, the current seems to be a steady state flow with only minor, very slow fluctuations.
- 3. The current is conducted by soft, diamagnetic metals, and is resisted of blocked by para or ferro-magnetic metals.
- 4. Organic material, in the form of insulation or carbon resistors, appears to hinder, absorb, or damped the current.
- 5. The un-electrical current is able to develop a reaction force with a magnetic field, and cause a deflection of certain unshielded D'arsonval meter movements.
- 6. The level of current induced or generated within the helix or loop varies with the responses of the enclosing ORAC to classical external organotic stimuli.

#### CONCLUSION

It is obvious that the experimenter will have to use some ingenuity in duplicating my observations. The old galvanometer I used has no nameplate or manufacturers data on it. There are probably a number of similar units "out there", though. One could possibly find a responsive GV at an electronics surplus store, or an antique shop. Another option would be to build a coil/magnet arrangement based on a D'arsonval meter movement. A design that I believe might work is shown in figure A. I

have not yet tried it though.

I believe that these observations may give some insight into two areas of orgonomy which have apparently been somewhat neglected:

- 1. The development of accurate OR instrumentation.
- 2. The re-development of the OR driven motor.

It is my hope that those who read this report will be able to duplicate my observations and carry out further investigations in this area of orgonomy.

### **UPDATE ON THE COIL / ORAC EFFECT -- 24 April 1990**

- 1. The COIL / ORAC EFFECT device was tried out in February 1989 and did indeed work, although the deflection was quite small. Several other variations of this device were tired, however none of them have indications of current which were any better than the original.
- 2. Around March of 1989, the Coil / ORAC effect began to diminish, and eventually "went dead". Different ORACs were tried, along with variations in wiring. Nothing seemed to make a difference. However, around November of 1989, I tried out the coil and galvanometer arrangement with a newly constructed 20 fold steel and fiber sheet box ORAC. The Effect was once again present, and back to levels of current readings corresponding to those observed originally. The Effect is currently active, and further experimental work with it is continuing as time permits.
- 3. The main thrust of my experimental work is currently in the area of amplifying the Coil / ORAC Effect to higher, more useful levels. Sadly, I have had no real success so far. More reports will eventually be generated regarding these experiments.
- 4. There is no doubt, at least to this experimenter, that the Coil / ORAC Effect is the Orgone Motor Effect of Wilhelm Reich. However, without a means of amplification, which would functionally correspond to Reich's "Y" factor, the effect remains a subtle, marginally measurable entity.





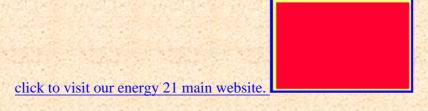
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# The Magnetic Rectifier

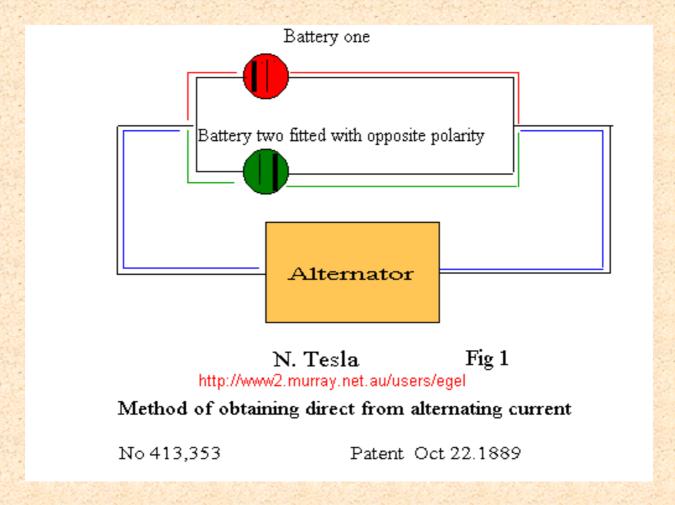
# based on work of Nicola Tesla Patent Oct 22 1889 no 413,253

Although Nikola Tesla was know for his work with Alternating Current he neverless saw the need to convert his so beloved AC into DC and suggested the following idea,. The diagram he used to explained it, is in fig 1

Basically it consists of an alternating Power supply feeding to to two DC battery banks connected in opposite polarity.,

The power supply in these batteries would need to match the voltage and current level of the alternating A.C. of the particular value of a half sine wave value.

One branch of the DC circuit would offer a high resistance to the Alternating power supply and the other side would offer a lower resistance, in a similar way as diode full wave bridge rectifier would work today.

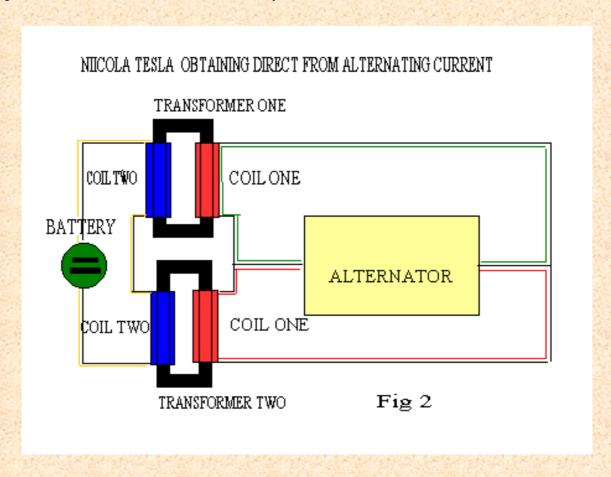


In Fig 2 below there is a further enhancement of his idea in using two ring transformers

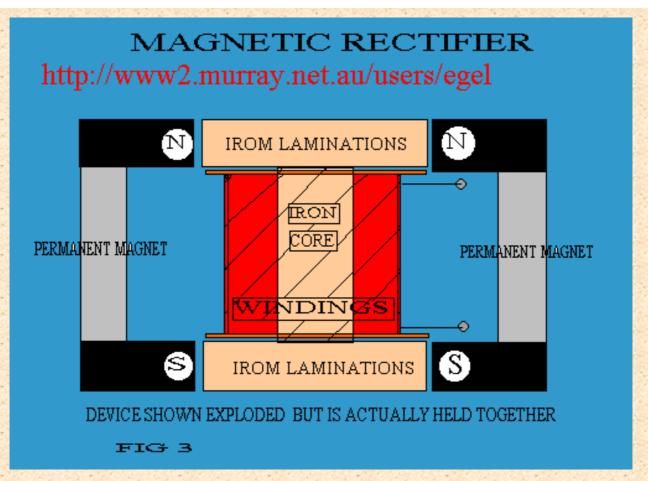
The idea is for the dc power supply the green battery is so to saturated the magnetic core and to prevent additional

magnetic energy to be stored in the field surrounding the transformer.

However if a pulse is applied of opposite polarity this will decrease the magnetic strength and thus allowing current and power to flow for one half of the AC cycle.



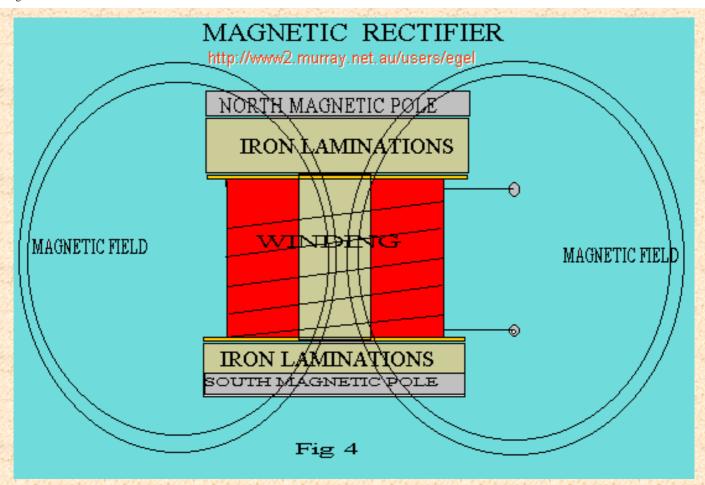
It seems to me if we could do away with the need to use a DC source power to saturate the core and use permanent magnets in a way as shown in figure 3 we may be able to achieve a magnetic rectifer using the setup below.



The P/Magnets would need to match and be held into place against a modified "I" type metal lamination in a setup as above to force the two separate magnetic fields through the centre portion of the metal lamination and cause magnetic saturation of the entire metal component of this special modified transformer

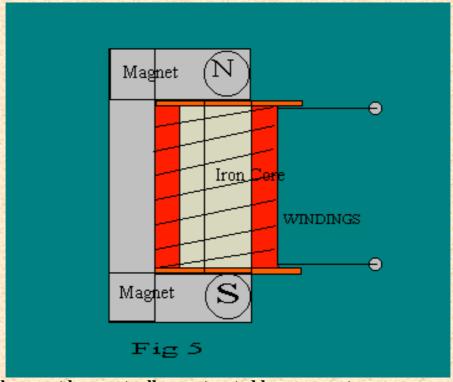
A coil of winding is so calculated as to match the magnetic strength of this saturation and will only allow current and voltage to flow when the power causes a decrease in magnetic strength of the modified transformer for one half of an AC sine way.

The whole set up would need to be held firmly in place because an opposing magnetic field would probably force the unit appart.



It also occurs to me a similiar results could be obtained from Fig 4 and Fig5, although I don't think it would work as well

as the design in Fig3 even thought they would be easier to construct and experiment with.



I must note my ideas have not been actually constructed by me as yet

I believe the designs would not be cost effective for low power requirements as I belive solid state devices are

quite capable of handling this need ,but for very high power and free energy research the above device may full fill a need especially in relationship to Hans Coler devices and such like..





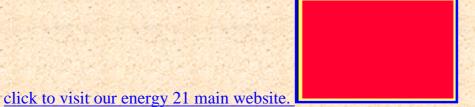
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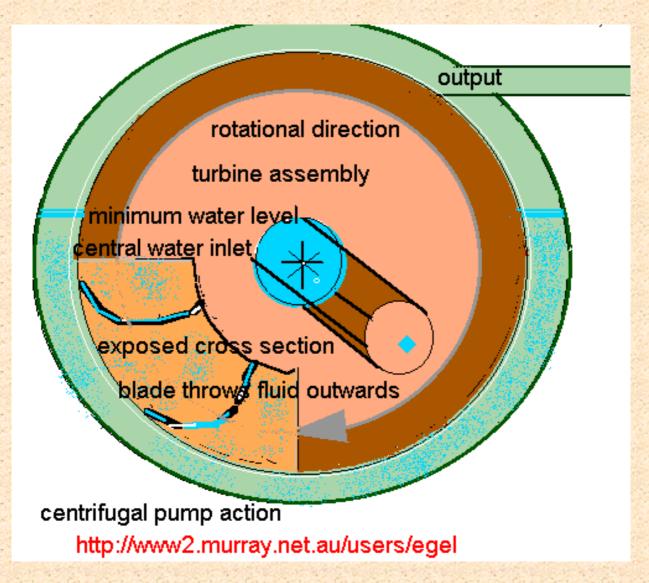
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# The way it is done now

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Liquid is allowed to flow into the center of the pump and then fill up the pump casing expelling all air in the process

The prime mover motor is then switched on and the blades of the turbine then at high speed forced the liquid outwards.

The liquid is forced into the top outlet and out with great force and pressure into hoses that carry it away.

1. This pump also suffers from several problems being that if air is allowed to enter the pump casing and the water level falls below the inlet valve no liquid will further be allowed to flow into pump even if

the pump continues to operate.

2 The liquid to be moved must be close handy to the pump or not at a depth that will not allow the pump to be primed from the liquid to be pumped before being started..

The above is a typical diagram of the turbine construction although there can be some variation in the design although

the principle remains the same.

It consists of two flat metal circular disks upon one which one is connected to a central driving shaft.

The front disk has a circular centre removed to allows the new liquid entering through the central inlet to allow the

liquid to flow.

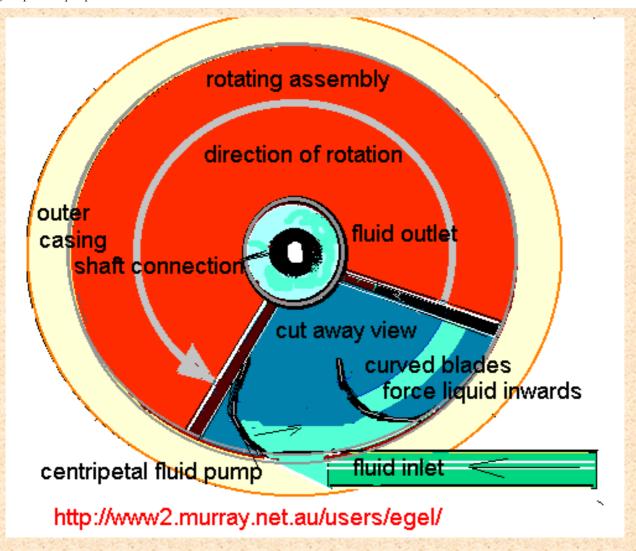
In between the two flat disks are placed blades to throw water to the outer reaches of the casing when rotating speed

has been accomplished by means of a electrical or other means of prime mover.

On the back of the pump there is what is know as packing to reduce air flow through the driving shaft into the pump

and decrease efficiency and to prevent fluid escape around the shaft.

## A newer Better direction version



This my idea for a hopefully better version

fig 2

Basically it is the same ideal but with the turbine blades designed to throw the liquid to the centre, in what is called centripetal action in way similar to the action of nature with tornados, cyclones and hurricanes

There should not be much difficulty in constructing the pump apart from changing the throw of the blades from what is now done in constructing the type we use today.

Water would not need to fill the entire outer casing to function and only by using a small amount of liquid it would be able to function by picking liquid at bottom casing and then flinging the water into the center of the pump..

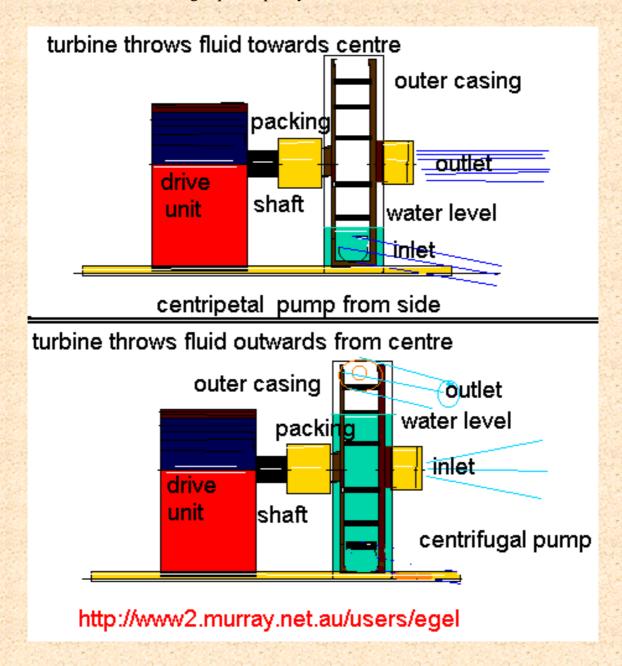
It would probably be an excellent idea to have the middle back plate slightly curved on the new turbine to throw the liquid into the central outlet.

As you can see from the above diagram the water inlet is at the bottom of the pump and the output is exited through the centre.

This pump could also be flat mounted as well.

I believe that by working with nature and not against this pump would be more efficient and use less power

than the centrifugal pump that is now used by not having to move as much liquid in an outer increasing circular motion, but a smaller working liquid capacity into a central circular motion.



The above diagrams show what is common and the differences between the two pump types.



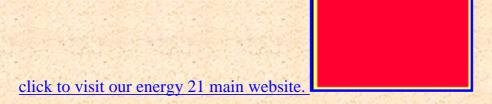


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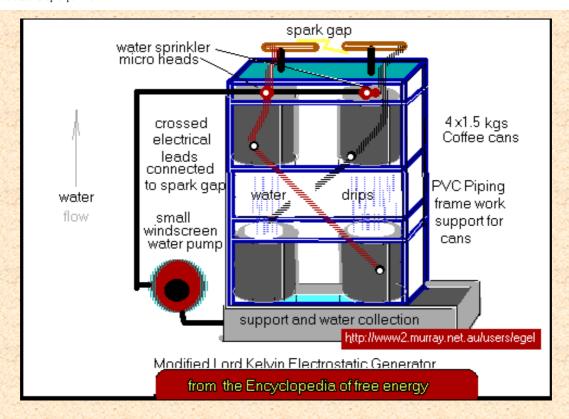


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The authors own simple setup



# Water drop electrostatic generator

In the late 19 th century and early 20 th century there was performed a nearly forgotten experiment that generated static electricity. by lord Kelvin

This a modified form that will give better results.

The frame work is made of PVC tubing that holds 4 x 1.5kg empty coffee tin cans or anything made of metal.



The top of the upper two tins will contain small plastic micro garden sprinklers popularly used and very cheap.

Both of the bottoms of the uppermost cans have about a two inch centre hole to allow water to drip into can below..

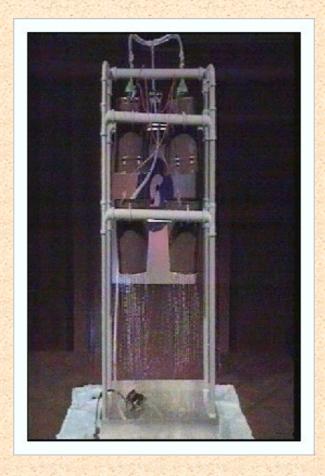
The two bottom cans have there tops completely removed and small holes punched in the bottom of each can to allow water to drip into a common collection tray.

Water is pumped through the plastic tube from the collection tray via a small car windscreen water pump and sent to the two sprinklers mounted in the lids and then the water drips through the can until it reaches the collection tray.

distance between top and bottom can should be such that water drips and is not a continuous flow.

Wire leads are connected to di-anglar cans and then to a spark gap terminal

When water is flowing a spark should be generated every twenty seconds experimentation will be needed to adjust the spark gap for better results.



A better built unit based on the above idea.









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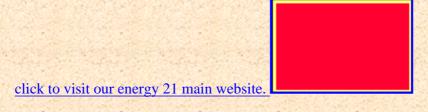


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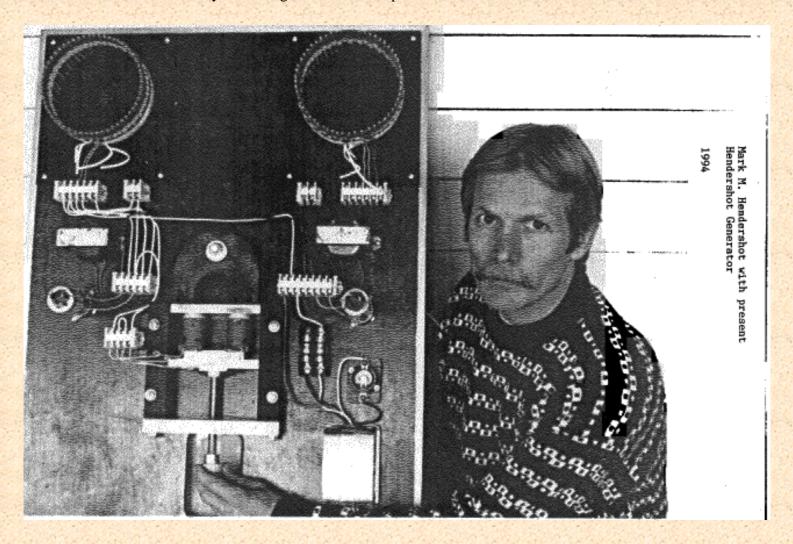
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## The Hendershot Generator

A man by the name of **Lester Hendershot** claimed to have produced useable electric power from this device in the range of 200 to 300 watts in circu 1930

For a time his Son Mark **M. Hendershot** was working on tryingto duplicate his father but I think he has ceased this and hasbeen unsuccessful to my knowledge and unable to produce resultshis father obtained..



#### FROM MARK M. HENDERSHOT.

MM M. Dolum

As a child, I witnessed my Father's machine in operation and adjusted the model he built with success. Enclosed you will find some letters from various parties who contacted my Father, as well as photos taken during operation of the machine (note the light emitting from the bulb in the photos).

I am working on a model now and hope to have it working properly for the International Tesla Symposium in 1995. I have had some results with my model but not at the level of my Father. I am hoping that the proceeds derived from the sale of this packet will allow me to purchase the test instruments to do the proper testing to tune the coils and capacitor to a level that will achieve results equal to those of my Father.

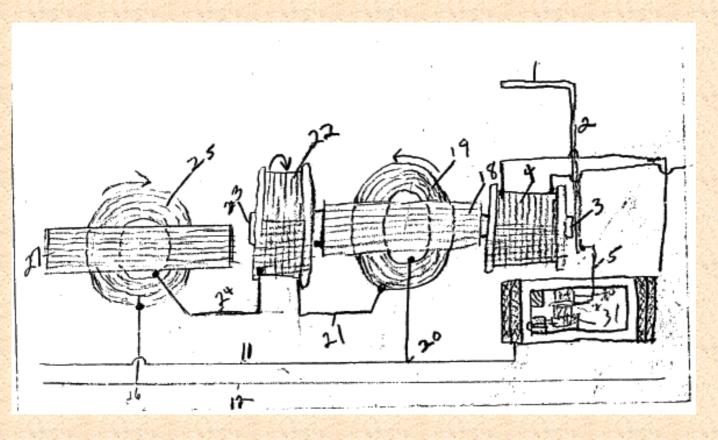
For 34 years much of the information contained herein has been stored away in family memories and keepsakes. Only now has this compilation been assembled and made available to entrepreneurs who work still to create what no one has since Lester J. Hendershot.

It is my sincere belief that once again the theory and working proof can be presented to a world which may now be ready. May we all work in parallel and perhaps, in cooperation to realize the dream once held by a man who believed when the world did not.

Yours Truly,



A couple of constuctors did report successful reproduction of this invention although I am unable to confirm it.



I have heard from others that have been unsuccessful and the information is reproduced for your enlightenment and possible experimentation, if so let me know how you get on. so that others may share inyour discoveries as well.

The following article is taken from the articles from the Archivesof Lester J Hendershot and is reproduced in the spirit that Mark Hendershot has indicated in his letter above.

Tesla Bookshop I believe.

My invention relates to the production of electric current andhas for its object to generate current for power & lighting purposes., and any other uses that it is desired to make of it.

I'm not sure But I believe this relates to an earlier inventionand also the diagrams are missing,.

the second one shown later in this web page is more importantcheck it out for yourself.

Referring to the drawings, in which like parts are similarly designated

Fig 1 is the diagrammatic view of one construction.

Fig.2 is similar view of another construction.

Referring to Fig. 1: I use a shall collector 1, preferably a smallmetallic plate horizontally disposed and having a downwardly extendingflexible strip 2 of magnetic material terminating opposite a core3 of a first coil to be attached thereby.

The strip 2 has soldered to it one end of a copper wire 5, whichmay or may not extend to the collector proper 8, whose other endend is soldered to the middle of the inner winding, or layer of second coil 6.

This coil is composed of turns of no. insulated copper wire, Isprovided with a permanently magnetic core 7, and Is preferably parallel to the first coil.

The core 7 and its windings 6 lie In the center of a honeycombcoil 3 that has two windings, each composed of turns of no. wire, the windings being cross wound.

The ends of the winding 6 are each connected by connecting wires 9 & 10 respectively, to an end of one of the crossed windings of the honey-comb coil 8 ind the other ends of the windings arethen connected to the power lines or terminals 11 & 12 respectively,

The ends of the first coil 4 are respectively connected to twocoils 13 and 14 wound in opposite directions, each consisting of turns of no. and provided with soft iron cores 15 and 16 respectively. The coils 4, 13, and 14 are; connected in series in a preferably permanently closed circuit with a resistance 17 included between the coils 13 & 14, and in the structure that I have made, this resistance is small of about Meg. Ohms.

The coils 13,14 are substantially parallel to the honey-comb coil, one an each side of the longatudinal vertical central plane of the apparatus. The core 3 is soldered to a set of small transformer plates 18 and forms an extension of these plates.

These plates have openings In their center for the reception of a fine wire coil 19, composed of turns of no. wire. There is no core through coil 19. The inner end of coil 19 is connected to one line terminal 11 at 20, and, the outer end is connected bywire 21 to the third coil 22 of turns of no. wire, whose core 23 has metallic connection with transformer plates 18. The core 23 may be omitted.

The end of the outer turn of coil 22 is connected by wire 24 to the inner turn of a second fine wire coil 25 like coil 19 butwound in the opposite direction, and the opposite direction and the opposite direction, and the opposite direction are direction and the opposite direction and the opposite direction are direction and the opposite direction and the opposite direction are direction and direction are direction are direction and direction are direction and direction are direction are direction and direction are direction are direction and direction are direction and direction are dire

The fine wire coil 25 is placed In the interior of laminated transformerplates 27, identical with the plates 18 and the coil has preferably no metallic core, and the transformer plates 27 are separate from those 18. The direction of the winding of the coils is indicated by arrows,

A lamp or small motor connected across the ends of the power linesor terminals 11 & 12 will operate continuously when the longitudinalaxis of device is directed north and south, and will cease toproduce power when deviated from the north & south direction.

That is to say, the motor will stop or the lamp will cease toglow. To overcome this objection for some purposes, and In orderto permit the structure to operate In any direction which itsaxis is placed, I have modified the structure of coil 8 and theparts within it; all other parts-remaining same.

The extension '2 of plate 1 is connected by wire 5 to a smallpivoted soft iron plate 28 within a short coil 29 of turns ofno. wire, between brass end plates 30 and is held in a soft ironyoke 31 by a screw 32 that passes through one pole end of a ringmagnet 33.

The screw 32 serves to hold the yoke 31 to the magnet pole endand at the same time holds the toll 29 in the yoke 31. The plate 28 is pivoted In one of the brass end plates 30. The coil 8a is a single wire cross wound coil having, 1 turns of No. wire. Oneend of this coil is connected by wire 9 to one end of the coil 29, and the other end to the line wire 11. Surrounding this coil 8a is a second coil 8b of the same size wire and the same No.of turns. The other end of coil 29 is connected by wire 10 toone end of the second and outer honey-comb coil 8b whose otherend is connected to the other power line terminal 12.

It will be noted in both constructions shown the coil 4 extends across one side of the coil 3 or the two coils 8a and 8b and also across the coil 6 or 29.

That coils 6 or 29. lie within the coils 8 or the 8a & 8b, and the axis of coils 4 & 29

.That coils 6 and 29 must be substantially parallel.

Also the axis of coils 13 and 14 are substantially parallel to the honey-comb coils 8, 8a and 8b.

I claim. In an electrical apparatus, a collector, a coil havinga core one end of which is in attracting relationto a portion of said collector, a honey-comb coil having: twowindings connected to power terminals, a second coil in the honeycombcoil each end of which is connected to one of the windings ofthe Honeycomb ,means to send electricity from the collector tosaid second coil , a pair of oppositely wound coils parallel tothe honey-comb coil & constucted in series withthe first coil, a fine wire coil, transformer iron, surroundingfine wire coil, a third coil, a second fine wire coil, transformeriron surrounding the same, said third coil and fine wire coilsconnected in series across the line.

2.In an electrical apparatus, a collector having an extension, a coil having a core one end of which is in attracting relation to said extension, a honeyonb coil having two windings perpendicular to the coil and its one end connected to lower terminals, a secondcoil within the honey-comb coil, each of which is connected to the opposite end of one of the honey-comb windings, a permanentmagnet is or in inductive relation to said second coil, means to send current from the collector to the second coil, a pair of oppositely wound coils, said first coil connected in series between said pair of oppositely wound coils, a fine wire coil, transformer iron surrounding said coil leaving a continuation that forms the core of the first coil, a third coil between which and the first coil said transformer iron, and fine wire coil is arranged a second fine wire coil wound in an opposite direction to the first fine wire coil, transformer iron

surrounding thesecond fine wire coil, soli d fine wire coils being connected inseries through the third coil across the power terminals, andthe fine wire coils arranged in rectangular relation to the first& third coils.

- 3. In an electrical apparatus, a collector, a coil having a coreone end of which is in. attracting relation to a portion of saidcollector, a honey-comb coil having- two windings connected topower terminals, a second coil in the honeycomb coil each endof which is connected to one of the windings of the honeycombcoil, means to send electricity from the collector to the secondcoil, a pair of oppositely wound coils parallel to the honey-combcoil and connected in series with the first coil, a resistancebetween said oppositely wound coils, a fine wire coil, transformerIron surrounding the fine wire coil, a third coil, a second finewire coil, transformer iron surrounding the same, said third coiland fine wire coils connected in series across the line.
- 4. In an electrical apparatus, a collector, a coil having a coreone end of which, is an attracting relation to a portion of saidcollector, a honey-comb coil having two windings each, connected one end to power terminals, a second coil in the honeycombtraverse thereto and parallel to the first coil and connected to the other ends of the honey-comb windings, a permanent magnetin inductive relation to said second coil means to send currentfrom the collector to said second coil, a pair of oppositely woundcoils parallel to the honeycomb coil, a resistance between the oppositely wound coils, said coils and resistance included in series in a closed circuit between the ends of the first coil, a fine wire coil, laminated transformer iron surrounding-saidfine wire coil but not passing there through and having an extension that forms the core of the first coil, a third coil between which and the first coil said transformer iron and fine wire coil Isarranged, the first & third coils is being wound in the same direction, a second fine wire coil doulid in opposize direction to the first fine wire coil, laminated transformer iron surrounding the second fine wire coil but not passing there through saidcoil connected between the too fine wire coils In series across the power terminals.
- 5 In an electrical apparatus, a collector, a coil having a coreone end of which is in a attracting relation to a portion of saidcollector, a honeycomb coil having two windings each connected a power terminal, a ring magnet in the honey comb coil, a secondcoil in the magnet and connected in series between the windingsof the honey comb coil, a pivoted oscillation member within thesecond coil, means to conductively connect said collector andmember, a pair of oppositely wound coils adjacent the honey-combcoil and connected in series with said first coil, a fine wirecoil, transformer iron surrounding the fine wire coil, a third coil, asecond fine wire coil, transformer iron surrounding the last coil, saidthird coil and fine wire coils connected in series across the power terminals.

6 In an electrical apparatus, a collector, a coil having a corein attracting relation to said collector, a honey-comb coil handingtwo windings each connected to a power terminal, a ring magnetin the honey-comb coil, a second coil in the magnet whose axisis at right angles to the axis of the honeycomb coil, a pivotedoscillating member within the second coil, means to conductivelyconnect the collector and member, a pair of oppositely, woundcoils adjacent the honeycomb coils parallel thereto and connectedin series with the first coil, a fine wire coil, transformer ironsurrounding the fine wire coil, a third coil, a second fine wirecoil, transformer iron surrounding the last coil, said third coilconnected In series between the fine wire coils across the powerterminals.

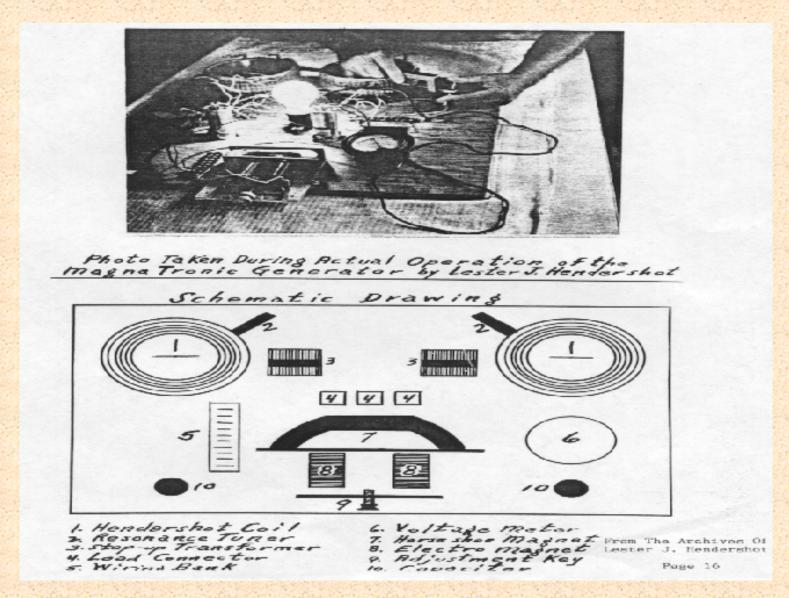
7.In an electrical apparatus, a,collector substantially horizontally disposed and having a substantially vertical extension, a coilhaving a core in attracting relation to said extension, a honey-combcoil having tuo cross wound windings each of which is connectedat one end to power terminals, a ring magnet within the honey-combcoil, a yoke shaped extension connected to one of the ends ofsaid magnet, a second coil held in said extension parallel tothe first coil, a soft iron member pivoted in the second coil, means to electrically connect said extension and member whilepermitting independent movements thereof, a fine wire coil.laminated transformer iron surrounding the fine wire coiland having an extension that form the core of the first coil, the third coil arranged at right angles to the first coil, a secondfine wire coil wound in a direction opposite to the winding ofthe first fine wire coil and papallel thereto, laminated transformersurrounding the last coil, said third coil arranged between the fine wire coils In series and the series connected across the line terminals.

### Assembly of the famous Hendershot basket weave power captureunit

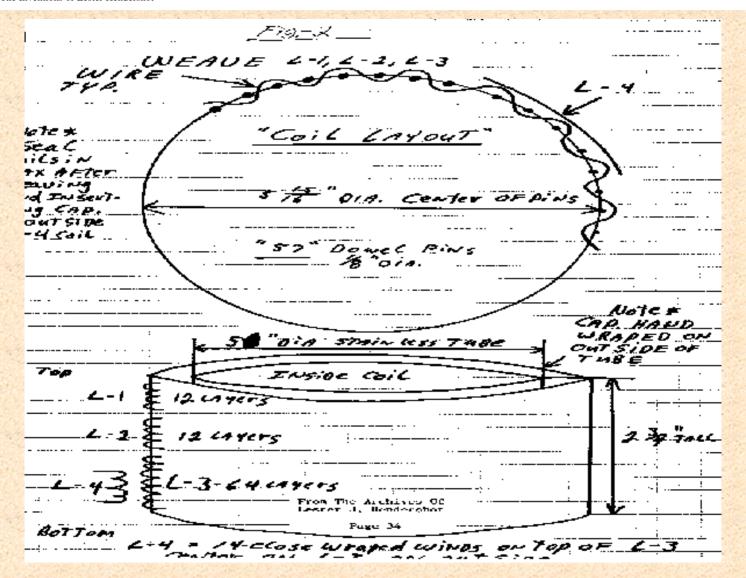
Two additional capacitors are required for the hand wound capacitorused in center of the basket weave coils and are also, made from Pyramids TM 58 or a suitable substitute type trimmed to size. Coils are identical in construction so only one will be described.

The coil is cylindrical, 5-15/16 diameter (See Fig 2). It is

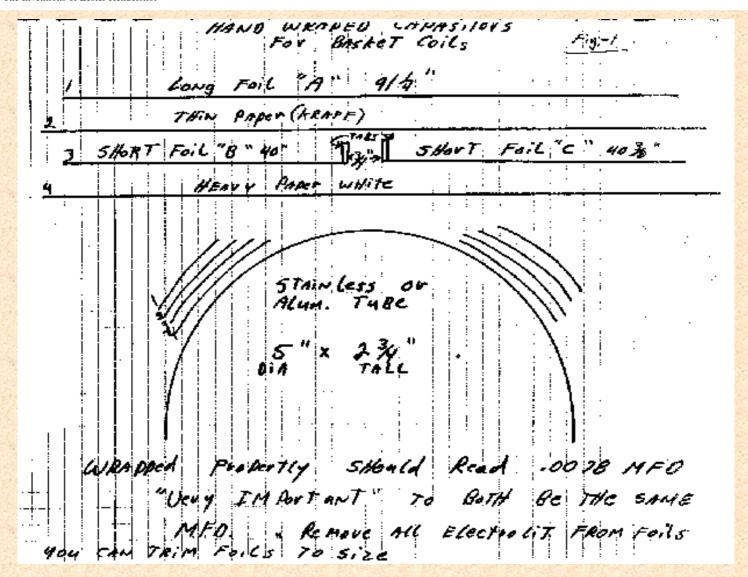
wound like a basket around fifty seven '1/8 in. diameter wooddowel pins three inches long. The dowel pins are evenly spacedon the circumference of the circle. All coils are wound in thesame direction, weaving in and out between dowel pins mounted in the same type base to hold them rigid. Starting at the base,L3 is 64 turns on No. 24 gauge copper enamel or Formvar wound.Ll and L2 is Belden thermoplastic hookup wire No. 20 gauqe, afoot spool is required for each coil L! and L'-. The 25 feet willend up with 12 turns each wound in the same fashion. Hendershatalways used Ll red and L2 yellow for easy identification.



L4 is made from No.18 gauge copper enamel coated or Formvar magnetwire. 14 turns close wound over the outside diameter of L3 inthe center of L3 Plastic electrical tape is wrapped around L3to form a smooth surface for winding, after winding the 14 turns.wrap additional tape to hold L4 in place.



The handwrapped capacitors are the most difficult to build andare the critical key item to success or failure in producing results. The foil from two capacitors, Pyramid electrolytic TM 58, mustbe removed from the can that encloses the foil by cutting thetop or bottom off with a hack saw or other cutting device. The coiled foil is removed from two capacitors and spread out on aflat table. A TM 58 capacitor should measure, including foil andpaper, 91-1/8 in. long and 2-3/4 in wide. Wipe off excess electrolytic solution so that it is dry. One side of the paper holding the foil will be full length, the opposite side will be split with terminal connections appearing at each end of the split portion. The capacitors that were used in the early experiments had a gapbetween the split foil of 3/4 of an inch. You may use a substitute capacitor and trim foil to size.



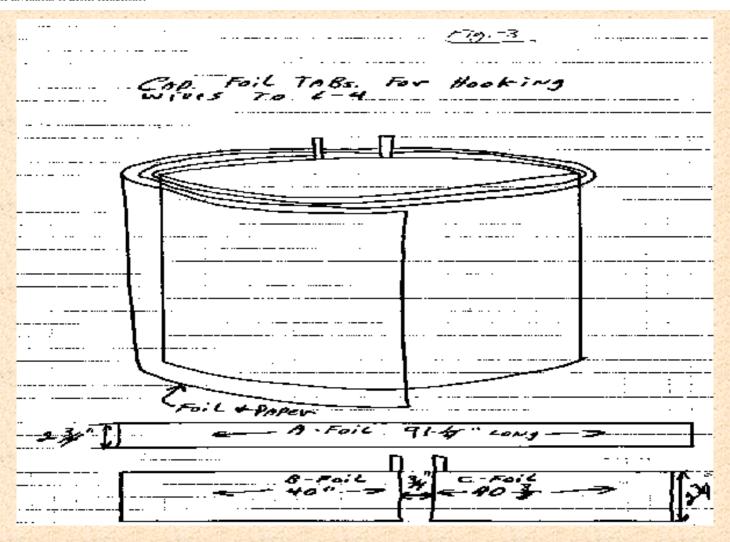
Prepare two cylinders of metal with dimensions of 5 in. in diameter by '7-3/4 in. wide. A stainless steel sheet metal .032 thick was used in Hendershot's cylinders, open at both ends. Before wrapping begins, insulate the cylinders with pure craft paper (see Fig.1 & 3). Ordinary brown wrapping paper is unsatisfactory asit contains impurities. Wax paper might be used as a substitute.

It is interesting to note that Hendershot originally used one pound coffee cans for the capacitor cylinders but found that after aperiod of time the electrolyte left in the capacitor paper would leave perforations in the metal, rendering the cylinder useless. This is why he made the later cylinders of stainless steel.

after insulating the cyclinders wrap the capacitor foil and paperaround each other of the cyclinder.

As shown on the drawings included.

Secure the wrapped capacitor with a string or tape so that it will not unravel.



Both units should look the same

Each of the completed handwound capacitors cyclinders are placedinside the basket weave coils.

After centering pour melted paraffin into the outsider diameter of the cyclinder and inside diameter of the coils.

The melted paraffin will run into the turns of the wire sealingthe complete units.

If correct tension were applied while wrapping the capacitor paperand foil, the measured capacity should be .0078 MFD.

Note: At one time Hendershot's papers said 1.3 MFD.

It is very difficult to obtain the correct capacity and this processmay, have to be repeated many times to arrive at the right valuefor each unit. Short circuits of the capacitor will render theresults useless and of course make it impossible to measure the resultant capacitance value. For accuracy the capacitors should be measured with a reliable capacitor bridge. Hendershot was ableto accomplish this feat intuitively.

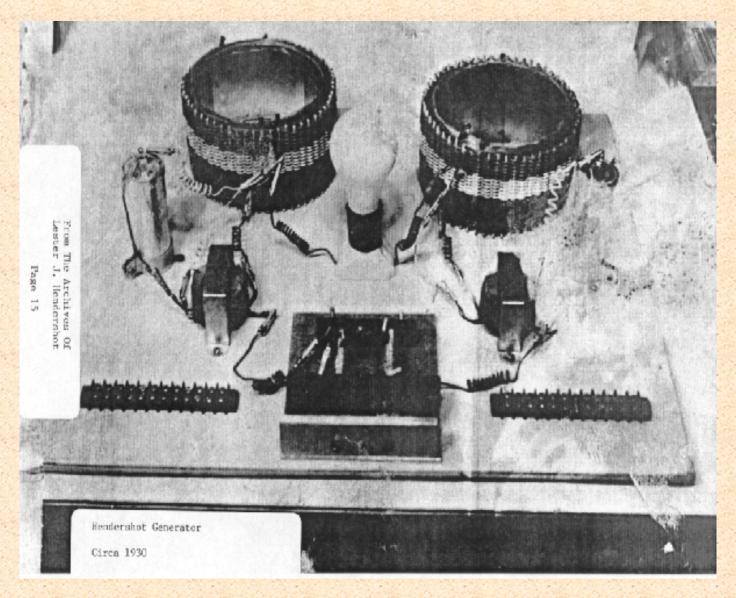
(See figure 4) If all conditions for the circuit are met withthe

proper component values and if the wiring is made according to the schematic diagram, the unit-should function and produce 300to 500 watts of energy.

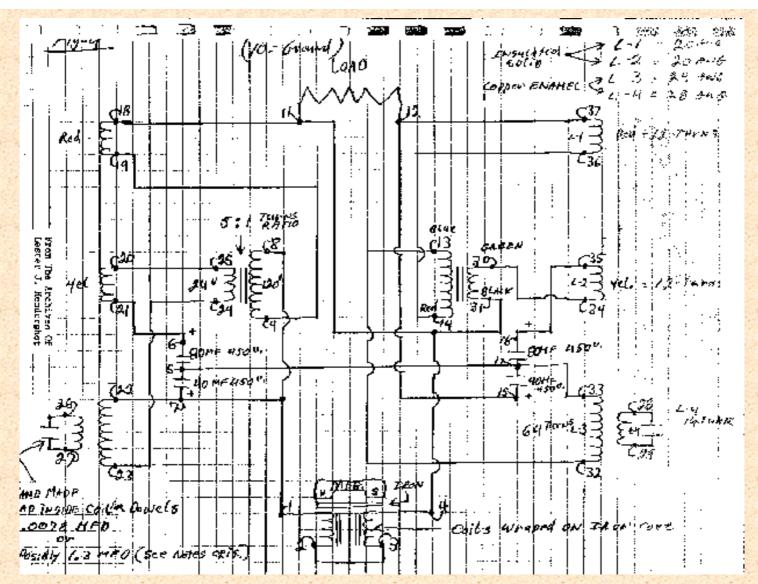
The only limiting factor to the amount of power that can be extracted s the

wire size used in the coils and transformers. Hendershot on manyoccasions when applying excessive out-out loads, would burn upthe unit by the over heating of the wirinq. Some variations canbe made in the circuit wirinct but what changes can be made remainunknown at this time.

After a unit was wired either by Hendershot or other experimentershe would sit down at the device with a length of insulated wirebared at each end and begin making connections to various terminalsof the unit until the solenoid-manet combination would buzz andthe output load, if it was a standard 110 volt Light bulb, wouldglow. He then would adjust the air gap between the magnetand solenoid coils until full brilliance was achieved and the buzzer produced a steady tone. This procedure would take from tew minutes to several hours.



On one occasion he adjusted the unit for 10 to 15 minutes and only achieved a flash of light from the output. Several hourslater he found it necessary to rebuild the capacitors before any further tests could be made. Either the unit would work immediately or not at all, depending on the unknown characteristics of the phenomena.



#### MATERIAL LIST

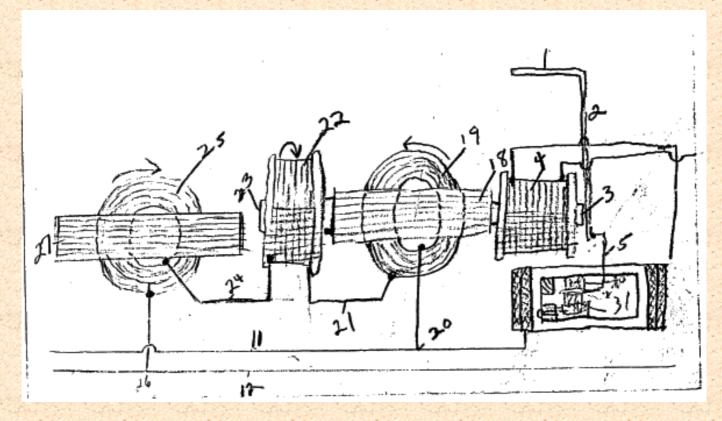
- 2 Dual 40-80 MFD Electrolytic Capacitors 400 Volt Non-Polarized
- 2 5:1 Ratio 24 Volt to 120 Volt Transformers (Vertical OscillatorType)
- Red, Black, Blue, Green Coded Wires
- 250' #20 AWG Insulated Solid Copper Wire
- 100' #28 Enamel Copper Wire
- 500' #24 Enamel Copper Wire
- 114 311 x 11811 Wood Dowels
- 1 Horseshoe or U Shaped Magnet
- 2 Plates for Dowel Pin Mounting
- 1 Screw Type Adjusting Mechanism

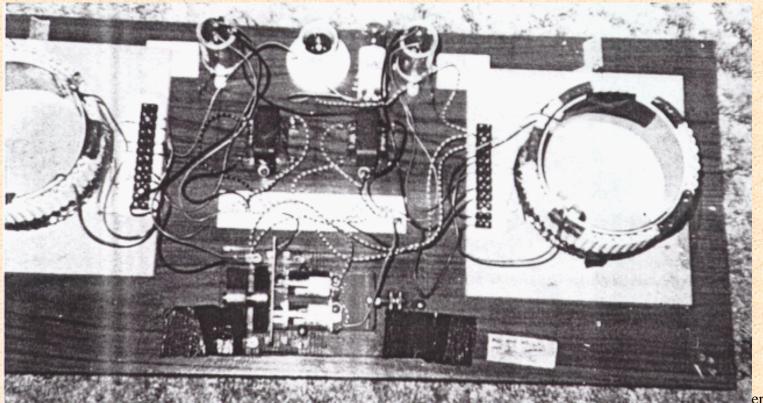
### 1 1-1/211 x 1180 x 611 Flat Iron Bar (Approx.)

2 Iron Solenoid Cores

Miscellaneous parts, screws, bolts, wire, etc.

An Australian Constructors setup





The circuit diagram for the Hendershot Generator.

#### FROM MARK M. HENDERSHOT,

MI K. Dor

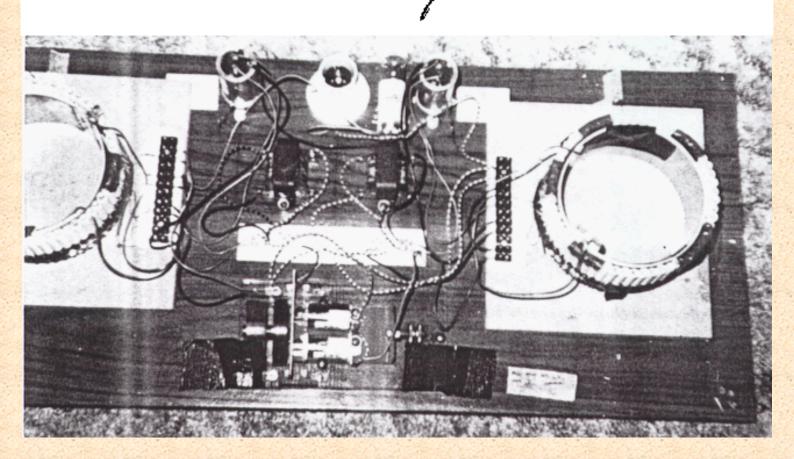
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It is my sincere belief that once again the theory and working proof can be presented to a world which may now be ready. May we all work in parallel and perhaps, in cooperation to realize the dream once held by a man who believed when the world did not.

Yours Truly,



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M. K. Z.

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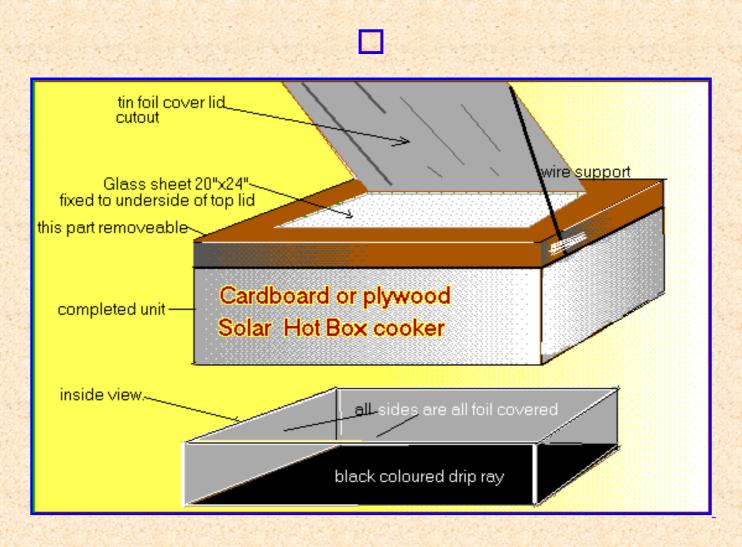
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## Construction of solar box cooker

## Advice on how to build one

## **Materials needed**

5 large pieces of cardboard (see#2 TIPS AND STRATEGIES); at least two should be 4 and one half feet across; Flatten cartons from bicycles, appliances or furniture are excellent (see step 1A, alternated reflector regarding cardboard)

50 feet regular aluminium foil 12 inches wide.

1pint white glue.

window glass 20" by 24"

\* 8 feet wood molding:window screen moulding is best(see section on alternate Reflector)

one tube clear silicone caulk

4 feet slash cord or similar heavy string

Insulation 2 inch stack of newspapers

Black metal tray approx 17 inches by 21 inches (see step 4 cooker completion)

Masking tape.

## **Tools needed:**

Box cutter or sharp knife

Pan or bowl to mix glue.

brush or small roller to spread glue.

Straight edge (eg yardstick) plus blunt tools pliers handle or large screwdriver ) for scoring cardboard.

Saw

3/16" drill

Caulk gun

Tools for holding cardboard while glue dries( eg clamps, clothes pin bricks masking tape etc.)

Scissors

## **Tips and Strategies**

1 Cut all patterns with scissors on solid lines;dotted lines show where cardboard will be folded. Place patterns and hold in place using masking tape.

2 regular cardboard is easier to work with than double strength cardboard and is satisfactory for most parts of the box. Double strength cardboard is useful for the reflector and lid and may avoid need for reinforcement.

3 Use full strength glue for fastening cardboard pieces together; dilute half glue; and water) for glueing foil to cardboard.

4 Score cardboard (using straight edge and blunt instrument )prior to folding .Score on the side toward which the fold is to be made in order to avoid tearing the cardboard.All folds are UP,towards the side on which pattern was placed .Except narrows flaps on the inner box ,which are scored on the reverse side and folded in

opposite direction.

- <u>5 Place pattern on cardboard to take advantage of folds pre-existing on cardboard, otherwise place patterns on cardboard so that the new folds are as far way from pre-existing folds as possible.</u>
- 6 When working on the floor don't kneel on the cardboard you are going to use; it makes dents.kneel on a scrap of cardboard it protects the knees.
- 7 Start with the lid;there are several step; requiring glue to dry in between ,go to another part of the box while it is drying.
- 8 A second piece of glass is useful in marginal weather (where there is wind or intermittent clouds, place on top of lid to avoid heat loss.

### Step 1 Construction of the lid

After cutting and scoring cardboard fold tabs at corners outside the side flaps and glue, securing with clamps and or tape.

Allow time for glue to dry before proceeding.

Invert top and adhere glass to underside of top using silicone caulk. Make a bead of caulk about 1/2 inch in from the edge. Press flat with something heavy until dry. Fill in the space between the glass and sides of top with strips of cardboard about 2 inches wide (measure to fit exactly) and glue in place.

After caulk is dry on underside, invert top and put a bead of caulk around glass window where it is framed by the cardboard.

### **Step 1A Construction of the Reflector.**

Pattern is design to provide a reflector from the same piece of cardboard from which the lid is made.

Simply cut along the three dotted lines in the center of the pattern and score on the reverse s(top of lid) of the fourth side providing a large flap which will serve as the reflector.

An ALTERNATE REFLECTOR(which provides a larger reflecting surface and protects the window better when cooker is not in use) can be made by cutting a separate piece of cardboard (double strength cardboard is useful here) to fit the full size of the lid. In this case the larger flap provided by following the pattern will be cut off along the fourth side and removed. This is a piece can be later used to improvise a drip pan(see section on cooker completion)

Which ever reflector is used .completely foil the side facing towards the glass .If the alternate reflector ,score three inches from the edge of the back side and glue to lid.

If regular strength cardboard has been used ,it is suggested that the reinforcement sticks be glued to the three unsupported edges of the reflector.

Prop mechanisms for the reflector.

[A] Punch holes through side of the lid and reflector. Tie stick in each location so that in each location so that it can be slid up and down to adjust the reflector.

or

[B] Glue blocks of wood about 3/8" thick 6 inches to 8 inches long, with holes drilled in side to lid and reflector. Use heavy wire( such as from coat hanger) for support

Construct an inner box to fit inside larger box on all side of this inner box glue the al foil to each inner side.

ADD black metal pan to bottom of inner .It is essential to have a black drip pan in the bottom of the cooking chamber.

If a metal pan is not available it is satisfactory to improvise a pan by covering one side do a piece of cardboard with foil cutout and then painting the foil black

#### **GETTING BOX READY TO COOK**

After the box is complete, but before cooking allow box to dry several hours in hot sun so that no chemical odours from glue or caulk are absorbed by food.

Make sure there is a black drip pan in the bottom of the box and that any cooking pots have black or dark lids.

### Finishing touches.

Line the underside of the lid with foil in order to cover all spaces between glass and cardboard.

Cover all-corners with two inch paper tape such as sheet rock tape or brown paper bags cut into two inch strips using

full strength glue.

This helps protect the corners.Don't use pre adhesive tape, such as masking tape or duct tape, as it fails to hold up against

repeated exposure to sunlight.

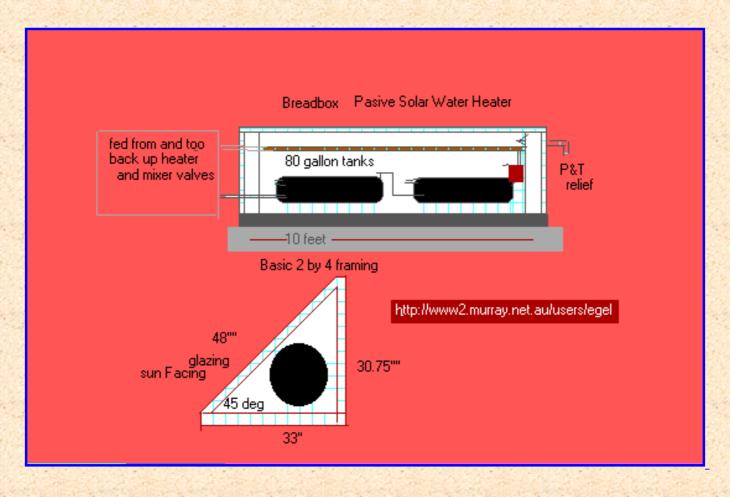
Make short feet for your cooker of 2 inch squares of wood ,plywood or several layers of cardboard to protect the bottom of cooker.

Cover cooker with wallpaper ,cloth,contact paper or exterior paint. two coats of exterior paint are especially helpful in making your cooker more waterproof.

The information provided came from an individual know to me as IM

A solar water heating system based on the hot has been also constructed to provide hot water.

a simple diagram is presented below.



A solar barbecue can be constructed using an umbrella frame as in the photos below.











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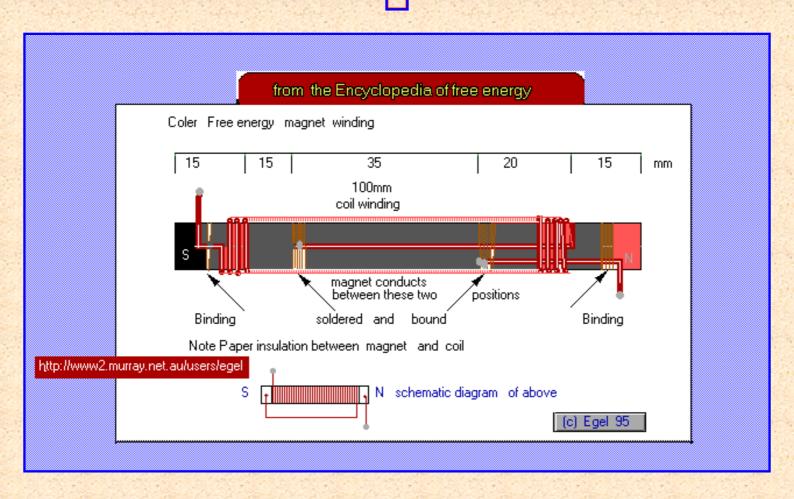
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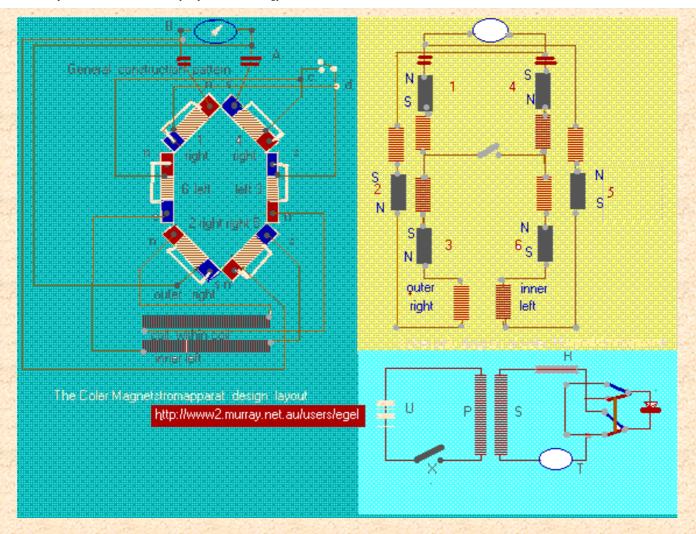
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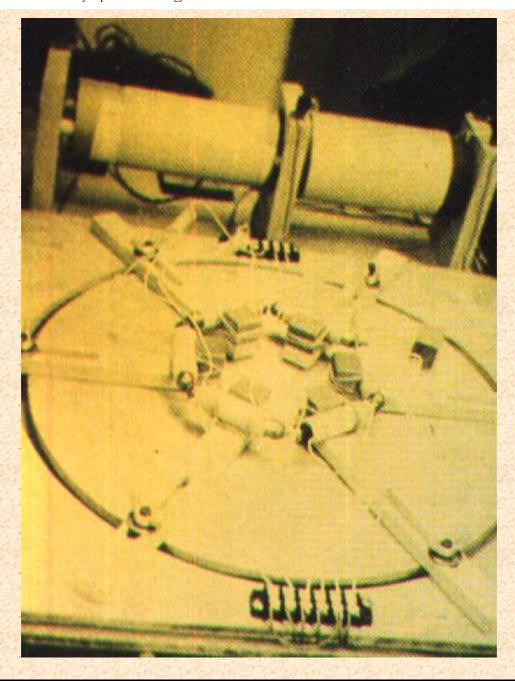


## Captain Hans Coler device.

This device called the magnetromapparata was invented in 1933. It needed no outside power sources to function. Since an official interest was noted from the heads of the German navy at the time who felt an investigation was necessary and an official report was produced. Experts examined the device and could find no fraud. It was judged Coler was an honest experimenter but no expert opinion was forth coming to how the unit operated.



The device consisted of permanent magnets of steel, copper coils and capacitors in a special holding arrangement. The device incorporated six steel magnets in a six sided arrangement where the magnets were connected in series with the coils of about .33 ohm resistance to form part of the circuit. That is a conducting path was made through the magnet core. The design also incorporated two small capacitors, a switch and a pair of sliding solenoid coils, one fitting inside the other, as shown in illustration. To allow the device to power up the following was done. The switch was left open. The magnet and coil combination were moved slightly apart using a mechanical arrangement of cranks and sliders that allowed each magno coil combination to be altered equally, There was a wait of several minutes between changes. The sliding coils were also set to different positions relative to one another. These changes were made often until a precise point was reach as indicated on the voltmeter. The switch was then closed. There were still more changes more slowly this time until the best result was achieved. Several tests gave the 450 millivolt for period of some hours other times 60 millivolts was all they could get. The best voltage obtained was about 12 volts and remained there indefinitely until the unit was shut down. I believe that this device has some similarities to the Hendershot design. Coler was also said to have created a device called the stromerzeuger. This consisted of a arrangement of steel magnets, flat coils and copper plates on open arms mounted in a parallel combination with one another and fed power from a tranformer from the centre.. The output is said to have lit a blank of lights of which the output exceeded the input power level. He was said to have built a 10 watt unit in 1925 and a 70 watt unit in 1933. Other units followed until the end of the war where work seems to have come to halt.



One interesting note has come to hand from a correspondent named "Steve who has informed me that

"The device had a radio active coating this information may have been left out of the British Intelligence Report where my information came from. It seems that other free energy devices from that time Hubbard and Hendershot among them may have had radium included in those devices according to some. Usually the wiring is coated with a radium chloride or the likes to reduce resistance to practically zero. Also, if it is used in a capacitor, it then acts more like a semiconductor. Using it in the core's of transformers does the same as the wiring trick plus a little more. As far as an antenna type of scenario, the wire now ionizes the surrounding air around the antenna wire like a bubble that is saturated to the max, thus any input from the atmosphere or anything, adds its energy to it. Steve claims that he has done it and it works! As far as experiments go. He did simple things like measure the resistance of a piece of wire and then did it again with the radium chloride. More times than not, the resistance was zero or a negative deflection. OH, BY THE WAY, STEVE SAYS DO NOT USE DIGITAL METERS, the capacitors act like semiconductors as stated earlier and the meter will go on the fritz for a few days before returning to normal. I promise! I set up another experiment where it was a complete circuit and then made a one inch gap and placed a vial of radium chloride about another inch away from the gap and the circuit continued to function! Anyone can do this and will get the same

results."

Thanks for information STEVE





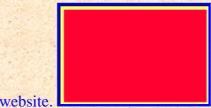


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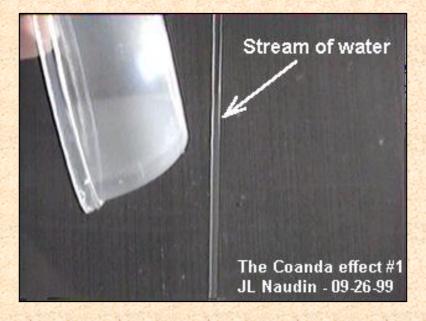
# **The Coanda Effect**

The Coanda Effect has been discovered in 1930 by the Romanian aerodynamicist Henri-Marie Coanda (1885-1972). He has observed that a steam of air (or a otherfuild) emerging from a nozzle tends to follow a nearby curved surface, if the curvature of the surface or angle the surfacemakes with the stream is not too sharp.

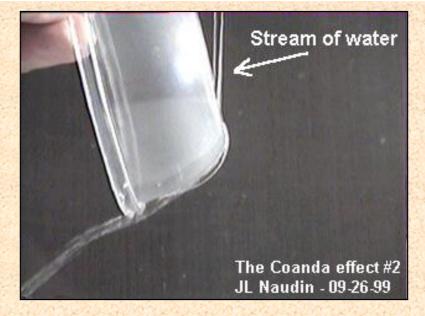
If a stream of water is flowing along asolid surface which is curved slightly from the stream, the waterwill tend to follow the surface.

Now, a very simple demonstration:

• If you approach gently a curved shaped surface (like the shape of the primary hull of the Repulsin) under a stream of water (see below ):

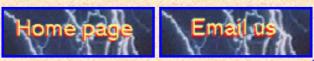


• The water follows the surface of the curved shape, this is the Coanda Effect (see below):



The Coanda Effect works with any of our usual fluids, such as air at usual temperature, pressures and speeds.





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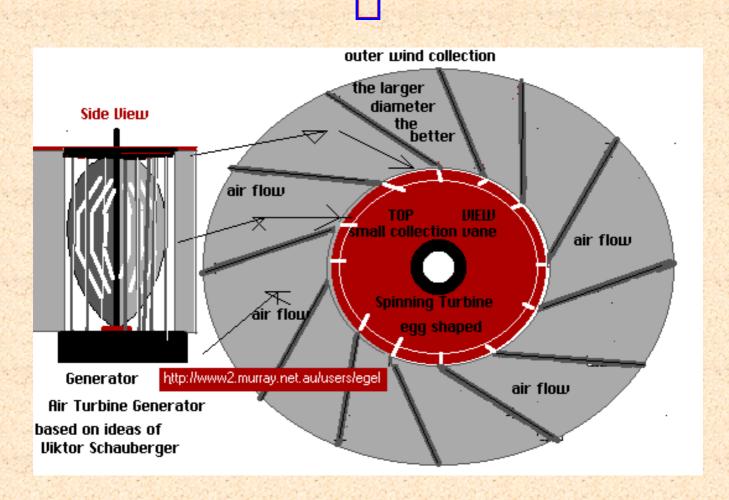
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# Schauberger inspired turbine

Viktor was a man that studied nature carefully to create inventions that did not go against Nature but to work with it to produce useful energy. Although this is not one of Viktor ideas I got the idea from reading the book Living Energies.

Today reaserchers are trying to make windmills that will produce electricity and more of it by making bigger wind vanes. Unfortunately the bigger they get the more damage they suffer when rotating and have speed controls to prevent destruction.

Nature when it wants to produce large amounts of energy gathers it from a large area and compresses it in to a small area ,for example cyclones and tornadoes.

This is what my idea is based on.

Wind is collected from any direction by means of stationairy vanes curved slightly and reducing in size from a large starting collection point and directed to a small area directing compressed air in a cyclonic motion towards a spinning egg shaped turbine that turns a electrical generator DC or AC..

The direction the vanes are curved will determine the direction of the turbine and will then allow wind flow to

be collected from any direction. The vanes need to curved so that air flow is directed towards the centre flow and not out through another wind input area.

The egg shape was choosen because it has unusual properties and allows the fast moving air to gradually slow down as it approaches the bottom of the egg turbine and so not cause any damage to equipment.

Please note the stationairy collecting vanes can be any size the bigger the better but securely anchored to prevent movement by wind gusts.

The centre turbine must be free to rotate in any direction.

The blades on the turbine need only to extend from the hub a small distance but must follow a spiral path from the top to the bottom of central hub. This idea could be used with the newer DC brushless generators to produce really efficient operation and possibility with reduce wear.

IF you build one let me know how you get on.

I have just seen the following crop circle and am wondering if it could represent a type of schauberger centipedal Air or water turbine

would be interesting to build one I would think.

#### I have recieved this correspondence from Curt Hallberg

#### and reproduce it here for the interest and benefit of others

You can find two pictures in gif format. below

In these pictures I am trying to explain what my idea is. The main wind blows at the mill and some part of it

is lead into the mill. Just inside the "main air intake" there are several vortex generators (see Viktor Schaubergers patent number 134543, fig 5) that will generate many small vortices. These will co-operate and wind together. As the wall of the "barrel" forces the vortices to circulate in this creates the main vortex.

Compare vortex into a vortex etc etc. However, the main vortex raises up and forces to converge following the walls. As the diameter of the main vortex gets smaller the rotation speed increases. When the rotation speed increases in the main vortex this accelerating

SPINNING movement increases in every little vortex, all in all this generates a subpressure in the chamber.

This subpressure sucks air through the turbine which starts to rotate as the air blows on the tubine vanes at the

rim of the turbine. As the rotation of the turbine increases the air between the "membranes" of the turbine starts to

spin into long threads of air. The two membranes in the turbine are not counter rotating but the lower one is

mounted in the body of the mill and the other rotating on the generator axis. The air between the membranes starts to rotate too creating the threads. As the perifraical speed increases due to the larger radius the threads will be more and more twisted together. When they are leaving the mambranes they will blow very hard on the turbine vanes creating torque around the axis, helping the rotation and acts as a source of power to the generator.

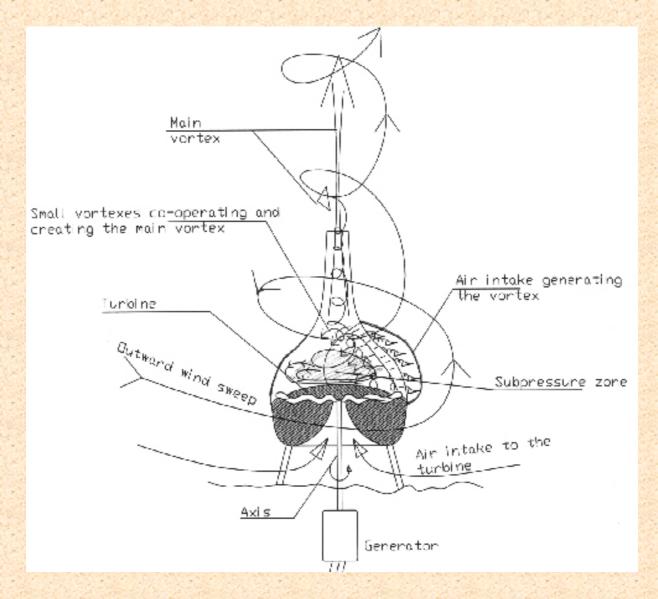


Figure 1

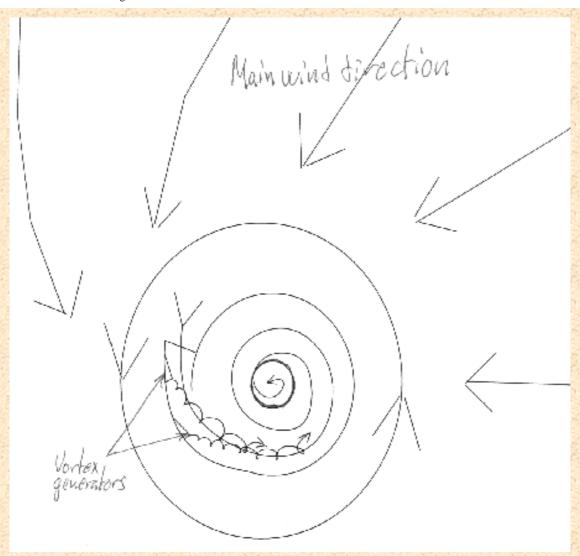


Figure 2



# A simple vortex experiment.

Items needed

fresh water

a 30 cm by 10 cm Plastic jar or glass jar

a wooden dowel approx 48 cm by 1cm diameter

One ping pong ball fill with salt water and then sealed at the filling end to prevent brine leakage.

A fresh egg

#### **METHOD**

Fill the jar with fresh water.

drop both the filled ping pong ball and the egg into the water and watch them sink to the bottom of the jar.

Now if you gently stir with the wooden dowel the water level at the top of the jar (5cm-10cm in depth)

you will notice the egg will lift from the bottom towards the top of the jar but the ping pong ball will stay at the bottom. (Interesting that nature choose such an interesting shape to bring life into the world with)

Try this with other shapes of similiar density to see what happens also.





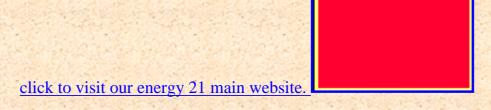
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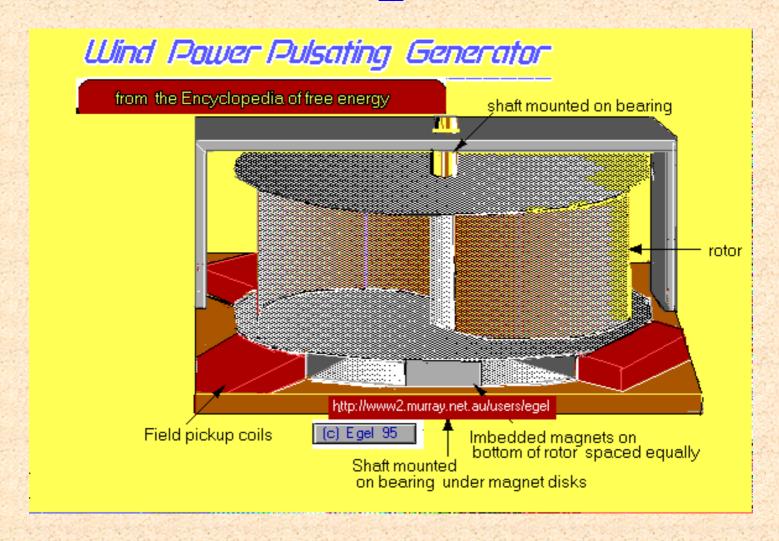
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# **Pulsating wind generator**

This is a version that uses a [S] shaped rotor, a configuration I have not seen before. Using a S shaped rotor and a belt driven generator results in speed to low for normal electrical generation. This is different in the sense that it uses no belt drive. The materials are Aluminium Sheeting which can be obtaining from newspaper printers as they cannot reuse it again and it could cost as little as 60 cents a sheet. Two 3/8 inch screwed rods to the length of sail height and the extra length required for the connection nuts one inch screwed rod [ the length as above ] A couple of one inch diameter ball bearing races and retainers. A selection of nuts and bolts or rivets Three pieces large card board 1/4" or thicker the better. A large base plate this can be metal or wood but must be able to be secured so that the wind does not blow assembly over. A collection of permanent bar magnets or electro magnets.

#### Construction

With the aluminium sheeting cut six circles to the diameters you wish each will need a one inch

hole in centre of each circle. drill also two 3/8 holes on the outer diameter on the same radius from the centre, these will be used by the 3/8 inch screwed thread in supporting the outer portions of the sail wings.

You will need to make three of the following

Cut a sheet of cardboard to the exact diameter of the aluminium circles.

The cardboard is used to add strength to the sandwich construction without adding too much extra weight.

Make a sandwich with the cardboard in the center and two aluminium circles on the outside. Drill holes on outer diameter of circles and bolt together the construction together. Weather proof the cardboard with paint and weather proofing compound.

Please note plywood could also be used in placed of cardboard but will add extra weight to the unit.

You should now have three thick disks sandwiches.

One will be used for the top and the other two will be for the bottom under sail and the other to mount the magnets.

Work out the size you wish the curved sails to be and cut aluminium sheeting to size ,also leave two inch tabs on the top ,bottom and the two sides.

The tabs are then drilled ready for rivets

Bend all tabs 90 degrees and place a sheet in a {C} curve shape on the top plate and then rivet to the top sandwich disk

Do this with the other sheet but in opposite direction so that you end up with a [S] shape rotor.

Insert one inch rod to top sandwich, bolt into position and rivet centre side tabs together around the 1" centre rod.

Insert the two 3/8 inch rods into sandwich wing outer support holes bend over outer wing tabs and rivet together.

Do the above to the bottom plate and bolt into position.

On the remaining sandwich cylinder place your permanent magnets on the outer diameter, equally space them, all can be facing the same directions or alternate them.

You could also use bar electromagnets but a couple slip rings would be need to be included in the design.

Fix magnets in position.

Fix bottom plate to rest of assembly with one inch nuts

Then put 1 inch rotor ends in bearing race on bottom of support plate and make top support for upper bearing support and then fix it to bottom support.

Field magnets maybe transformer [I] shaped pieces wound with copper wire and mounted as you wish. You will need to experiment with coil windings and core types to get desired voltages and currents.

Fix field pickup coils [bar type] into position on the support base and line up with rotor assembly magnets.

You may try any configuration you wish so that you get pulsating dc or ac, remember only one end of each field magnet pole is used, the other faces away.

Make sure unit is secure so that any wind gust will not flip the device over.



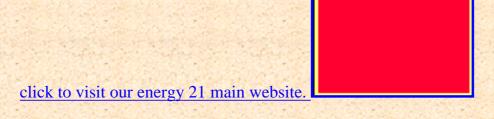


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Check out the contents website page and look for Gary

Magnetic motor. Website.

Free energy and flying saucer animated gifs from the encyclopedia of free energy volume 3

	Many experimenters have previously researched using the electrostatic force to produce motion.  This French energy researcher seems to have made something also similar along these lines.				
ON LINE LINKS					

To contact us: ask for Geoff after 6 pm please.

Phone: 08 85845201

Email: egel@main.murray.net.au

Primary Address 18 Sturt Street Loxton 5333 South Australia

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## New additions to this website

A novel idea for a salt water desalinator

The wood gas producer science and construction

Wood gas producers

The Synchroton radiation generator

6 stroke a new head design for 4 stroke

Electrical Driving and Recovery System for a High Frequency environment

Splitting the positive side of batteries

Brief out line on how the gray inventions works

Some more construction tips of the EV gray conversion tube.

Exhaust gas recovery system

Fuel vapourizer

Additional fuel vapourizer drawings

Stanley Meyer in the 1990's developed an electric cell which will split ordinary tap water into hydrogen and oxygen with far less energy than that required by a normal electrolytic cell.

This inventor is now dead but following links on this cd cover some of his work

Stanley Meyer electrical generator US Patent:4,613,304

Stan Meyer Hydrogen gas burner US Patent: 4,421,474

Stan Meyer System for the controlled intermixing of a volatile hydrogen gas with oxygen

Stanley Meyer eye witness report

Method for the	production	of a fuel	gas US	Patent:	<u>4,936,961</u>
Stanley Meyer V	Water Fuel	Cell			

System for flame start-up/shut-down for a hydrogen gas mixture burner

Controlled process for the production of thermal energy from gases and apparatus

Stan Meyer Gas generator voltage control circuit US Patent: 4,798,661

Poly Solar hot water for \$100

The McGuire Electric Car for The World

A homemade water pumping wind savonius turbine

Build your own Vandegraf electrostatic generator

Joecell mk 5 a possible new design

The Jackson Hydrogen Generator

Edwin Gray's Energy System by Bruce A. Perreault

Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum

The MEG v2.0 The Motionless Electromagnetic Generator Project built by JL Naudin

The MEG The Motionless Electromagnetic Generator Project gateway

The index and information page for this series of pages

original article on the swiss ml

Some interesting comments and ideas on the Free energy machine Swiss ML or Testatika Thestica Distakica

Electrets vs Dielectric Absorbers

**Eguchi Electrets** 

Horseshoe Magnets and the Testatika

The electron field generator

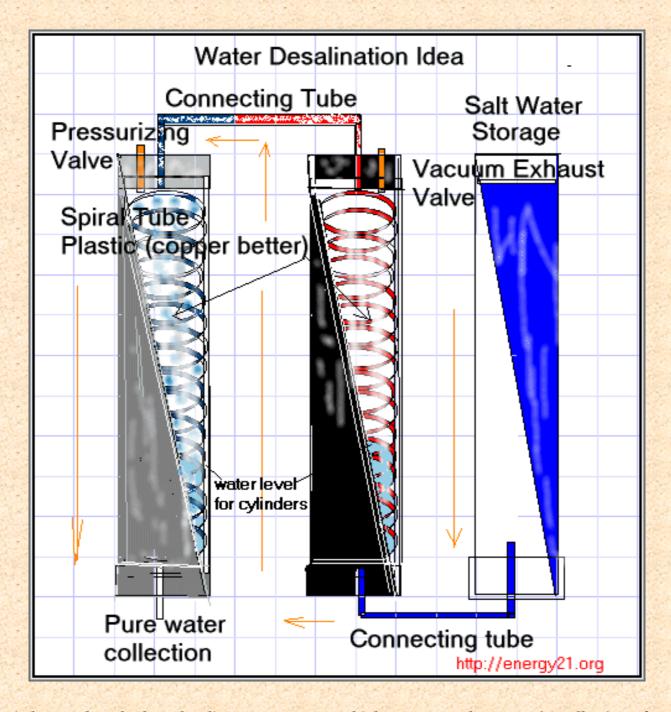
The electron cascade effect					
Some free electric notes					
The Principle Experiments					
Testatika demonstration 1999 report					
Methernitha Testatika News					
Testatika Machine ML converter picture	<u>es</u>				
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Photographs of the Interference Disc electric generator					
Renew Backyard biodiesel					
Renew Going bush with renewables the	bio fuel cooker				
Avramenko's Free Electrons Pump v1.0	by Jean-Louis Naudin				
Free Electrons Pump v1.0 by Jean-Louis	<u>s Naudin</u>				
Operation of Bennet voltage doubler					
Bedini simple school science Fair motor	-				
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## A novel idea for a salt water desalinator



I have tried several methods to desalinate water many which appear on the energy21 collection of web sites.

The methods I have tried so far tend to work but are not very efficient unfortunately. Mostly I had to complete against pressure as the closed container heated up the water vapor ceased to be produced at a point where the pressure inside the vessel could not be increased and the vaporizing and condensation reaches a standstill.

It seems water under pressure takes a lot more heat to allow it to boil, (such as case in super heated steam in

most power generators.

However the opposite is true when the pressure on the water is reduced such as in a partial vacuum.

This method below although not yet tried by me may provide a better result.

The idea for this design came to me after seeing a science demonstration on Australian channel seven afternoon television childrens program called The Big Arvo.

If you wish to reproduce the experiment for yourself, here are some brief details.

The science demonstration explained of how to produce a cloud.

It consist of a coke cola plastic 2 litre bottle.

The bottle had some hot water added to it ,probably about 1/2 litre or less in volume.

A match was lit and some ash was added from the burning match to the plastic bottle.

The bottle was again resealed and then plastic bottle was squeezed to compressed the contents (air) water can not be compressed.

When the coke bottle was re opened water vapor came out the bottle in the form of a small water cloud.

## The Suggested method of desalination

I have tried to think of a method where this means could be used to produce clean water using solar energy and have come up with idea that may work although I have not tried it yet myself.`

If you look at the drawing above you will see three large plastic (or metal cylinders), I see them as being 6 inch plastic PVC tube of a suitable length and fitted with end caps

One Tube has one end cap with a brass fitting at bottom and this then is used as a water replacement container and allows feed water (saline) into the second tube and into a spiral enclosed within the second cylinder, the pathway is shown in red.

All cylinders are made airtight apart from the water storage section and the spiral coil must be wound into PVC tube to enter at the bottom and exit at the top and the reverse is true for the third cylinder as per diagram above.

I expect the water level to be maintained so that water in second tubing to be at a level somewhere near the top area as shown in red spiral path in diagram.

The saline water feed tube starts at the bottom and works it way to the exit at top of cylinder and pushes vapor into the next third cylinder.

This second 6 inch tube must be made air tight painted black to allow maximum heating of outer tube by solar energy and has some water or some other fluid also added in it.

A value is also fitted to allow a vacuum pump to reduce the pressure in the second six inch PVC tubing and then when exhausted closed ,so that a low pressure area is maintained whin the tube.

# If you don't have a vacuum pump,

Another method may be to placed some water in this outer tube and then heat it by solar means, so that as the water warms, the air will be driven out though this valve.

This then closed off.

Putting very Hot water in this PVC tube may also work. But as a whole the greater the vacuum you can get in this area the better I think it will work.

## The third cylinder

The third cylinder is constructed as previously described as the second cylinder.

But the difference is that this tube is pressurized and wrapped in aluminium foil to reflect any heat from the sun.

I think that by inserting a bike value in the end cap at top position and by using a bicycle pump to pressurized this third cylinder.

An idea, also occurs to me that this third cylinder could also be submerged in a water bath( a 44 gallon drum perhaps) as well, this bath would completely cover this cooling vessel and normal evaporation from this bath would also help to keep this cooling tube area cool as well.

Both cylinders would need a small amount water placed in them, but separate from that which is flowing through the two spiral tubes from the water storage area and into the distilled water collection point as show in diagram above.

## This is how I feel the unit would work,

Saline Water is fed by means of gravity and through the plastic spiral where it is heated from the heat gathered from the environment and because of the vacuum means a lower boiling point heat will be transferred to flowing saline water and allows it to vaporize at top of the tube.

This vapor is then pushed through the spiral plastic tube and then enters into the pressurized region of the third tube where it condenses and flows in to a collection area below the tube.

## Making a good seal in end caps.

With previous experiments when inserting brass fittings I found it impossible to get a good air tight seal ,then I tried adding some fibre glass resin in the end caps and then letting it set around the brass fittings, I found the fibre glass has a tendency to close around metal objects and this makes it an excellent means for making air tight seals especially in slight pressurized applications as described here.

Then Plastic PVC cement is applied to the end caps and the 6 inch PVC cylinders walls and pressed fitted together and let dry.

I am unsure how it would work in a slightly low pressure area as is the case for the third cylinder as describe here within.

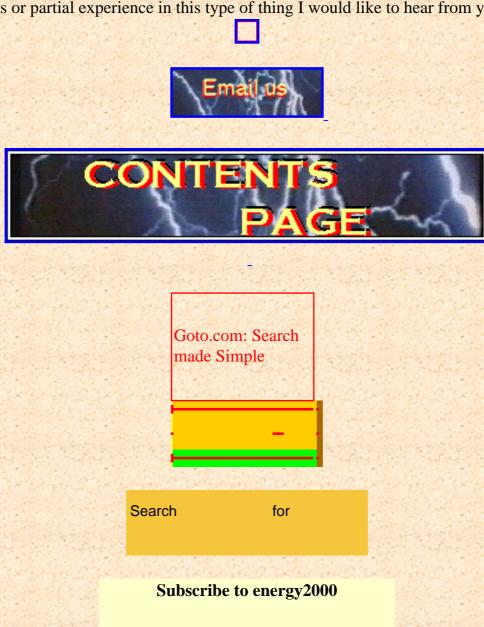
I have suggested using plastic tube (1/4") for the two spiral coils in the cylinder ,but however I feel copper piping would allow better heating and cooling transfers to the liquid within.

I see the unit as a stand up affair with the each PVC pipe standing or angled to make the maximum use of the solar heating in the area especially the second tube.

The third section cooling section could be placed in the shade or in a cooler location.

## Like some comment

As I have mentioned before this is only an idea and the idea may have some flaws ,and if you have some additional comments or partial experience in this type of thing I would like to hear from you.



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### THE GAS PRODUCER - SCIENCE AND CONSTRUCTION



I have seen this vehicle running myself some years ago and was driven by Robert and Maraget Pope.

The vehicle shown above had a top speed of 80 kilometres and has travelled throughout Australia

This couple are Christian who believe our present system is in deep and trouble and may soon collapse.

They run a small farm and Christian helping center in Spalding South Australia.

They have dedicated their lives to helping others and are trying to developed a relaible form of transportation to help provide a reliable transport system for the interior of Australia and in paticular the Aboringal people when the present fuel power transportation system reaches a collasping point.

The idea is not a new one and was apparently used during world war II here in Australia. see photographs here

Their story is presented as follows

#### Part two of this article

The gas producer should operate on any solid fuel. We have even tried using old tyre treads and dry sugar cane. We are told that cattle dung will work. We have used charcoal but not used coal. No doubt it would provide more KM's per tonne than

wood.

Just as you would choose the best burning wood for your fireplace or slow combustion heater, you naturally choose the best available wood for the firebox. A fill of pine offcuts would only make 40% of the KM as a fill of yellow box or redgum. We reckoned on about 2,000 km per tonne of wood (2km/kg). This should be improved by the addition of steam to an expected 2,500-3,000 km per tonne. The amount of water used is about the same as the gallonage of petrol that would be consumed.

#### WASTE WOOD PLENTIFUL OUTBACK

Dry firewood was our fuel. We rarely cut down any dry standing wood except a few 'snappy gum' sticks north of Alice Springs, We mostly just beat the white ants to use dry sticks on the roadside. We drove a small tungsten blade sawbench off the engine and mounted on the edge of the front bumper bar. Within three minutes of stopping we could be sawing wood. We tried various lengths but found about 8" long was best. We stored the wood in the trailer behind the firebox with a well insulated gap to prevent the load catching fire. It can easily occur in 40 degrees C heat.

#### GOOD EUCALYPT FAVOURED.

We favoured using eucalypt firewood because of its low tar content but often had no alternative but to use acacia (mulga, wattles and gidgee). It is essential to have a firebox temperature exceeding 1000 degree C to ensure the complete combustion of the tar and resin vapours. Gidgee is so full of tar. It is very ant resistant; fence posts have exceeded 100 years life. It gave us the longest run of all on a fill - 220 km between Camooweal and Tennant Creek.

Although we are told that five different chemical reactions take place in the gas producer the most common one is the simple reduction of steam by hot carbon. C + H2O -> Co + H2. The hydrogen (H2) is the sought after ingredient with Co (carbon monoxide) the biproduct, a sluggish fuel with little power. On Co alone 60 km/hr speed was about our maximum average. When we later added steam we readily attained 80-90 km/hr, even within two minutes of lighting up.

There is not such a thing as dry wood in nature. It never gets below about 8% water with dew replenishment at night so we obtained a certain amount of steam from any wood used.

The equation used to produce hydrogen uses heat whereas the burning of hydrogen gives out heat. The more heat conserved means the more hydrogen. Hot carbon has a great affinity for oxygen. Air being 4/5 nitrogen dilutes the end product gas whereas the steam produces the hydrogen.

#### HYDROGEN THE GOAL.

To get optimum amount of hydrogen means to introduce the optimum amount of steam at a given temperature. This inevitably means at times a little more steam than necessary which condenses in the resulting gas as moisture and makes it almost impossible to operate a dry filtering system. My personal finding is that a wet filtering system is the answer. It is of paramount importance that a 100% clean gas be delivered to the engine.

From this you will see that we need to aim at the highest temperature possible to make the gas and the lowest temperature possible to deliver it to the engine. Every 30 degrees C the gas is cooled it occupies 10% less volume. The cooler the gas the richer it is with more energy per litre.

#### EXTRA HEAT MEANS EXTRA HYDROGEN.

To get the maximum heat we must eliminate all possible heat escape. The first way is to use a heat exchanger to superheat all incoming steam and air. Secondly we have means today to totally insulate the hopper. Relatively cheap insulation materials are available today which were not around in World War 2. In the war years nearly all units ran on charcoal and I believe there was very little experience with wood. (Good charcoal is pure carbon, totally free of tar, resin and ash). Materials were very scarce and improvising was done. At this stage we have yet to prove that enough extra performance is obtained to warrant the extra cost of using stainless steel to insulate the hopper.

#### **CHOOSE PLENTY OF RESERVE ENGINE POWER**

If you are choosing a vehicle aim for one with plenty of engine reserve power. Six cylinder is ideal although with a good gas many four cylinder cars should be OK (2 litre plus). Something ten years old or over is much easier to fit things under the bonnet.

In wartime the old cars had heavy chassis and often units were suspended from the back. Some had single swivel wheel trailers. I feel that for a car the best option is a 6'x4' box trailer as it also provides room for wood storage. We used to carry enough wood for 1000 km. A trailer can easily be unhooked to change to another vehicle, say a traytop truck or ute.

#### A TRAILER FAVOURED

It is very desirable to have the hopper and burner well behind the vehicle. Besides being a distance from the petrol tank you are less likely to get tar splash on the duco of your vehicle. It is difficult to avoid some tar splash when opening the lid to attend the fire. One must carefully watch if possible to park with the right wind direction. My next construction will involve a quick operating canvas blind to cover the rear of the vehicle. We spent many hours trying to rub off tar marks and found that the only real success came from using paint remover. A trailer drawn behind also lessens the number of ants and beetles entering the driver's cab from the wood.

### VEHICLE MODIFICATION QUITE SIMPLE.

Modifications to the car are quite simple - quite the least of your problems. The gas has a long explosion and so the spark must be advanced a few degrees. A longer hold down stud for the distributor is used with a tight spring to enable a swivel to advance the spark. An arm is brased to a utilux clamp around the distributor. A thin rod is pivotted to the arm extending into the dash where a manual spark control is installed. It can be adjusted by feel of horsepower and then two settings established for gas and petrol.

A 50 mm exhaust tube must be brought from the back towbar underneath and up to the carby. A boxed in channel (about 2 cm thick) with a hole both sides to fit the carby flange is bolted under the carby to provide an extension about 20 cm out from the carby. The gas is brought into the end of this and an air inlet into the side. Both the gas and air are controlled by butterfly valves. The gas butterfly is connected to a second accelerator pedal and the air butterfly to a hand operated lever on the dash. Except for changing gears, the gas pedal is usually fully depressed and is also fixed so that the engine idles fairly fast (say over 1200 RPM). This enables sufficient engine vacuum to keep the gas flowing whilst pausing at traffic lights. The fuel mixture is regulated by the manual lever on the dash, using the feel of horsepower as a guide. It soon becomes 'second nature' to close or open the air when driving. We used a second air cleaner for this purpose. Guages showing engine RPM and vacuum are useful to the operator. I closed off the engine driven fuel pump and replaced it with an electric pump so that I could switch off the petrol on the dash as soon as the vehicle started on gas.

#### START ON GAS IF POSSIBLE.

It is good to be able to start on gas with no petrol to assist. This can be done by using a heater blower on high speed. The gas must be drawn right up to the neck of the carby and drawn through with the starter motor.

If one is to use gas alone certain modifications can be done such as the angle of the valves and compression ratio. The mixture can also be supercharged giving much more power. I believe, however, that all the necessary power is available through just engine vacuum and that the real challenge is to minimise expenditure, improvising wherever possible.

Using engine vacuum to draw the gas also is an assurance against leaks of the lethal carbon monoxide. Any leaks mean air being drawn in instead of Co leaking out. There were enough tragedies in World War 2 to treat this gas with much caution.

#### THE FIREBOX AND HOPPER

There is nothing more suitable for the outside cylinder than a heavy duty galvanised 44 gallon petrol drum. The heavy rim makes an ideal flange for pulling apart for maintenance on the firebox. It can easily be sealed with exhaust putty (see diagram). The capacity of the hopper can be raised a foot or so above the drum or the lid fitted to the top of the drum. For long country runs it is desirable to have a larger 'fuel tank'.

The lid is best about half the diameter of the drum. Using a metal to metal seal and a lid that 'dishes' slightly when pressed down it also acts as a safety valve in the event of a small explosion in the hopper. These should not occur but in the process of learning and experimenting it happened to us a couple of times.

The inner cylinder should be of at least 16 gauge mild steel and about 2"-3" less diameter than the drum. It rises above the height of the drum where it is attached with a flange. It is sealed at the top with the lid at the centre. About 1/3 down the petrol drum, the inner cylinder tapers down to a 6"-7" opening about 8" above the floor. The tapered or conical portion is best made of stainless steel of at least about 1/8" thickness. For ease of construction the stainless steel 'cone' can be octagonal, being crim ped in two sections in a press. The top of the 'octagonal cone' can be hammered into a true circle and welded to the base of the inner cylinder. The air and steam inlet is about a 1" hole half way down the side of the cone. We used mild steel MIG wire to weld the stainless steel cone and it has not shown any signs of cracking yet. There are obviously different expansion rates between mild and stainless steel and as the cone houses the 1000 degrees C area we are watching and observing.

#### MILD STEEL WILL OXIDISE AROUND AN INLET.

We tried a mild steel firebox and found thatwhere the air entered the hole through the red hot steel it cut open the hole with an oxy torch cutting affect. We overcame it with a stainless steel insert. This could be quite a satisfactory answer if the welding does eventually crack as mild steel is probably a quarter the price.

For the first part of the trip we had a ceramic fireclay lined fire box. From a temperature withstanding point of view this would have to be the best material. Most wood contains a percentage of silicon. In the north of Australia where white ants are more prevalent, sand attaches to the half ant eaten sticks increasing the silicon content more. This silicon forms slag which adheres to the ceramic like epoxy resin. When chipped off with a light crowbar it leaves a very rough surface. This caused one of our major problems, namely wood jam. Sometimes a pothole would cause a sufficient bump to break the cavity in the firebox and a fresh surge of gas would come. We found that a steel surface enables the wood to slide down more effectively, provided the air and steam enter through a stainless steel hole (see diagram). Even with a stainless steel firebox we sometimes had a cavity develop in the charcoal. Some of the highways in north W.A. have nothing resembling a bump in 100 km. We have in mind a mechanical agitator to solve the problem.

If it were not for cost I would recommend using stainless steel for the whole interior cylinder and cone. With oxidation of the mild steel and rust through moisture condensation when stopped one can only expect a four year life.

#### STEAM GOVERNS TEMPERATURE.

If the firebox cone is allowed to get too hot (1300-1400 C) it will distort. The automatic steam generator should govern the temperature to 1000 C. The hotter the gas, the more steam is generated which cools the hot carbon as it is reduced to hydrogen. The cone is similar to that which Nazi Germany used in World War 2.

Our hopper used to hold about two large wheelbarrow loads of wood cut to about 8-12 inch lengths. By the time the wood has dropped about half way down it becomes charcoal. When nearing our destination for the day we planned to be out of wood so as to enable an easier rake out next morning.

#### RAKING OUT.

When the rake out hatch is opened the mixture of charcoal (large and fine), slag and ash is raked across a screen leaving only the larger charcoal in the bucket. We used to recover about 2/3 of the mixture by volume. We then closed the hatch and returned the charcoal into the hopper. This would cover a few inches above the steam and air inlet hole. Opposite this opening is the lighting hole. With either the engine vacuum driving (on petrol) or a heater fan a lighted taper is placed in the lighting hole with the inward draft sucking the flame into the charcoal which ignites instantly. Within about one minute as you play the accelerator pedals and the gas/air mixture lever on the dash the vehicle should take off on gas. The petrol is switched off and you should reach 80 km/hr in another minute or so. It may however take twenty starts before you reach two minute takeoffs. There are many other factors which require maintenance and attention. Only experience will teach you accurate fault tracing.

Raking out when cold is best done with the vehicle parked so that the wind blows the dust away from you. A handle 4-5ft.

long will help keep you clean in this dirtiest operation of all. In humid conditions the charcoal dust seems to embed in the pores of the skin and take about three scrubs to clean.

#### **FILTRATION**

The ash from wood contains fine silicon dust like carborundum grinding powder. If not filtered out 100% it will convert your sump oil to a grinding paste and bring quick disaster to the engine. We realised only 20,000 km out of a reconditioned Repco motor as we learned this important message.

#### WET FILTERING RECOMMENDED

As explained I very much favour wet filtering when chasing the optimum hydrogen power. I can not see how any dry filter method can cope with condensed moisture from excess steam. The wet method simply involves a flow of say 15 gallons per minute of water through a 'shower rose' with 3/8" holes and down through 1/2" diameter coke which is supported on a non-ferrous mesh. The flow of water down through the coke collects the dust from the gas as it proceeds up. At the same time it cools the gas. The sludge collects in a sump below the mesh (see diagram). A mechanically driven pump then recirculates the water through a cooling system and back to the 'shower rose'.

An old tractor radiator (with 1/2" holes) would be ideal for cooling. The drum used for the filter would best be nonferrous and thick enough to stand the engine vacuum. If mild steel is used sufficient thickness to allow for rust must be considered. The sump floor would best slope towards the outlet plug (1 1/2"). At each end of your journey just undo the plug and rake out the sludge as well and leave stand overnight and return most of the water. This is a very clean way of filtering as compared with the dry methods.

One possible disadvantage is that the gas becomes saturated with moisture. This can be overcome by passing the gas through a large inverted car radiator to cool the gas further and condense the moisture which returns to the filter. This radiator should ideally be located above the trailer to catch the breeze as well as being augmented with a 12v. fan. Eliminating moisture at this point also prevents water build up in low spots in the exhaust tubing to the carby.

#### MECHANICALLY DRIVEN PUMP FAVOURED

We tried a 12v. marine submersible bilge pump for circulating the filter. It only put out about half the flow the manufacturers stated and I am a little suspect of these motors when subject to runs of say 6-8 hours continuously. I favour something mechanical. I once saw a trailer with an old diff and a pump driven from the spline. Unfortunately this would not allow filtering whilst stationary. Look around for a suitable 12v. motor say 1/4-1/3 hp and a pump which would match the revs with direct coupling. Otherwise use a vee belt drive. If a gas producer was mounted on a ute or a traytop truck then a pump could be mechanically driven from the engine.

The lid of the filter must be flanged with a soft gasket as a seal. There must be a valve on the lid also for topping up the water level and another tap to check the sump level. It is possible that the recondensed steam will maintain the sump level without addition. The wet filter should trap 100% of the dust and even small amounts of tar vapour. If the gas is well cooled and dried to deliver to the engine I would recommend a secondary filter like a vacuum cleaner bag principle. Woollen blanket would be ideal material and sufficient to ensure a clean gas. A second filter tells you how well the first one is working. Preferably place it under the bonnet near the carby as the gas is coolest there if not place it on the trailer just before the flexible hose at the drawbar. With a quick clip on lid this filter can be quickly inspected and replaced. It would be simple to sew up half a dozen spare bags as they may block a little with dampness.

We have tried bubbling the gas through diesel but it seemed to be too much for the engine vacuum to handle and the diesel finished up being atomised and passed through to the engine. An oil bath filter like that used on the old tractors could be a useful secondary filter if the blanket method fails through dampness. A small amount of moisture in the gas can actually assist engine performance.

I do not want to be dogmatic in ruling out dry filtering but slightly too much steam or being caught with wet wood does present problems.

#### THE STEAM GENERATOR

As the hot gas (600 degrees C) leaves the top of the hopper through a 2" exhaust tube through the top of the hopper it passes down through a vertical jacket made out of the next largest size (see diagram). At the base of the jacket is 2-3" of water, the level being adjusted by raising or lowering an enclosed trough with a ball valve fed from a reserve at a higher level. The trough and jacket are connected by a length of 1/2" water hose. At the base of the jacket there is also an easy release flange (1 1/2" diam.) so as to clean out any solids from the jacket if brackish water is used. The hotter the gas, the more steam produced. By trial and error one can discover the optimum water level. As mentioned this acts as a temperature governor for the firebox (1000 degrees C). With outback travel a water storage of at least 20 gallons would be desirable. Heavy things are best carried at low levels. Some varieties of 12v. fuel pumps can handle water and pump it to the ball valve.

The steam jacket and the 2" line to the firebox inlet would best be insulated. Every degree of heat loss means less hydrogen.

For the small extra cost involved it would be advisable to use stainless steel exhaust tubing to avoid rust in the steam generator.

### COOLING THE GAS AND DELIVERY

After the cooling of the gas through the steam generator it is desirable to cool it again as much as possible before entering the wet filter. This can effectively be done by making the walls around the firewood storage (on the trailer behind the hopper) say 18" high by 1 1/2 wide. Air fins could be welded into the sides to further assist in heat loss. Also the reduced velocity of the gas would settle a deal of dust which could be blown out periodically with an air hose. The whole structure also has the advantage of drying out wet wood.

The gas system being drawn through engine vacuum must be well sealed at all joints. Any leaks draw air in making a potential explosion mixture. The position of the air mixture lever on the dash will indicate a major air leak.

### LOG ON EVENTS OF TRIP.

- **1.**Left Canberra 14/2/87 Travelled via Dubbo, Tamworth, Inverell, Goondiwindi. Set out with ceramic lined firebax. **2.**0ver 300 km in a day from Goondiwindi to Roma,Qld. Completed over 1000 km on single stockup of ironbark from Wee Waa (NSW).
- 3.Removed head at Bowen (May). Valves excellent, head clean but some gumming of oil rings. Experimented with air scoop no improvement. Tried bubbling gas through water which evaporated very quickly.
- **4.**Dry wood very scarce near Innisfail. Used sugar cane spill.
- **5.**Hughenden (June). A chronic problem of rsood jam due to slag build up on ceramic firebox from grit due to white ants. Had to stop every 10 km and break jams with light crowbar. Decided to break up ceramic lining and try with 1/8" guage' stainless steel cane only.
- **6.**Performance now excellent little wood jam.
- **7.**Broke conrod at Camooweal,Qld (July). Replaced 200 Ford motor with 250 (4.1 Litre). Excellent speeds, some stretches averaged 70 km/hr.
- **8.**Completed 1000 km in two days (Camooweal to Alice Springs).
- **9.**Installed saw bench on front bumper bar at Alice Springs.
- 10. Tried bubbling gas through sump oil and over sump oil but no improvement.
- 11. Firebox failure at Darwin (Sept). Weld on stainless steel had cracked open. Remade firebox with 3/16" mild steel. Also added cooling system on trailer, installed torque converter fan.
- 12. Removed head at Katherine. Valves still good.
- **13.**Firebox trouble rebuilt at Halls Creek (Oct.). Hexagonal in 3/8" mild steel. Air passing through red hot mild steel cut like an oxy torch burn- ing out steel cone.
- 14. Continued down W.A. coast with moderate performance but burning out problem was not solved.
- **15.**Flanged wood hopper at South Hedland (Nov). Repaired firebox. Flanging meant firebox can be out in 20 minutes for repairs.
- 16. Repaired firebox at Geraldton, WA.

- 17. Perth. (Dec). New design of firebox.
- 18. Repairs at Albany.
- 19. Repaired firebox at Kalgoorlie.
- 20. Adelaide early Feb. 88. New firebox did give as good a burn as the original one often had to clean plugs (possibly needed tune up),
- 21.Rebuilt to original design a firebox at Mildura, Vic., with stainless steel inserts to overcome oxy torch cutting effect in mild steel. Satisfied this is the best design.
- **22.**Mildura Canberra (900 km) in two days with little wood jam problem or plugs carbonning up, which was excellent as the vehicle was bad'ly in need of an electrical tune up. Arrived Canberra 13/2/88.

### **FAULT TRACING**

#### LACK OF ENGINE POWER

- 1.Low in wood pull'up and refill.
- 2. Air mixture lever needs adjusting.
- 3. Cavity due to wood jam drive over bump on roadside or else raise the lid and break with a light crowbar.
- **4.**Cavity in charcoal same as for no.3.
- **5.**Blocked filter put in a cleaner secondary filter bag (under bonnet?). The wet filter system cannot block if cleaned daily.
- **6.**Air leaks pressurise hopper with 12v. blower and smoke will reveal leaks. Fix with sealant e.g. exhaust putty at very hot areas or else selastic. Check that lid is properly sealed.
- 7. Condensed water vapour in 50mm tubing going to carby. Check low spots. Undo joints and empty. It is good to have plenty of radiator hose joints with clamps for easy cleaning of tubes.
- **8.**Excess steam cooling fire box too much adjust water level in steam generator.
- 9.Lack of steam and thus lack of hydrogen adjust steam generator and check water level in storage tank.
- **10.**Hole in firebox by elimination when all above have been checked loot for more drastic problems such as this. When fire box is cold reach in the rake out hatch and feel for any burn holes in the steel. Look down from the top lid as well.
- 11. Wet wood. Empty hopper and replace with dry wood. Pack wet wood in trailer behind fire box to dry out.
- 12. Clean spark plugs. Check coil and distributor points.
- 13.Clean air cleaner.

#### EXTRA POINTS TO CONSIDER

Inexpensive guages could be added to your dash such an old fuel guages to indicate water levels on water filter and storage tank.

A vacuum guage before and after the second filter could also be helpful. If a temperature guage from a pottery furnace could be fitted to show the firebox temperature (on the gas outlet) it would be a helpful early warning device.

#### **IGNITION**

Any improvement in ignition is worth the trouble. The electronic systems of the 80's give more reliable spark and do not require the maintenance for peak efficiency.

**INLET AND EXHAUST MANIFOLDS**Anything that improves efficiency such as extractors for petrol motors would also improve it for producer gas.

#### **OIL FILTERING**

Although we emphasised the need for 100% effective gas filtering it is a good safeguard to have the added insurance in oil filtering. The 'toilet roll' bipass filters such as the 'Franz' could be worth the expense.

#### UPPER CYLINDER LUBRICATION

Kits are now available for lubricating the upper cylinder. I understand that they retail for about \$40 and have proved satisfactory in overcoming head wear in engines run on LP gas. These kits should overcome for producer gas also which is

dry like LPG.

### click on following images for the enlarged version

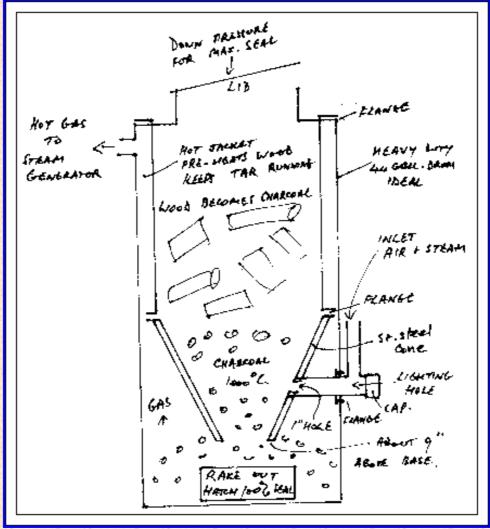


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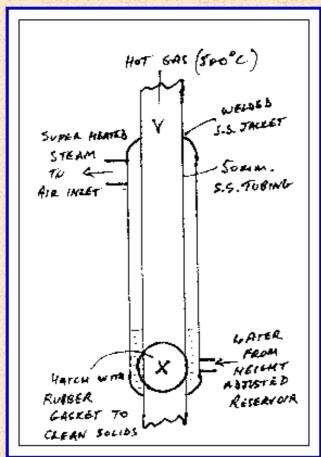


DIAGRAM 2

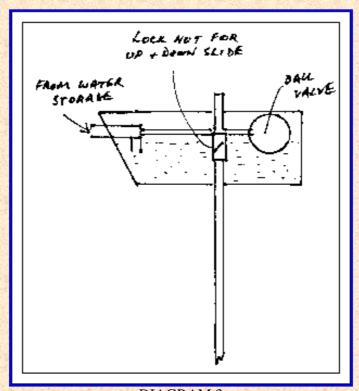


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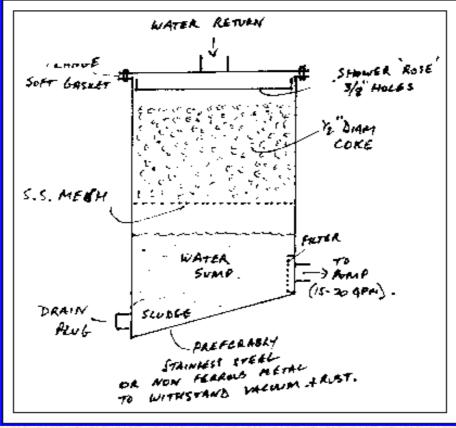


DIAGRAM 4

### Part two of this article

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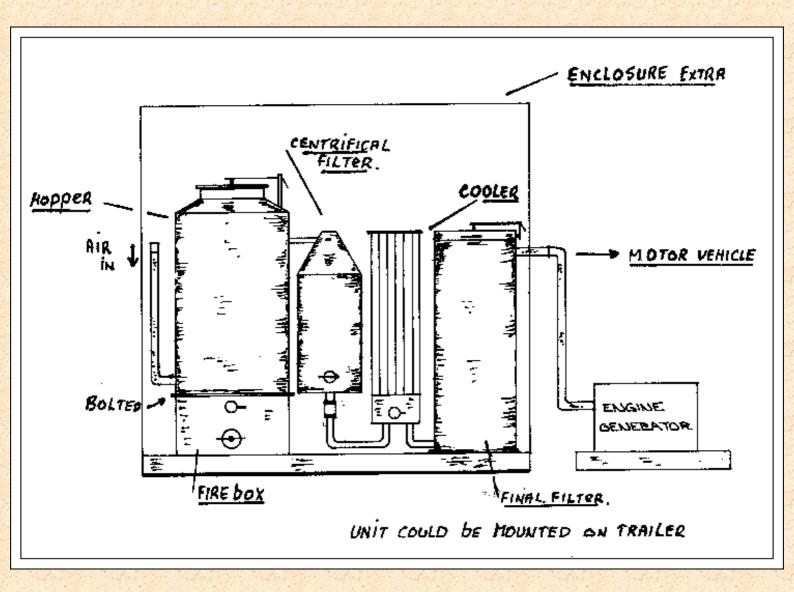
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## **Wood Gas Producers**



## **Wood Gas Producers**

Not a new idea. The first recorded producer was that of Bischof (1839), and 1st gas producer driven vehicle was built by J.W. Parker 1901. The early model producers were very cumbersome & heavy and even today producers are still manufactured along the same lines as the early German designs.

We have developed a much lighter unit and less labour intense. The units are made of 1- 1.6mm galvanized iron. These units can be fitted to your generator set, tractor, motor vehicle, or simply for heating purposes such as water heating, grain drying etc.

## Some Photos of circa World War two gas producer units

Gas Producer Units, designed, manufactured and fitted by G.B. Kobelt and son Dennis of Waddikee, E.P.



circa 1943-44



circa 1943-44



circa 1943-44



G.B. Kobelt and fitted gas producer approx 1942-43

### More Info

Part of a booklet published by Brenton & Margaret Pope

Brenton and Margaret Pope went around Australia in a car run by a Gas Producer

## Links on the Internet

Gasification

**Gassificaction Mailing List** 

Gas Producer Car

Biomass Gasification (Good site)

**Wood Energy Conversion** 

**Badillo Engineering - Gasification Page** 

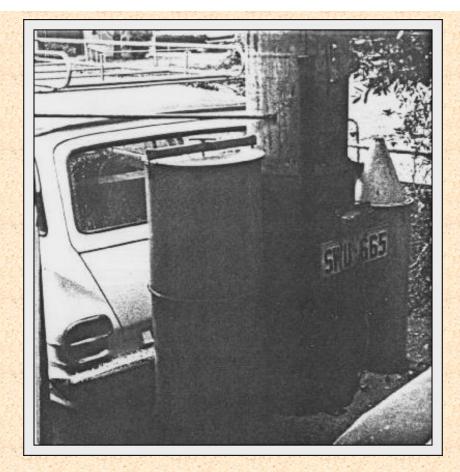
Biomass Energy in ASEAN Member Countries

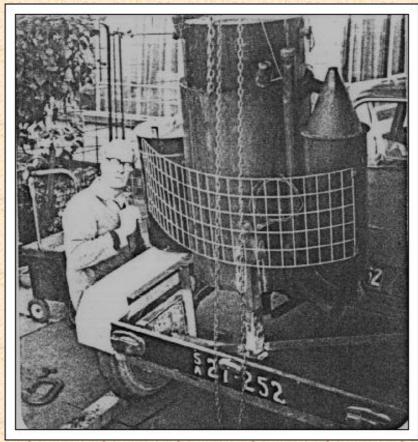
Coal and Coal Gas

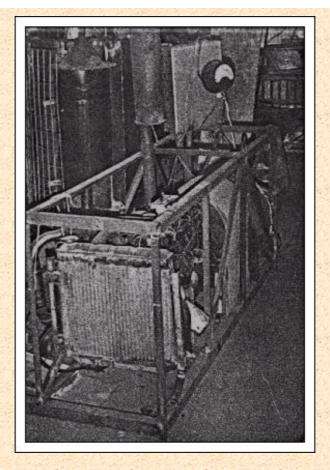
The power of biomass

The BioEnergy Homepage

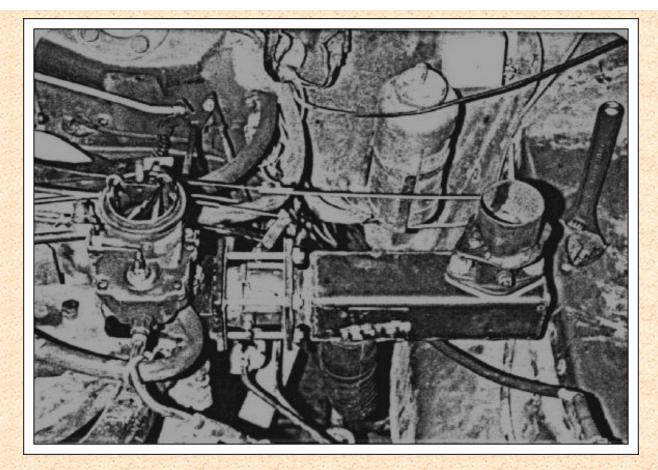
Thermogenics: Waste Management Technology











### Part one of this article

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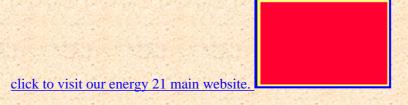


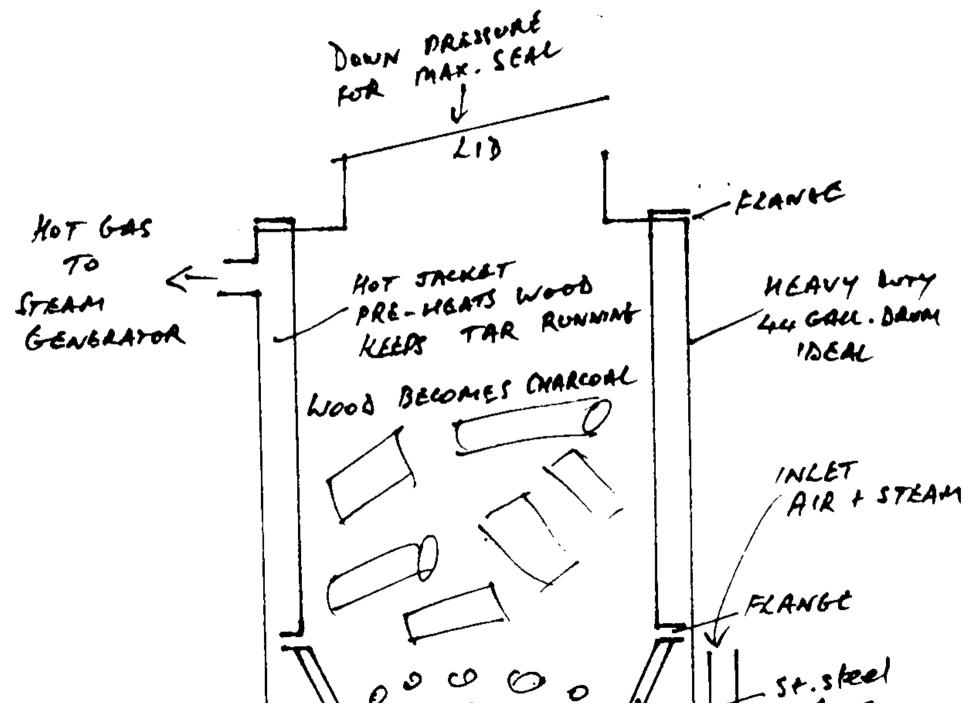
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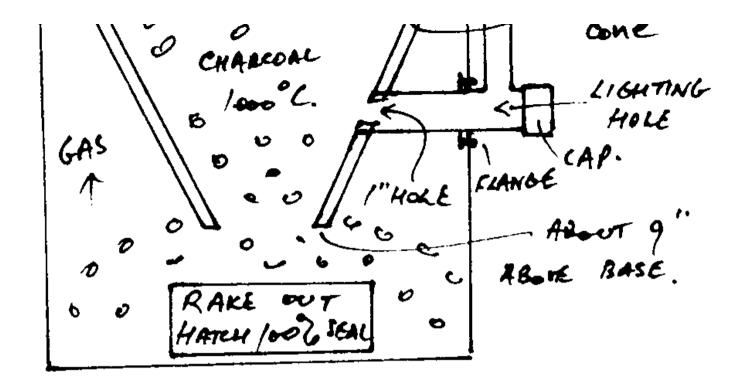
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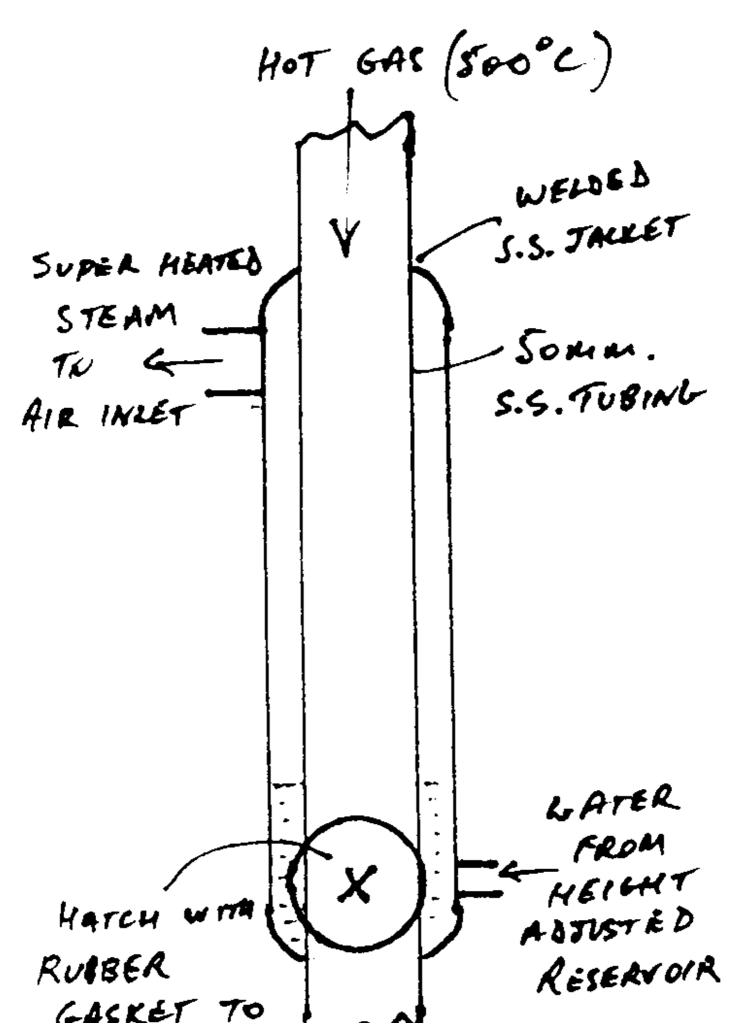
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CLEAN SOLIDS

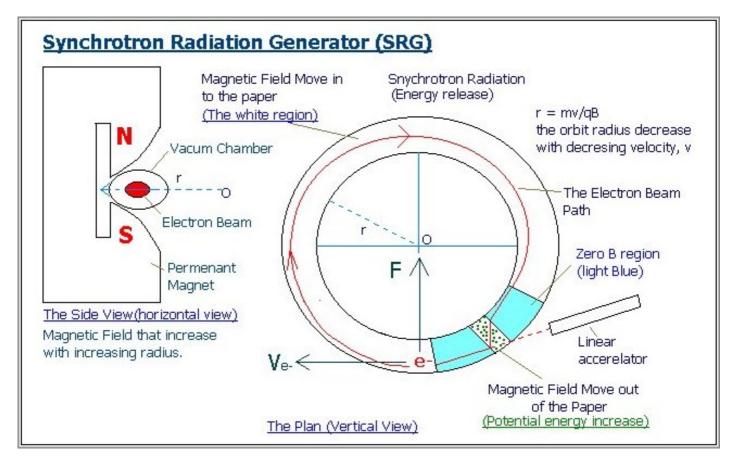
Synchrotron	Padiation	Generator	CDC	١.
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# **Synchrotron Radiation Generator (SRG):**

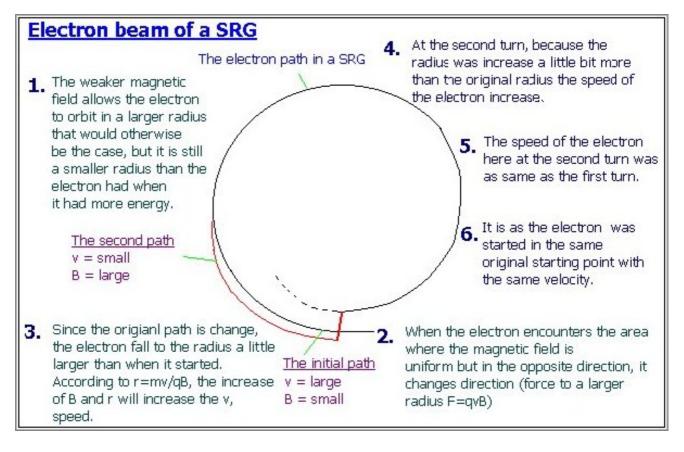
- 1. When the speed of the electron beam decrease, the radius of the electron orbit also decrease (a few percent) according to this formula: r = mv/qB.
- 2. When a electron is force in to a weaker magnetic field (B) region, the velocity decrease. Yet, in this SRG, the electron beam (the charge particle) only enter the weaker B region after it HAD ALREADY slow down.(please remember that the SRG magnetic field sharply increases with increasing radius).
- 3. Then, the electron beam is force in to a stronger magnetic field region
- 4. As a result, the entering to an increase magnetic field region increases the velocities of electrons.

# And now the whole article: Abstract: Synchrotron Radiation Generator (SRG):

The SRG consists of an evacuated tube that is formed into a circular loop and embedded in an permanent magnet in which the magnetic field is in the vertical direction (the electron orbital plane is horizontal). It is very much as same as a common cyclic accelerator only without any external electric field. In this version of SRG, the poles of the magnet are tapered to cause the field near the orbit to weaken with decreasing radius to keep the particles on the difference radius trajectory, inside the vacuum chamber. In other word, as the electron in a SRG are accelerated, the strength of the magnetic field IS NOT increased to keep the radius of the orbit approximately constant.



After emission from the cathode and after acceleration to a fixed velocity, the electrons are injected into the evacuated tube and it accelerates in the tube. The path of the particle inside the tube is therefore circular. The electrons moving in curved paths radiate electromagnetic energy. The intensity of this radiation is commonly called synchrotron radiation and these radiation carry energy away from the electron. With less energy, the electron slows down.



When the speed of the electron beam decrease, the radius of the electron orbit also decrease (a few percent) according to this formula: r = mv/qB. Otherwise, as in a common betatron where the guiding magnetic field has a fixed intensity, the electron beam slows down, the radius will decrease faster, and it will hit the inner wall faster too.

When a electron is force in to a weaker magnetic field (B) region, the velocity decrease. Yet, in this SRG, the electron beam (the charge particle) only enter the weaker B region after it HAD ALREADY slow down. Meanwhile, if the electron in the common particle accelerator, accelerate (after gaining energy) to a stronger B region (r=mv/qB), the speed would not increase by the mean of particles are accelerated by increasing the magnetic field as in a betatron.

The strong fields keep the energy loss large by guiding the electrons on hardly curved paths

When the electron almost makes a complete orbit, the electron beam enters a second region at the cyclic chamber where the magnetic field is nearly uniform, but in the opposite direction to the first magnetic field. The field will there for exert a force on the opposite direction of the original one and thus increasing the first electron orbit radius.

Then, after passing through the tiny second magnetic field region, the electron beam is once again guided back to it first circular path with it orbit radius increase starting the cycle all over again. Thus, the electron beam is force in to a stronger magnetic field region (please remember that the SRG magnetic field sharply increases with increasing radius).

As a result, the entering to an increase magnetic field region increases the velocities of electrons. The synchrotron radiation energy losses during the first cycle are carefully compensated.

Thank you a lot for spending your time reading this short message.

Original Author ----

**Guan Shou Ping** 

April 16, 2001





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Encyclopedia of free energy now on CD click for more information



click to visit our energy 21 main website.

# 6-stroke a new head design for 4-strokes



The following information has been supplied to me via a cd from the inventor Mal Beare of this motor. There have been three working prototypes that have been successfully tested using a Ducatti motorcycle in Adelaide South Australia and found to vastly superior to equally sized motor.

The inventor is now seeking finacial and other support to bring this motor to the mass market.

if you can offer assistance please contact <u>Mal Beare directly</u> or at the address at end of this webpage.

(1) The 6-stroke engine is fundamentally superior to the 4- stroke because the head is no longer parasitic but is a net contributor to, and an integral part of the power generation within the

engine.

- (2) The 6 stroke is thermodynamically more efficient because the change in volume of the power stroke is greater than the intake, compression, & exhaust strokes.
- (3) The compression ratio can be increased because of the absence of hot spots.
- (4) The rate of change in volume during the critical combustion period is less than in a 4stroke.
- (5) The absence of valves within the combustion chamber allows design freedom.
- (6) A one-piece engine from crankshaft to upper shaft becomes feasible.

No head gasket.

- (7) Fewer components, 15 per cylinder compared to 40 for a 4-stroke. Therefore the cost of manufacture is much less.
- (8) Can be fitted to standard engine blocks so the market is much larger than the OEM sector, also includes the retro fit after market sector.

The engine has proven to be robust on the race track, & have significant advantages over 4-strokes

- (a) The valving is desmodromic
- (b) There are no valves to drop or bounce.
- (c) The rev limit is only what the bottom end can stand.
- (e) Gas flow on intake increase of 20%.
- (f)No possibility of engine damage if the timing belt slips or snaps
- (g) The reed valves are so close to the intake ports that their tips become the virtual port opening. This achieves variable port area & variable engine demand valve timing. The tips open late & small amounts with low throttle settings & open early & fully at full throttle



# Description

The mass of the reciprocating parts in the head is about the same as a 4 stroke but the accelerations are much slower so energy absorption is less. The piston speed of the upper piston is about a quarter of the main piston; therefore its service life should be at least twice that of the main piston. There are no service adjustments necessary. There are no valves to drop or get hit if a timing belt snaps and the effective rev limit is only what the main piston will stand. The design has similarities to the Atkins and Miller designs in that the expansion stroke is larger than the

intake stroke.

Per single cylinder the number of parts in the Beare design head is fifteen compared to a single overhead cam 4 stroke of approx. 40 to 50 parts. The design also allows the production of a single piece engine (i.e. head cast with the block) further reducing machining and therefore costs.

The tips of the reed valves are positioned close to the intake port windows, thus achieving a similar result to variable cam timing. At low throttle & revs the petals only partly open and keep gas velocity high .At full throttle & high revs they fully open to allow maximum flow.

The exhaust disk does not touch anything and is only subject to sub atmospheric pressure, not gas flow; therefor its service life is infinite. The exhaust valve is a piston port.

The simplest layout for car engines is the flat 4 or V4, with internal central chain drive to the heads. This layout allows access to 3 sides of each cylinder, with exhaust discs each end of the motor and reed valve blocks both sides of each cylinder.

In line layouts the drive chain or belt is at the end with a row of exhaust disks down one side and a row of intake disks or reed blocks down the other side. A right angle drive is taken off the drive chain with a very light internal drive chain to the disks, or a direct drive is taken off the drive chain with light right angle drive at each disk.



# **Discussion on Theory**

According to the theory more torque is derived if the upper piston drive is advanced in relation to the main crank. This would be so if all other factors remain constant.

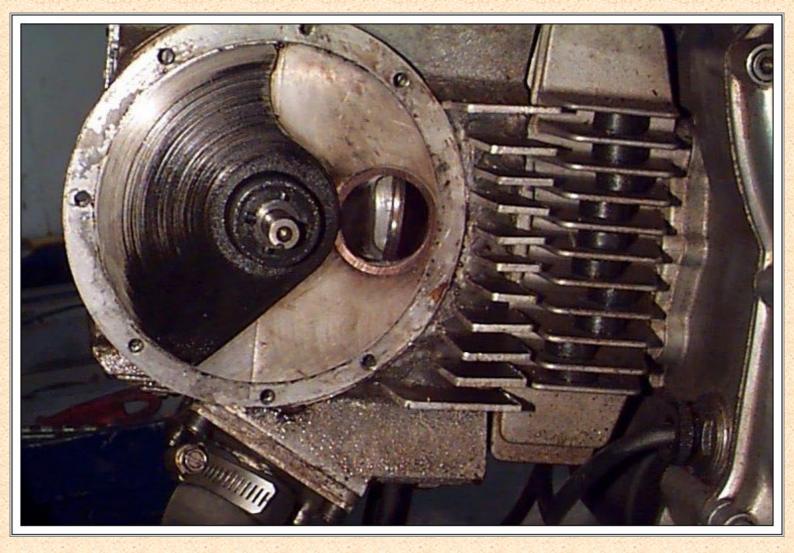
Advancing the upper piston drive has detrimental effects on valve timing, combustion chamber volume and rate of change in volume during the combustion period and total engine volume.

#### (1) Valve Timing.

The effect is to open the exhaust port earlier, reduce the amount of valve overlap and close the intake port earlier. Opening the exhaust port earlier means that the expansion stroke is effectively shortened and less energy is extracted. Reducing the amount of overlap does not allow enough time for intake to clear the combustion chamber and the exhaust extraction effect is reduced. The earlier intake port closing reduces charge filling and volumetric efficiency.

#### (2) Combustion chamber volume is effectively increased thus lowering compression ratio.

The rate of acceleration of expansion is faster in the earlier periods, contrary to the ideal of a constant volume during combustion.



#### (3) Total Engine Volume.

The effect is to reduce change in volume during intake and compression and increase expansion and exhaust, thus reducing volumetric efficiency of intake.

- If we do advance the timing we would have to compensate in the design of the engine by
- 1/ reducing combustion chamber volume
- 2/ raising exhaust port lower lip to provide later exhaust opening
- 3/ lowering intake port lower lip to provide later intake closing.
- 4/ altering disc timing to allow later exhaust port closing

In practical tests actually retarding the upper piston drive has a positive outcome on power output and efficiency, largely because it effectively increases compression ratio, reduces the rate of change in volume during the combustion period, opens the exhaust port later, increases the period of valve overlap thus utilizing the exhaust extraction effect and closes the intake port later. The negative effect of this is to increase the amount of energy input to the head, but this is more than compensated for by the positive outcomes.

To find out more on this invention visit the BEARE TECHNOLOGY web site at

#### www.sixstroke.com

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Electrical Driving and Recovery System for a High Frequency environment. Possible Version of Low voltage anode The Gray Conversion Tube Positive lead to battery high or variable resistance Rods Non conductive Spark Gap could be of supports different material as long as they are conductive Two or more copper or other shiny metal electrostatic cyclinder grids Container possibly made of glass high voltage Charge collection

### United States Patent [19]

#### Gray, Sr.

[11] Patent Number: 4,595,975

[45] Date of Patent: Jun. 17, 1986

#### 1541 EFFICIENT POWER SUPPLY SUITABLE FOR INDUCTIVE LOADS

#### [57] ABSTRACT

Disclosed is an Electrical Driving and Recovery System for a High Frequency environment.

The recovery system can be applied to drive present day direct-current or alternating-current loads for better efficiency.

It has a low-voltage source coupled to a vibrator, a trans, former and a bridge-type rectifier to provide, a high voltage pulsating signal to a first capacitor.

Where a high-voltage source is otherwise available; it may be coupled directly to a bridge-type rectifier, causing. a pulsating signal to the first capacitor. The first capacitor in turn is coupled to a high voltage anode of an electrical conversion switching element tube.

The switching element tube also includes a low voltage anode which is connected to a voltage source by a commutator and a switching element tube. Mounted around the high voltage anode is a charge receiving plate which is coupled to an inductive load to transmit a high voltage discharge from the switching element tube to the load.

Also coupled to the load is a second capacitor for storing the back EMF created by the collapsing electrical field of the load when the current to the load is blocked.

The second capacitor, is coupled to the voltage source. When adapted to present day direct-current or alternating-current devices the load could be a battery or capacitor to enhance the productivity of electrical energy.

#### EFFICIENT POWER SUPPLY SUITABLE FOR INDUCTIVE LOADS

#### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

The present invention relates to an electrical driving system and a conversion element, and more particularly, to a system for driving an inductive load in a greatly improved and efficient manner.

# 2. Description of the Prior Act

In the opinion of the inventor, there is no known device which provides the conversion of energy from a direct-current electric source or an alternating-current electric source to a mechanical force based on the principle of this invention. EXAMPLE: A portable energy source,

- I. such as a battery,
- II. such as alternating-current,
- III. such as the combination of battery and alternating-current, may be used with highly improved efficiency to operate a mechanical device, whose output is a linear or rotary force, with an attendant increase in the useful productive period between external applications of energy restoration for the energy source.

#### SUMMARY OF THE INVENTION

The present invention provides a more efficient driving system comprising a source of electrical voltage; a vibrator connected to the low-voltage source for forming a pulsating signal; a transformer connected to the vibrator for receiving the pulsating signal; a high-voltage source, where available, connected to a bridge-type rectifier; or the bridge-type rectifier connected to the high voltage pulse output of the transformer; a capacitor for receiving the voltage pulse output; a conversion element having first and second anodes, electrically conductive means for receiving a charge positioned about the second anode and an output terminal connected to the charge receiving means, the second anode being connected to the capacitor; a commutator connected to the source of electrical Voltage and to the first anode; and an inductive load connected to the

output terminal whereby a high energy discharge between the first and second anodes is transferred to the charge receiving means and then to the inductive load.

As a sub-combination, .the present invention also includes a conversion element comprising a housing; a first low voltage anode mounted to the housing, the first anode adapted to be connected to a voltage source; a second high voltage anode mounted to the housing, the second anode adapted to be connected to a voltage source; electrically conductive means positioned about the, second anode and spaced therefrom for receiving a charge, the charge receiving means being mounted to the housing; and an output terminal communicating with the charge receiving means, said terminal adapted to be connected to an inductive load.

The invention also includes a method for providing power to an inductive load comprising the steps of providing a voltage source, pulsating a signal from said source; increasing the voltage of said signal; rectifying said signal; storing and increasing the signal; conducting said signal to a high voltage (anode; providing a low voltage to a second anode to form a high energy discharge; electrostatically coupling the discharge to a charge receiving element; conducting the discharge to an inductive load coupling a second capacitor to the load; and coupling the second capacitor to the source.

It is an aim of the present invention to provide a system for driving an inductive load which system is substantially more efficient than any now existing.

Another object of the present invention is to provide a system for driving an inductive load which is reliable, is inexpensive and simply constructed.

The foregoing objects of the present invention together with various other objects, advantages, features and results thereof which will be evident to those skilled n the art in light of this disclosure may be achieved with the exemplary embodiment of the invention described in detail hereinafter and illustrated in the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

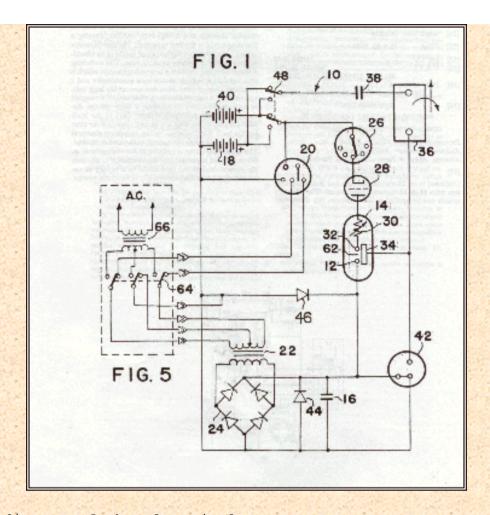


FIG. 1 is a schematic circuit diagram of the electrical driving system.

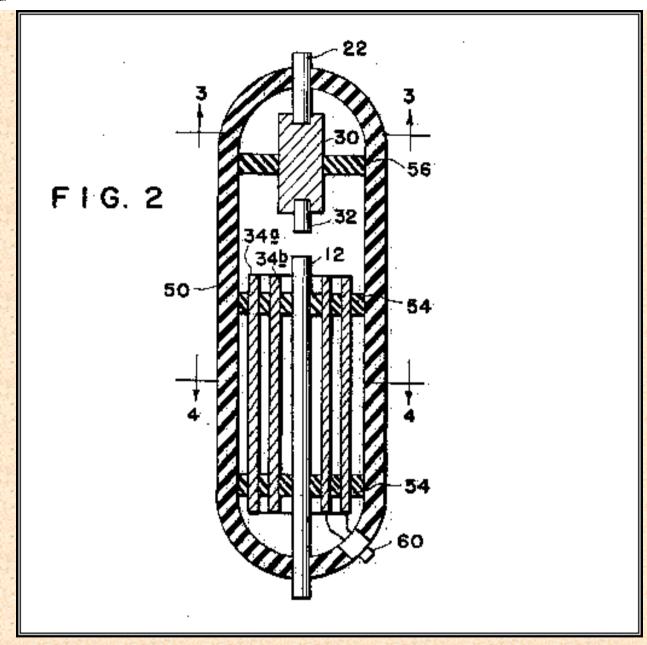


FIG. 2 is an elevational sectional view of the electrical conversion element.

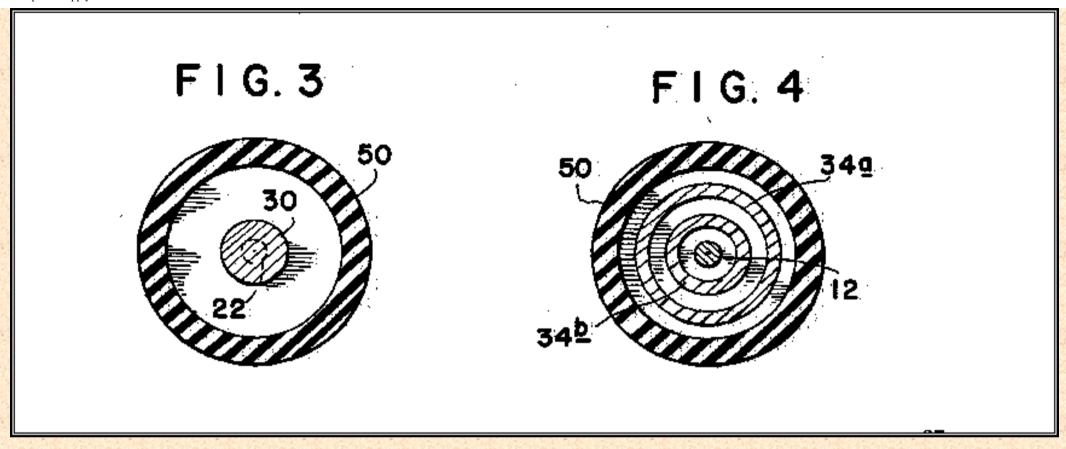


FIG. 3 is a plan sectional view taken along line 3-3 of FIG. 2.

FIG..4 is a plan sectional view taken along line 4-4

of FIG, 2.

FIG. 5 is a schematic circuit diagram of the alternating-current input circuit.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

While the present invention is susceptible of various modifications and alternative constructions, an embodiment is shown in the drawings and will herein be described in detail.

It should be understood however that it is not the intention to limit the invention to the particular form

disclosed; but on the contrary, the invention

is to cover all modifications, equivalents and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims..

There is disclosed herein an electrical driving system which, . on. theory, will convert low voltage electric energy from a source such as an electric storage. battery to a high potential, high current energy pulse that is capable of developing a working force at the inductive output of the device that is more efficient than that which is capable of being developed directly from the energy source.

The improvement in efficiency is further enhanced by the, capability of the device to return that portion of the initial energy developed, and not used by the inductive load in the production of mechanical energy, to the same or second energy reservoir or source for use elsewhere, or for storage.

This system accomplishes the results stated above by harnessing the electrostatic or "impulse" energy created by a high-intensity spark generated within a specially constructed electrical conversion switching element tube.

This element utilizes a low-voltage anode, a high-voltage anode, and one, or more "electrostatic or charge receiving, grids. These grids are of a physical size, and appropriately positioned, as to be compatible with the size of the tube, and therefore, directly related to the amount of energy to be anticipated when the device is operating.

The low-voltage anode may incorporate a resistive device to aid in controlling . the, amount of current drawn from the energy source.

This low-voltage anode is connected to the energy source through a mechanical commutator or a 'solid-state pulser that controls the timing and duration of the energy spark within: the element.

The high-voltage anode is connected to a high voltage potential developed by the associated circuits.

An energy discharge occurs within the element when the external control circuits permit. This short duration, high-voltage, high-current energy pulse is captured by the "electrostatic" grids within the tube, stored momentarily, then transferred to the inductive output load.

The increase in efficiency anticipated in converting the electrical energy to mechanical energy within the inductive load is attributed to the utilization of the most optimum timing in introducing the electrical

energy to the load device, for the optimum period of time.

Further enhancement of energy conservation is accomplished by capturing a significant portion of the energy generated by the inductive load when the useful energy field is collapsing.

This energy is normally dissipated in load losses that are contrary to the desired energy utilization, and have here to fore been accepted because no suitable means had been developed to harness this energy and restore it to a suitable energy storage device.

The present invention is concerned with two concepts or characteristics.

The first of these characteristics is observed with the introduction of an energizing current through the inductor.

The inductor creates a contrary force (counter-electromotive force or CEMF) that opposes the energy introduced into the inductor.

This CEMF increases throughout the time the introduced energy is increasing.

In normal applications of an alternating-current to an inductive load for mechanical applications, the useful work of the inductor is accomplished prior to terminating the application of energy.

The excess energy applied is thereby wasted.

Previous attempts to provide energy inputs to an inductor of time durations limited to that period when the optimum transfer, of inductive energy to mechanical energy is occurring, have been limited by the ability of any such device to handle the high current required to optimize the energy transfer.

The second characteristic is observed when the energizing current is removed from the inductor.

As the current is decreased, the inductor 'generates an EMF that opposes the removal of current or, in other words, produces an energy source at the output of the inductor that simulates the original energy source, reduced by the actual energy removed from the circuit by the mechanical load. This "regenerated", or excess, energy has previously been lost due to a failure to provide a storage capability for this energy.

In this invention, a high-voltage, high-current, short duration energy pulse is applied to the inductive load by the conversion element.

This element makes possible the use of certain of that energy impressed within an arc across a spark-gap, without the resultant deterioration of circuit elements normally associated with high energy electrical arcs.

This invention also provides for capture of a certain portion of the energy induced by the high inductive kick produced by the abrupt withdrawal of the. introduced current.

This abrupt withdrawal, of current is attendant upon the termination of the stimulating arc.

The voltage spike so created is imposed upon a capacitor that couples the attendant current to a secondary energy storage device..

A novel, but not essential, circuit arrangement provides for switching the energy source and the energy storage device. This switching may be so arranged as to actuate automatically at predetermined times.

The switching may be at specified periods determined by experimentation with a particular device, or may be actuated by some control device that measures the relative energy content of the two energy reservoirs.

Referring now to FIG. 1, the system 10 will be described in additional detail.

The potential for the high-voltage anode, 12 of the conversion element 14 is developed across the capacitor 16. This voltage is produced by drawing a low current from a battery source 18 through the vibrator 20. The effect of the vibrator is to create a pulsating input to the transformer 22. The turns ratio of the transformer is chosen to optimize the voltage applied to a bridge-type rectifier 24. The output of the rectifier is then a series of high-voltage pulses of modest current.

When the available source is already of the high voltage, AC type, it may be coupled directly to the bridgetype rectifier.

By repetitious application of these output pulses from the bridge-type rectifier to the capacitor 16, a high-voltage, high-level charge is built up on the capacitor.

Control of the conversion switching element tube is maintained by a commutator 26

A series of contacts mounted radially about a shaft, or a solid-state switching device sensitive to time or other variable may be used for this control element.

A switching element tube type one-way energy path 28 is introduced between the commutator device and the conversion switching element tube to prevent high energy arcing at the commutator current path.

When the switching element tube is closed, current from the voltage source 18 is routed through a resistive element 30 and a low voltage anode 32

This causes a high energy discharge between the anodes within the conversion switching element tube 14.

The energy content of the high energy pulse is electrostatically coupled to the conversion grids 34 of the conversion element.

This electrostatic charge is applied through an output terminal 60 (FIG. 2) across the load inductance 36, inducing a strong electromagnetic field about the inductive load.

The intensity of this electromagnetic field is determined by the high electromotive potential developed upon the electrostatic, grids and the very short time duration required to develop the energy pulse.

If the inductive load is coupled magnetically to a mechanical load, a strong initial torque. is developed that may be efficiently utilized to produce. physical work.

Upon cessation of the energy pulse (arc) within the conversion switching element tube the inductive load is decoupled, allowing the electromagnetic field about the inductive load to collapse.

The collapse of this energy field induces within the inductive load a counter EME.

This counter EMP creates a high positive potential across a second capacitor which, in turn, is induced into the second energy storage device or battery 40 as a charging current.

The amount of charging current available to the battery 40 is dependent upon the initial conditions within the circuit at the time of discharge within the conversion switching element tube and the amount of mechanical energy consumed by the work load.

A spark-gap protection device 42 is included in the circuit to protect the inductive load and the rectifier elements from unduly large discharge currents.

Should the potentials within the circuit exceed predetermined values, fixed by the mechanical size and spacing

of the elements within the protective device, the excess energy is dissipated (bypassed) by the protective device to the circuit common (electrical ground).

Diodes 44 and 46 bypass the excess overshoot, generated when the "Energy Conversion Switching Element Tube" is triggered. A switching element 48 allows either energy storage' source to be used as the primary energy source, while the other battery is used as the energy retrieval unit.

The switch facilitates interchanging the source and the retrieval, unit at optimum intervals to be determined by the utilization of the conversion switching element tube.

This switching may be accomplished manually or automatically, as determined by the choice of switching element from among a large variety readily available for the purpose.

FIGS. 2, 3, and 4 show the mechanical structure of the conversion switching element tube 14. An outer housing 50 may be of any insulative material such as glass. The anodes 12 and 22 and grids 34a and 34b are firmly secured by nonconductive spacer material 54, and 56. The resistive element 30 may be introduced into the low-voltage anode path to control the peak currents through the conversion switching element tube.

The resistive element may be of a piece or it may be built of one or more resistive elements to achieve the desired result.

The anode material may be identical for each anode, or may be of differing materials for each anode, as dictated by the most efficient utilization of the device, as determined by appropriate research at the time of production for the intended use.

The shape and spacing of the electrostatic grids, is also susceptible to variation with application (voltage, current, and energy requirements).

It is the contention of the inventor that by judicious mating of the elements of the conversion switching element tube, and the proper selection of the components of the circuit elements of the system, the desired theoretical results may be achieved.

It is the inventor's contention that this mating and selection process is well within the capabilities of intensive research and development technique.

Let it be stated here that substituting a source of electric alternating-current subject to the required current and/or voltage shaping and/or timing, either prior to being considered a primary energy source, or

there after, should not be construed to change the described utilization or application of primary energy in any way.

Such energy conversion is readily achieved by any of a multitude of well established principles.

The preferred embodiment of this invention merely assumes optimum utilization and optimum benefit from this invention when used with portable energy devices similar in principle to the wet cell or dry-cell battery.

This invention proposes to utilize the energy con-mined in an internally generated high-voltage electric spike (energy pulse) to electrically energize an inductive load; this inductive load being then capable of converting the energy so supplied into a useful electrical or mechanical output.

In operation the high-voltage, short-duration electric spike is generated by discharging the capacitor 16 across the spark-gap in the conversion switching element tube.

The necessary high-voltage, potential is stored on the capacitor in incremental, additive steps from the bridge-type rectifier 24.

When the energy source is a direct-current electric energy storage device, such as the battery 12, the input to the bridge rectifier is provided by the voltage step-up transformer 22, that is in turn energized from the vibrator 20, or-solid-state chopper, or similar device, to properly drive the transformer and rectifier circuits.

When the energy source is an alternating-current switches 64 disconnect transformer 22, and the input to the bridge-type rectifier 24 is provided by the voltage step-up transformer 66, that is in turn energized from the vibrator 20, or solid-state chopper, or similar device to properly drive the transformer and rectifier circuits.

The repetitions output of the bridge rectifier incrementally increases the capacitor charge toward its maximum.

This charge is electrically connected directly to the high-voltage anode 12 of the conversion switching element tube.

When the low-voltage anode 32 is connected to a source of current, an arc is created in the spark-gap designated 62 of the conversion switching element tube equivalent to: the potential stored on the high-voltage anode, and the, current available from the low-voltage anode.

Because the duration of the arc is very short, the instantaneous voltage, and instantaneous current may both be very high.

The instantaneous peak apparent power is therefore, also very high. Within the conversion switching element tube, this energy is absorbed by the grids 34a and 34b mounted circumferentially about the interior of the tube.

Control of the energy spike within the conversion switching element tube is accomplished by a mechanical, or solid-state commutator, that closes the circuit path from the low-voltage anode to the current source at that moment when the delivery of energy to the output load is most-auspicious.

Any number of standard high-accuracy, variable setting devices are available for this purpose.

When control of the repetitive rate of the system's output .is required, it is accomplished by controlling the time of connection at the low-voltage anode.

Thus there can be provided an electrical driving system having a low-voltage source coupled to a vibrator, a transformer and a bridge-type rectifier to provide a high voltage pulsating signal to a first capacitor.

Where a high-voltage source- is otherwise available, it may be coupled direct to a bridge-type rectifier, causing a pulsating signal to a first capacitor.

The capacitor in turn is coupled so a high-voltage anode of an electrical conversion switching element tube.

The element also includes a low-voltage anode which in turn is connected to a voltage source by a commutator, - a switching element tube, and a variable resistor.

Mounted around the high-voltage anode is a charge receiving plate which in turn is coupled to an inductive load to transmit a high voltage discharge from the element to the load.

Also coupled to the load is a second capacitor for storing the back EMF created by the collapsing electrical field of the load when the current to the load is blocked.

The second capacitor in turn is coupled to the voltage source.

#### What is claimed is:

```
1.—An electrical driving system comprising:

a source of electrical voltage;

a vibrator connected to said source — for forming a

pulsating signal;

a transformer connected to said vibrator for receiving

said pulsating signal;

a rectifier connected to said transformer having a

high-voltage pulse output,

a capacitor for receiving said voltage pulse. output,
```

A conversion switching element tube having first and second anodes, electrically conductive means for receiving a charge positioned about said second anode and an output terminal connected to said charge receiving means, said second anode being connected to said capacitor

A commutator connected to said source of electrical voltage and to said first anode; and an inductive load connected to said output terminal whereby a high energy discharge between said first and second anodes is transferred to said charge receiving means and then to said inductive load.

- 2. A system as claimed in claim 1, including
- a second capacitor for receiving a charge from said load.
- 3. A system as claimed in claim 2, including a switching element tube positioned in series between said commutator and said first anode. -
- 4. A system as claimed in claim 3, including

a second source of voltage and a switch for receiving 20 a signal from said second capacitor.

5. A system as claimed in claim 4 wherein:

said conversion switching element tube includes a resistive element in series with said first anode; and said charge receiving means is tubularly shaped.

6. A system as in claim 1 wherein said source corn-Irises a direct current source and wherein said system further comprises:

a source of alternating current; and

a switch means for selecting said direct-current or

said alternating-current power source as input to

said rectifier.

- 7. A system as in claim 1 wherein, said rectifier comprises a bridge-type rectifier.
- 8. A method for providing power to an inductive load comprising the steps of

providing a voltage source; pulsating a signal from said source; increasing the voltage of said signal; rectifying said signal; storing and increasing said signal;

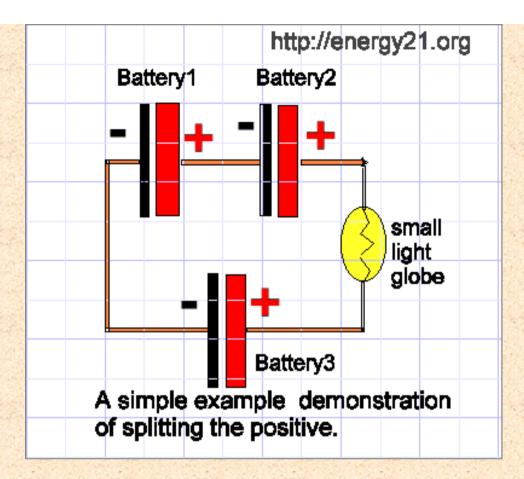
conducting said signal to a high-voltage anode; providing a low-voltage to a second anode to form a high energy discharge;

electrostatically coupling said discharge to a charge

receiving element;

conducting said discharge to an inductive load; coupling a second capacitor to said load; and coupling said capacitor to said source.

```
[76] Inventor: Edwin V. Gray, Sr., P.O. Box 362,
       Council, Id. 83612
[21] Appl. No.: 662,339
[22] Filed: Oct. 18, 1984
[51] Int.C14-------HO2M 3/42
[521 US. CI -----363/33; 363/94;
363/110; 323/207; 323/228; 323/29 1
[58] Field of Search 315/33 S; 363/32, 33.
363/76, 94, 109, 110; 323/207, 227, 228, 291
[56] References Cited
FOREIGN PATENT DOCUMENTS
2030801 3/1983 United Kingdom
Primary Examiner-William H. Beha, Jr.
Assistant Examiner-Jeffrey Sterrett
Attorney, Agent or Firm-Nixon and Vanderhye
```



It has come to my attention that Edwin Gray when describing the workings of his device used a term called SPLITTING THE POSITVE to explain how his device worked.

I have been drawn to the attention of a simple circuit as above that apparently Jerry Decker has at his website for some time that may explain the resulting action . <a href="keelynet.com">keelynet.com</a>

I have tried the experiment myself.

I would suspect the battery sizes are not critcal but personally I am going to use three six volts batteries as they seem to be the easier to connect as above.

Two Batteries are connected in series that positive lead is connected to negative lead and so on. The third battery connection negative to negative.

So now that you have two leads free that come from the positive side of the third battery and a postive lead from the other two batteries as per circuit diagram.

These two leads are then connected to a small lamp as shown in circuit diagram.

I am going use a lamp globe rated at 6 volts.

The circuit is simple enough so other reading this may like to try this for themselves and let me know how you get on. My experiments with this circuit





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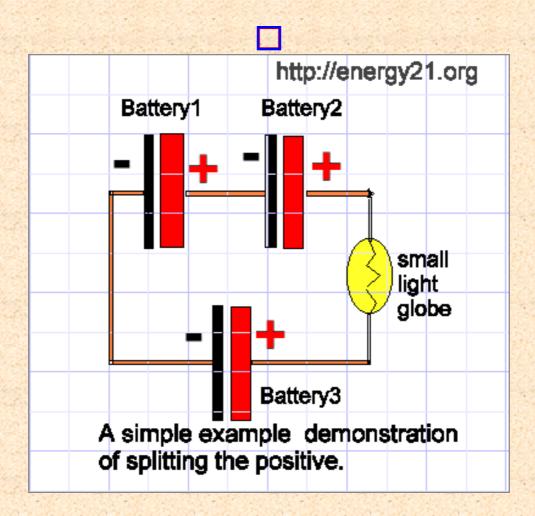
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# My Experiments with the above circuit.

Please note I believe the experiment was first performed by John Bedini

John Bedini's website

I first heard of it from I first heard of it from Jerry Decker Keelynet website.

# Components

3 six volt batteries and connect as in diagram as above.

One everyready industrial 6 volt battery

And two cheaper sweda brand 6 volt batteries.

I doubt batteries brand make any difference.

Eight small battery clips from Tandy Radio Shack

copper audio connection wire

One filament lamb globe rated at six volts.

One lamp holder to which two pieces of wire have been twisted and connected to (not soldered)

# Day one

Connected batteries as per circuit.

Although the diagram does not seem to make sense the bulb is actually connected to positive terminals.

The lamp globe lit brightly for approximately one hour and then began to dim gradually and continued to do so.

I left the light bulb connected for approximately for four hrs from 6.30pm to 10.30pm

I though that by disconnecting batteries and rearranged them I could get more power out.

Found bottom 6 volt battery total dead and was unable to continue the experiment.

# **Day Two**

Replaced the apparently dead battery and tried the experiment again

The globe glowed bright for approximately 1 hr and then started to dim as per day one..

I left the globe in placed and there was a glow of decreasing intensity for 24 hrs and then the small glow present in lamp was unable to be observed coming from the light bulb....

Disconnected all batteries and left for 6 hours. Overnight.

The batteries were placed on top of a 51 cm TV and the Television was in standby mode overnight.

No discernable connection was made between batteries and the TV

# **Day Three**

Tested all batteries separately and found all still held a good charge and lit the 6 volt globe. when connected across each of the battery terminals in turn..

I expected to find one battery total dead as per first day.

Two batteries glowed the bulb to a lesser degree than the third battery.

Reconnected batteries in the same circuit as before and at present observing reasonable bright glow.

Will see how long the globe will remain lit.

# **Day Four**

The batteries combination and globe has been lit from 8.30pm until 2.00 am the next morning the brightness of globe seemed not to dim and remained at constant intensity.

By touching the light bulb with hand does not seem to be heating up as is normal with ordinary bulb and touch battery setup.

The colour given off by light bulb seems to more of a copper red light and not the normal white bright light.

These claims are difficult to prove as I have no light measuring apparutus to make accurate measurements.

I awoke at 2.am and found the brightness had decreased and so I disconnected the light globe from circuit at this time and checked one battery and it seemed dead.

I have also noticed interference appearing on a television set nearby (approx 2 feet away) during operation of said circuit.

The interfernce does not seemed to affect our local transmitters reception situated approx 5 kilometers away from us.

But seems very pronounced on TV channels on distant channel reception on channels 7 9 and 10 The picture and reception on these channel is almost crystal clear but an annoying cracking noise and a pattern that could be caused by a high voltage discharge or a faulty switching faulty relay seems to be causing the interference, both which we don't have here.

It seems to have effected reception on channel 9 the greatest

To receive the distant TV channels we have 60 foot antenna and booster equipment and this normally enables reception on most but not all nights a good reception from these distant TV transmitters.

The three channels are located in our state capital Adeliade approx 200 kilometers from us although the distance is propably shorter cross country.

Channel seven has frequency of 181-188 megahertz channel nine has a frequency of 195-202 megaherts channel ten has a frequency of 209-216 megahertz

Australian TV stations are transmitted in The Pal format.

The television set mentioned is a 51 cm Panasonic TV.

# Day 5

At approx ten am following morning checked all batteries with light globe placed on each individual terminal an again and found all batteries have a charge enough to put out normal white glow of bulb.

The white light from each battery does not seem to have been reduced in strength from previous day

Reconnected circuit as before and found globe is still glowing although brightness is not as great as previous day and seems to be only a pin pick at centre of filament.

after one hour the globe is still burning

# Day Six and seven

It appears my observation that the battery setup was causing interference to the TV of previous day was incorrect.

The batteries were not connected for some time and interference has continued so it seems interference is coming from some other source.

The battery circuit is now only glowing very dimly and so was disconnected,

I connected the three batteries in parallel and left for six hours without a load across terminals.

Connected batteries as per circuit illustration above and bulb again glowed for approx 7 hrs and as so went dim gradually again.

Disconnected the batteries and left to stand for 8 hrs.

Recharged battery in parallel setup again for 6 hrs

Tested the Blue battery by itself by connecting globe across blue battery (in photo) terminals and tested to see how long battery and globe together glowed.

The result the lightbulb glowed for approxiamately 6 hrs and gradually reduced light output strength over this time period until battery seemed exhausted.

Tried to recharge battery using parallel connection as previously mentioned. result not encouraging and now consider this battery is know totally dead and useless.

The other two batteries remain still holding a charge and the light bulb glows about 1/3- 1/2 strength of brightness when placed across each set of battery terminals as compared to when the batteries were brand new.

#### **Experiment has now concluded.**

From my observation it seems that something interesting is happening

Normally I would have expected all batteries to be totally dead by now.

What I'm not sure ,but I encourage you to the experiment for yourself.

If you have performed this experiment yourself I would like to know what your results were.

### Author of this article

Please make copy of article and pass it around to intereted friends media etc

Geoff



My battery test set up

Some additional information on the construction Edwin Gray's conversion tubes

Edwin gray answer to free energy

want to know more about The testatika

some interesting conclusions about the testatika

If you try some of the experiments related as above please let me know how you get on.

# Geoff







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Please note the following information has been copied from

Jerry Decker's keelynet website with kind permission

# Ed Grays Power Conversion Tube courtesy John Bedini - 06/05/01

Peter Lindemann has discovered an important connection between the mysterious power conversion tube patented and used by Ed Gray with his high voltage pulse motors and Teslas use of unidirectional pulses to produce a wide range of phenomena as detailed in his new book and video which are available on his website.

Additionally, Peter has posted many historical files about Gray, Tesla and other correlations to get the ball moving to try to rediscover and duplicate the phenomena demonstrated by Ed Gray.

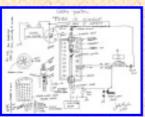
Peter will be lecturing on this subject in his 'World of Free Energy' presentation at the KeelyNet Convergence conference on June 16/17, 2001 in Dallas as posted at http://www.keelynet.com/knconf.htm.

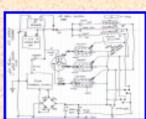
Conference registration is still open for online purchase, through the mail or directly at the door on Saturday morning. Two of the original Ed Gray motors will also be shown and another version developed by Doug Konzen will be demonstrated.

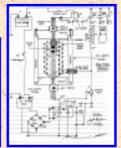
The following series of email exchanges are from the <u>KeelyNet</u> <u>Interact discussion list</u> as so very kindly shared by John Bedini and Robert Calloway. John further ripped the veil of secrecy on the power tube by sending his 1979 experiment photo and lab notes for everyone to study.

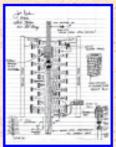
Click to see the full screen image











From: Jerry W. Decker

To: John Bedini

Sent: Friday, June 01, 2001 9:21 PM Subject: yep, we dragged you into it...

http://www.escribe.com/science/keelynet/m10194.html

From: Jerry W. Decker
To: interact\*keelynet.com

Sent: Saturday, June 02, 2001 7:50 AM

Subject: [Keelynet] Re: Lindemann on the World of Free Energy

#### Hi Folks!

Received the following from John Bedini regarding Grays coils, the power conversion tube and what is going on with the motor;

#### john1 wrote:

Jerry - You can drag me into this all you want, The answers have been given to everybody, every time I posted something with you, AS I SAID BEFORE THERE IS NO SECRET TO GRAYS MACHINE I DO NOT KNOW WHAT IS SO MAGICAL ABOUT A HIDDEN TUBE THAT GRAY HAD. I have given Peter the lab notes from my files on gray's tubes when Ron and I went to visit him. Peter came to visit Me he knows what I can do with My machines. I asked him kindly to not say anything that I was working on, this was my own request until I'm ready.

Back to gray's tube and motor. I have given peter My lab notes on this tube He has my permission to do anything he wants with them. Peter has given you all

the answer not only in his book but in your discussion group, but once again, "WE ARE ALL BLIND".

First of all the motors shown on the internet are something different Gray was working on. """"" THE COILS ARE NOT THE SAME AS THE MOTOR I HAVE SEEN IN THE EARLY DAYS""""" what does this say to everybody??????

Can anybody answer Me as to how these tubes work,,, NO BECAUSE YOUR LOOKING FOR THEM, YOU WON'T FIND THEM, and no one can make them if you do not understand them. TESLA USED THE SAME TUBES THAT RAN HIS CAR!!!!!!!!!.

I have also said that the school girl motor gave all the answers to the problem of free energy. Their is not going to be any kit that somebody can buy at radio shack, Research into this field takes real hard work. The Swiss machine uses the same tubes, WHY BECAUSE THIS IS THE ONLY WAY TO CHANGE THE FORM OF ENERGY TO SOMETHING USEABLE.

Splitting the Positive what does this mean, it means that one lower form of positive energy is transformed into a higher form, but they are the same potential energy except useable now to do work "REAL POWER IN WATTS" or if you would say AMPS times VOLTS.

I have made he statement to you before about the way everybody gets the FLUE the stuff that makes you sick, you just don't just get it, takes "TIME" Time is the key factor in pulsed motors(""" GRAY""")....

IT TAKES TIME TO STORE THE CHARGE TO SOME POTENTIAL BEFORE YOU CAN USE IT FOR DISCHARGE into something. Into something meaning a storage battery or some load that the meters can measure. Closing the loop YOU CAN'T, free energy does not work this way, loops are never closed in any machine that's over unity.

THE TWO ENERGIES ARE DIFFERENT because the two POSITIVES ARE DIFFERENT they are at the same potential but one weak, one collected and strong in discharge. Stored charge, Time, discharge to something, no closed loop, these are the keys to free energy, and it's not free you must work to get it. By the way the motor runs without the tube, just a little stronger with it and time delayed.

Someone answer how the tubes work and we will have a real discussion on Gray, and then comes a picture of a pro-type tube taken with a digital camera that I built some time ago for a different machine. And you can post this..

John

[Keelynet] Re: Lindemann on the World of Free Energy

From: Robert Calloway

Date: Mon, 4 Jun 2001 21:53:21

Hello Jerry and all, Having spent countless hours studying and building John Bedini's motors, I think some confusion exists between John's explanation of what is not being understood and Tom Bearden's explanation of what is going on in these motors.

This email is not intended to debunk either one of them, only to try and explain how his design of motor works from my point of view.

If one has never built a pulsed motor you will not realize what is being overlooked until having done so. S1 has always held the secret in John's schematics, and I followed right along behind him in my drawings.

If you place a arc gap at S1, a increase in voltage occurs. If you collect S1 in a capacitor and time it to discharge into ANOTHER battery via a arc gap (getting it out of the loop) the potential is multiplied.

How much is how long you TIME the wait. What some fail to see is these motors use sparse milliamps to run compared to the output at S1 if stored in a capacitor and TIMED to release through the arc gap into a different battery.

THAT'S THE SECRET. John shows this in several of his schematics everywhere on the web. If you release the stored energy in the capacitor back to the working or same battery, the excess will "ghost", you will never see it.

John has got it very correct..STORED CHARGE, TIME, DISCHARGE, NO CLOSED LOOP. How this happens? I don't know, but it works.

S1 shown at: http://www.keelynet.com/bedmot/callow1.htm

Regards, Robert H. Calloway

From: Jerry W. Decker

To: John Bedini

Sent: Monday, June 04, 2001 9:40 PM

Subject: [Fwd: [Keelynet] Re: Lindemann on the World of Free Energy]

Hi John!

Thought you might like to see this which Robert posted to the list....seeya!

#### width=540 border=0>

From: Jerry W. Decker

Date: Tue, 5 Jun 2001 00:29:08

#### Hi Folks!

John Bedini wrote this about Robert Calloways post, rather flattering to Robert methinks...he wanted it posted to the list so here it is;

#### john1 wrote:

Jerry - This is the best I have seen, Robert has got it so you guys win the tube and how it works, Robert is right now it's time to understand how you get the energy, the energy is produced in the back EMF or the spikes only, but they are not useable until they are converted by the cap for discharge into a secondary battery but at the right time.

So here it is EV Gray, He knew this so He had to developed a different standard A new motor with more inductance in the coils, No re-charge coils are needed because the power coil supplies all the energy in spikes, You know the thing every engineer shorts out with diodes because it burns out their circuits. You can produce free energy any time if simple rules are followed.

Their is no hidden trick here. depending on how much energy is needed this is all timing to produce the correct voltage level for discharge into the battery, I have said you can not close the loop so therefore the 1 watt challenge is out and has no meaning except to confuse everybody and through you off the track.

Robert is right in saying that you are just ""Ghosting"" to feed back to the same battery.

#### The Tube

If you study the EV Gray tube you will see that the tube uses two electrodes, a high voltage electrode and a low voltage electrode the low voltage side is on the primary battery and the high voltage side is on the 3000volt side when a arc is drawn from the timing rotor this completes the circuit between the two positives, one from the inverter and one from the battery positive all grounds are connected to the same point. now subtract the differenceof the twelve volts and you have the real voltage or 2988 volts, but this is high voltage and can not be used so the conversion takes place in the tube on the grids.

The ARC is emitted electrons (which) fly off the electrodes and get stored on the grids this is the cold Electricity Gray talked about and how it was collected.

If this is true then an antenna connected to a coil of so many turns is rectified and stored into a laden jar cap.

The gap on the tube is set to say 1/32, when the discharge takes place the cold electricity sent out through the grids to the storage battery you are charging and you do this for free. And you did not close the loop to short it out.

Gray was too close to providing the world with free energy with just an antenna of any kind,,,,,, SO THEY KILLED HIM.

So we have the Swiss machine that works the same way, we have Grays Machine, and we have the car that Tesla built that works the same way. They all use the same tube just different variations.

You can make this anyway you want to experiment with, I used this as a medical machine with light currents for treatment with one electrode.

Good going Robert, Have fun. - John

Try this experiment, take three flashlight batteries put two on one side in series and one on the other side connect the two negatives together, now between the two + poles connect a light, this is splitting the positives. This has been on my pages forever, but nobody unerstood it.

Jerry please post this for the group.

Subject: Re: [Keelynet] Re: Lindemann on the World of Free Energy]

Date: Tue, 5 Jun 2001 00:51:16 -0700

From: john1

To: Jerry W. Decker

Jerry - You do what you want with the picture, this tube is very hard to make requires milling machine to do and no it's not My version It's grays tube this is what was hidden inside of the Swiss machine and what Tesla used also Gray I will send you the lab notes, but I'm sure Peter will give them to you.

Robert is the one, He did real good in the answer. post the tube if you want these tubes are about 3" in diameter grid spacing is 1/4 " between grids 5" long 1/4 inch brass rods with silver gaps.

John Bedinis website - many of his experiments

Peter Lindemanns website - Ed Gray and free energy info

## **Doug Konzens website - Konzen pulse motor details**





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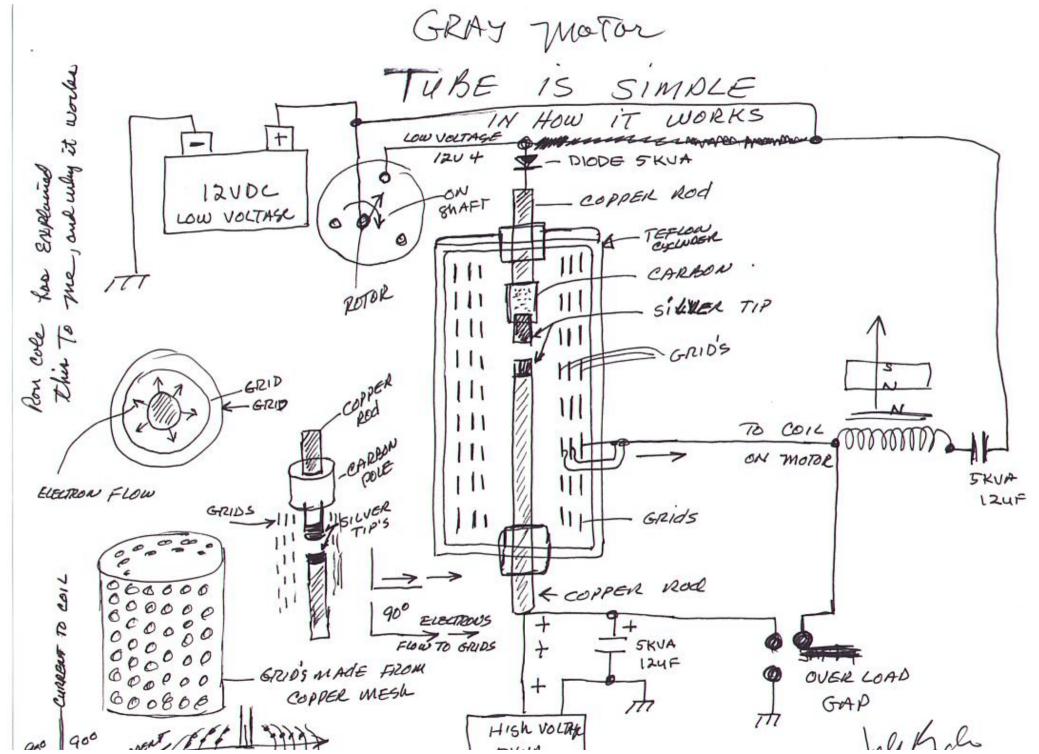


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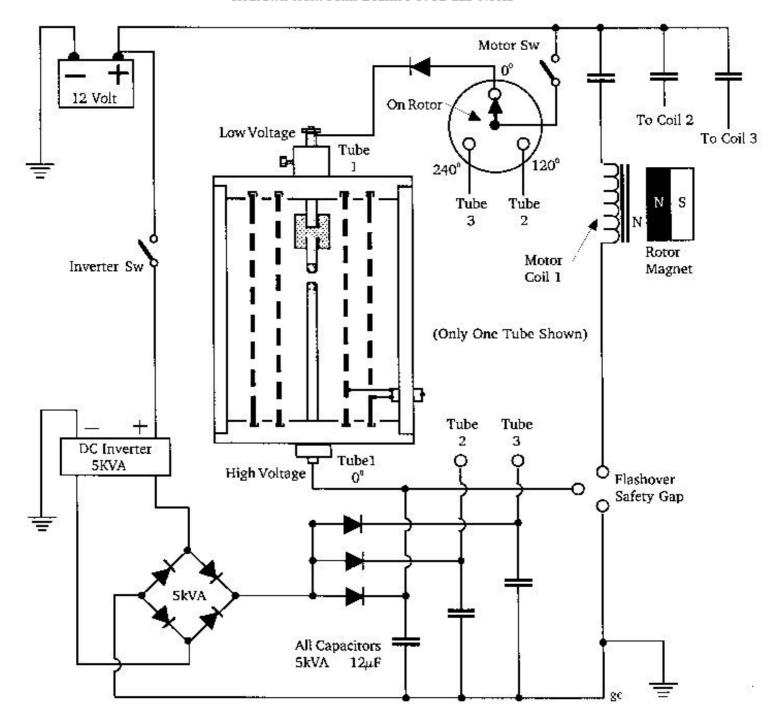
http://geoffegel.tripod.com/edgray1.jpg

98 900 DECEMBER OF FIELD IN ELECTRONS SPARK

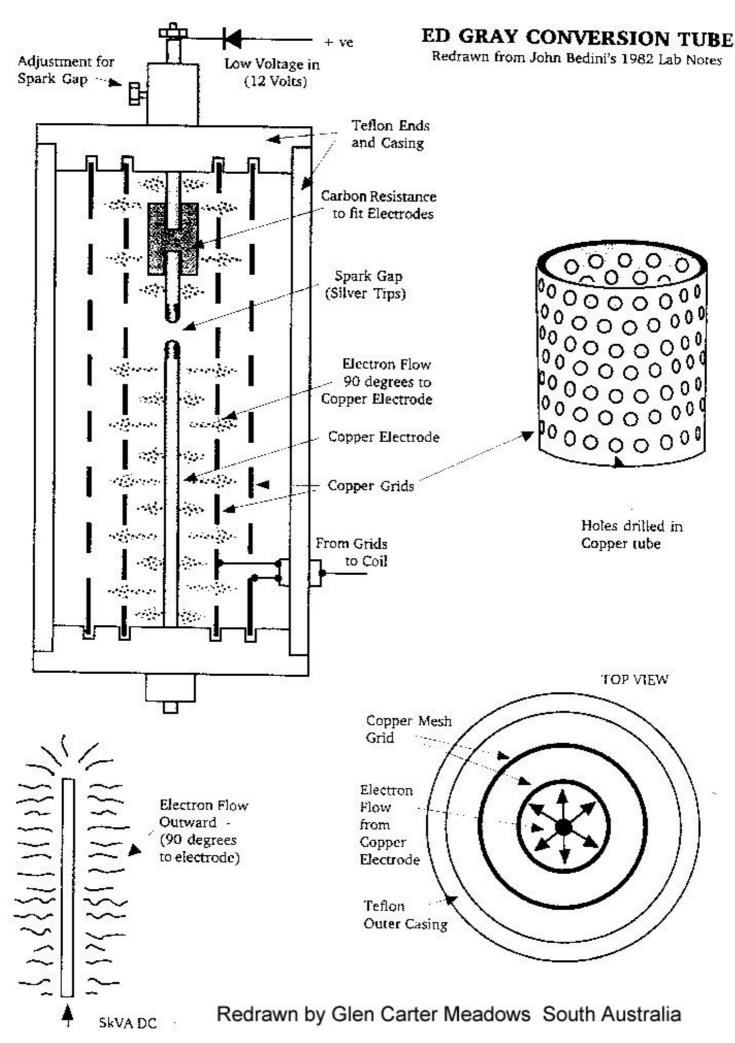
0 1979

## **ED GRAY MOTOR**

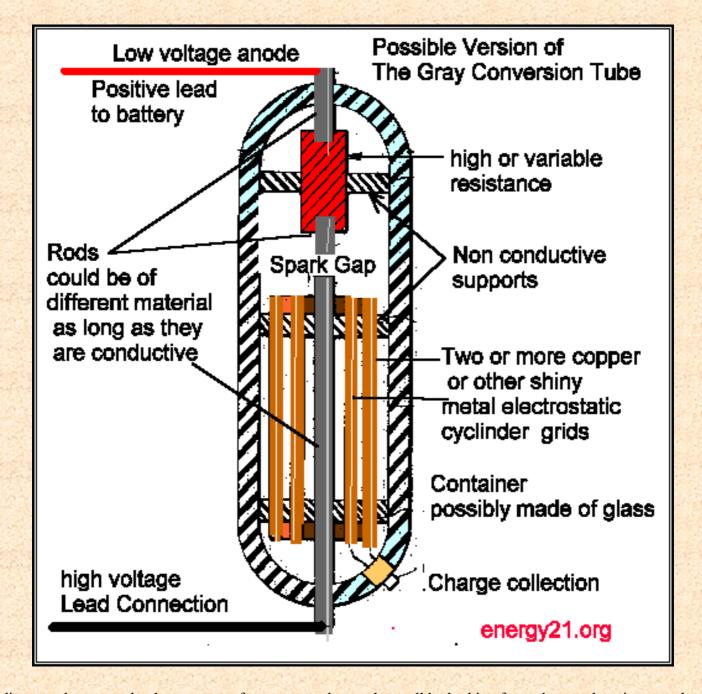
Redrawn from John Bedini's 1982 Lab Notes



Redrawn by Glen Carter Meadows South Australia



## THE ANSWER



This diagram above may be the answer to free energy, that we have all be looking for and an explanation as to how the Ed Gray Device may have worked

. And thanks to Peter Lindemann DSc, and his patent search into additional material of Ed Gray Patents of which it seems no one was aware until now, seems to have. uncovered something we may all now use to make some headway in our experiments towards getting free energy.

This article can only be a brief outline on how it works, for a more comprehensive explanation I suggest you get the book or video entitled the Free energy secrets of cold electricity by Peter or visit the following Free-energy cc website

the answer as to how the Ed Gray Device and Testatika free energy machine may work

for more information.

I have also added the Gray patent from which Peter gain some insight giving as to how the Ed Gray conversion tube may have worked.

This is an <u>additional patent</u> to the one many have seen of motor and gives some additional information on the electrical generation involved in its running.

It seem now the secret to unlimited electrical energy will rest of us understanding the diagram and the information contained in Ed Gray additional patent material as presented here..

The conversion tube device is it seems powered from a high voltage DC source of several thousand volts and is fired in a pulses of extremely short duration and in a rapid succession and not allowing the power to reverse it direction of flow.

The secret seems to be also in the way a high voltage discharge occurs across the spark gap causes a powerful disruption to the space and in the area occupied by the metal elements or shields.

It is not known what material these metal electrostatic elements were made of or how thick they were ,but a shiny metal copper is assumed to have been used .for these electrostatic elements ,although stainless steel would probably also work as well.

The metal for the spark gap rods is probably made of something common as well, and may consist only of one type of material ,but I have heard via the web that spark gaps are known to work better when they are comprised of two different metal types, for example lead and iron, this may also be case here as well

The voltage must be able to travel in one direction and not be able to oscillate and find an energy balance level and cancel the effect we are looking for...

If you have access to the twin books of The Nikola Tesla Patents, Lectures and articles check out his work on his pulse experiments, I have unitil now assumed they were something to do with his high voltage high frequency experiments, It seem that I like others have misunderstood it, and that these experiments do indeed hold the secret to free energy.

Some of the results that Nikola Telsa seemed to have observed, was the formation of unusual light displays after high voltage discharges ,that it seems headed out into space. ,It is interesting to note now and just recently that natural lighting observers have just become aware of unusual light manifestation called sprites jumping into space after a powerful natural lightning discharge.

The big cans of the Testatika may also be a version of this spark gap tube arrangement, the Wimshurst part of this well know machine within the free energy scene, is quite capable of generating the electrostatic charge needed and could also be the secret that up to know has been kept hidden from the rest of us,.

Could it be really as simple as the diagram above..

It is common knowledge that when a terminal is closed on high voltage dc power circuit there is enough energy released at time of circuit closure to kill the person throwing the switch unless special precautions have been taken (where did this excess energy come from ) after the contact switch has been successfully thrown the danger is no longer there, the system now acts as it was safely designed too.

The following information has been taken from the Book The Free Energy Secrets of Cold electricity by Peter A. Lindemann, D.Sc

Published by Clear Tech inc P.O.Box 37 Metline Falls WA 99153

## **Summary of The Electro-Radiant Event**

- 1. The Electro-Radiant Event is produced when a high-voltage, direct current is discharged across a spark-gap and interrupted abruptly before any reversals of current can occur.
- 2. This effect is gready increased when the source of direct current is a charged capacitor.
- 3. The Electro- Radiant Event leaves wires and other circuit components perpendicular to the flow of current.
- 4. The Electro-Radiant Event produces a spatially distributed voltage that can be thousands of times higher than the initial spark discharge voltage.
- 5. It propagates instantaneously as a longitudinal, electrostatic "light-like my" that behaves similarly to an incompressible gas under pressure.
- 6. Electro-Radiant effects are solely characterized by impulse duration and voltage drop in the spark-gap.
- 7. Electro-Radiant effects penetrate all materials and create "electronic responses" in metals like copper and silver. In this case, "electronic responses" means that an electrical charge will build up on copper surfaces exposed to Electro-Radiant emissions
- 8. Electro-Radiant impulses shorter than 100 microseconds are completely safe to handle and will not cause shock or harm.
- 9. Electro-Radiant impulses shorter than 100 nanoseconds are cold and easily cause lighting effects in vacuum globes.

#### A email message from peter

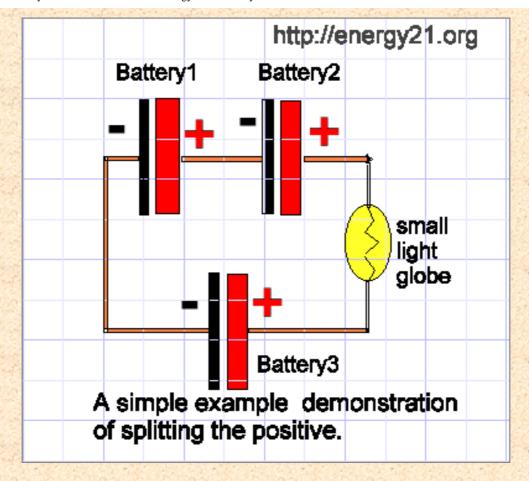
Thanks for linking to my site. I really appreciate the support. Just a note to clarify your excellent diagram. The top electrode in the tube actually is connected to the positive of the battery, not back to the "high voltage source" as you indicate. Gray called this his "low voltage anode."

Also, from the photographs we have, it looks like Gray had at least 4 grids in his tube. We're making a lot of progress. One friend of mine fried a 1000 amp meter with an impulse from a system whose input was less than 12 watts. Another person reported to me that he had so much electro-radiant event backing up in his primary, it kept his capacitor charged, and the system kept running even after he shut off the supply. We are definitely getting close.

I'll keep you posted. Thanks again for the support!

Sincerely, Peter Lindemann, DSc

 $http://geoffegel.tripod.com/the\_answer.htm~(3~sur~5)19/09/2004~23:26:47$ 



It has come to my attention that Edwin Gray when describing the workings of his device used a term called SPLITTING THE POSITVE to explain how his device worked.

I have been drawn to the attention of a simple circuit as above that apparently Jerry Decker has at his website for some time that may explain the resulting action . keelynet.com

I have tried this experiment myself as per link below.

I would suspect the battery sizes are not critical but personally I am going to use three six volts batteries as they seem to be the easier to connect as above.

Two Batteries are connected in series that positive lead is connected to negative lead and so on. The third battery connection negative to negative.

So now that you have two leads free that come from the positive side of the third battery and a postive lead from the other two batteries as per circuit diagram.

These two leads are then connected to a small lamp as shown in circuit diagram.

I am going use a lamp globe rated at 6 volt's

The circuit is simple enough so other's reading this may like to try this for themselves and then let me know how you get on.

My experiments using the above circuit

If you try some of the experiments related as above please let me know how you get on.

Geoff





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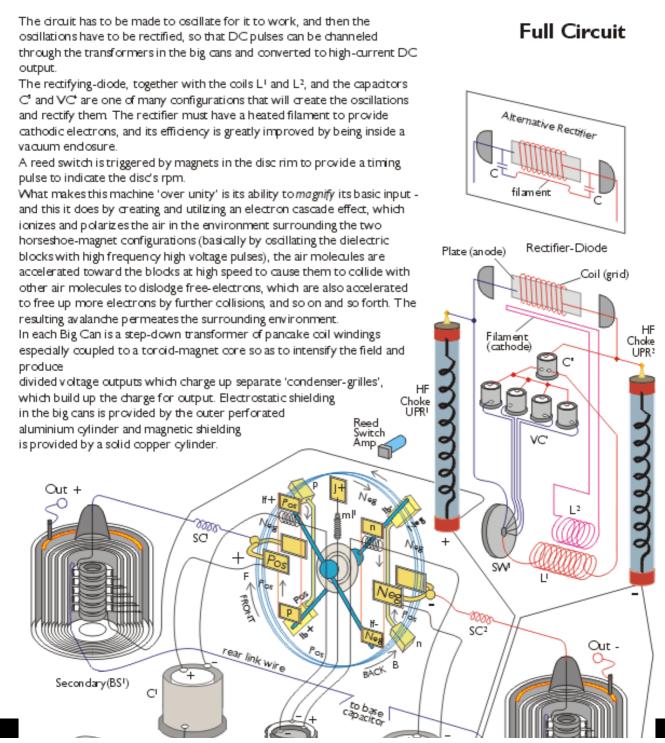


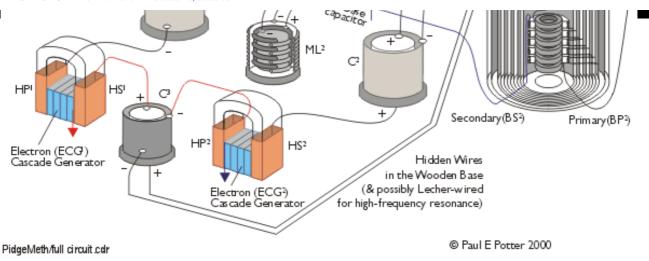
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#### **Back-Engineered Methernitha**

That the Swiss Methernitha group's Testatika machine is thought to be based on a Wimshurst electrostatic generator, is only a sparse approximation of the truth – of the great multitude of electrostatic influence machines developed around the 1900's it more closely follows the charge-separation-and-collection system used by the 1898 Pidgeon machine [note 1] for its electrical circuit.

Its 50-per-disc steel grilles or 'gitter-grilles' are plainly unique to the Methernitha (see <u>fig.1</u>) but in principle follow on from previous research and patents for corrugated sectors which were found to be more efficient charge carriers <u>[note 2]</u> than flat ones, and from a similar example in more recent times of aluminium rods extending out like wheel spokes from an insulating hub of perspex <u>[note 3]</u>.

Another unique function of these perforated grilles attached to the discs is how they induce charge from the rotating discs onto the special collecting pads, or 'tasten' antennae keys (which are also perforated – so as to more readily pick up charge); for in a Wimshurst you had conductive brushes or rails of sharp points which actually touched the discs or were placed very close to them, but in the Methernitha the charge has to be made to traverse a parallel air-gap to the pads and for this purpose the metal gitter-grilles are so designed to create miniature eddy-currents of charged air which circulate in and out of the perforated metal's surface charges, and are more easily bounced out to the collecting pads. This process is categorised as VARIABLE CAPACITANCE electrostatic generation.

Careful note needs to be made of how the Methernitha uses its basically Pidgeon setup with regard to its neutralising rods (that equalise and stabilise the opposite charges – see <u>fig.2</u>), and how charges are picked up from one area and accumulated at others, so that the polarities of charge are distributed correctly to specific areas on both discs <u>[note 4]</u>.

And although there have been some fanciful claims, or misinformation, that it uses all sorts of radioactive materials to achieve its pulsed output I most strongly believe that the auxiliary

electromagnetic circuit, that wraps itself around the rotating discs, portrays a simple electronic approach; afterall, who would use radium radioactive emission alongside leyden jar capacitors! Indeed, the more you look into certain elements of its construction the more they point to three main eras of electronics development, the 1900's, the 1920's and the 1950/60's. The authentic Methernitha was designed and developed by purists who believed they had discovered a previously unknown electronic phenomenon, but they wanted to keep an integrity to the early pioneering days of the Pidgeon, Wimshurst and Holtz electrostatic machinery; they would not use such modern devices as transistors or IC chips (more's the pity) – but they do use some pretty uncommon electronic engineering in their circuit [note 5].

Obviously, the electronics are in two parts; one – the electrostatic generator and its particular technologies of how to direct what charge where, and two – the very unique auxiliary electromagnetic circuit of inductances, capacitances and rectification that mobilises that 'static' electricity. To understand how they convert static energy into an electromotive force you would do well to go back to the earliest years of radio. From the pages of spark radio you soon appreciate just how important oscillation circuits and their valve rectifiers were, and moreover, how difficult it proved to engineer them. For although radio transmitters and receivers from the 1900's used resonating circuits their oscillations were controlled by sparks between two contacts and, of course, they were relatively inefficient. Not until the 1920's did the first electric current oscillations become an observable, controlled, phenomenon when someone coupled a rectifier valve, a capacitor, and a resistor together [note 6]. The early 1920's also saw the best era of experimentation and invention for novel devices that turned static energy into useable electromagnetic energy; it was in a 1921 patent that we see a German physicist Hermann Plauson describe in great detail his methods to convert static power, not only from rotary influence machines but also from balloons collecting atmospheric electricity up in the sky; and by using thermionic rectifiers, leyden jar capacitors and inductor coils he proposed a free-energy network that was to power the whole of Germany [note 7]! The thermionic rectifier valve heralded a new era for radio and high voltage physics, and as it was then subjected to such a broad array of experiments and modifications to improve its efficiency so it paved the way for all sorts of new avenues in electronics. Indeed, with such a technical catalogue of similarities with what we see in the available photographs of Testatika it can be assumed without doubt that the horizontal glass tube which sits on top of the Methernitha machines is exactly what a home-made vacuum thermionic rectifying valve would look like; with its internal anode mesh-plate, surrounded by a coiled copper grid, fed by a glowing (heated) cathode wire running horizontally across its centre and capped by two black end-pieces, which are too big and bulbous to be mere end-caps and must surely be black rubber vacuum seals to seal the glass tube and the input/output wires [note 8].

With such a rectifier, some induction coils, and some leyden jar capacitors you have a circuit that oscillates, and that's what has to happen with a Methernitha, the electromagnetic circuit has to oscillate for it to work, and then the oscillations have to be rectified (or even modulated) so that the resulting single-pole pulses can be channeled through the big cans, which are basically high-efficiency transformers, and outputted as reduced voltage higher current DC pulses (see fig.3).

The precise components used to oscillate the primary oscillating circuit are, I believe, not to be seen in any of the available photographs, but there are various hints for their approximate whereabouts on the machine. Firstly, according to electronic design there should be a capacitor and coil configuration in close proximity to the rectifier. Well, from the picture "3KWREAR" can be seen the two long upright tubes which, according to those who have seen them first-hand, comprise a spirally turned aluminium strip (which indicates they are chokes [note 9]) inside a glass tube, inside the same sort of outer shielding that the big cans have (which indicates they are electrostatic shields), inside yet another glass tube, and are terminated at the top with a brass connecting rod which does a right-angled turn and passes into the side of the tower – but only two-thirds up the height of the tower. These two assemblies must form a connection to the rectifier, because the rectifier is at the top of the tower, so why don't these electrostatically sensitive tubes extend all the way up to it? Again, from the photographs of the rear and front of the Methernithas there is a wire that comes out of the tower's side wall at about 4 inches above the upright's brass terminals and this wire then passes through a short black tube and on to the rectifier valve. This, of course, would happen on both sides of the tower, enabling a connection to both ends of the rectifier. But why have this 4 inch gap of connections at the top of the tower? Something is placed

inside the top of the tower in this intermediate space which is very necessary to the circuit, and I think it must be the location of the capacitor/inductor configuration to oscillate the circuit. This (<u>fig.4</u>) is how I would see the inside of the top of the towers [note 10].

I've seen some of the patented inventions that rotate discs - by using magnets (ie H.Rosenberg's permanent magnet excited rotational machine, US patent 3,411,027), and by utilising inscribed metalised discs (US patent 3,239,705 for instance), but there simply isn't enough room for these to be located in the Methernitha disc setup – also, you don't want to interfere with the ES fields that zip around the revolving discs: From the reports of those who have seen the *small machines* working it appears their discs were rotated by small DC electric motors after they were hand-started, some re-wound with thinner wire (to presumably increase their torque) and powered directly from the discs' generated electricity – but I have also seen how two discs can continue to rotate simply by careful placement of curved electrodes [note 11] which would act on the charges on the discs – like the 3kw Testatica Distatica generators.

After reading through the many early accounts of electrostatic rotary machines, and some of the more recent ones, you can't help but be puzzled by the Methernitha's incredibly low rotational speed of just 60 rpm (and in the 1999 engineers report as low as...15 rpm!). Most other early experimenters boasted up to 3000 rpm, J.G.Trump in his work on high voltage generation in space [note 12] spun his rotary machine at 10,000 rpm (to produce 433 Watts at 24 KV no less). One reason for this low speed might be to do with the close proximity of the 50 lamellas (gitter-grilles) on the discs at their inner ends, they are very close together, I think too close. Air, normally an insulator, breaks down and conducts at around 25-35 KV (this figure has been fairly constant from day-one of electrostatic machine experiments right through to the present day – because air has a breakdown field strength of  $3x10^6$  volts/metre) and short-circuits the circuit. I feel that because this design of grilles is prone to short-circuiting at high voltages the Methernitha people have limited their rotational speed so as to ensure a low operating voltage – of what I'd guesstimate to be only 12 to 24KV.

But, is this a waste of extra potential? Not necessarily...For I don't think that the main power output comes solely from what the two contra-rotating discs supply.

There is, I believe, a far more important power generator...the *electron cascade generator*, and the Methernitha has two of them, held inside the two horseshoe magnets, and providing the circuits to the magnets are made to oscillate at the right frequency at a high enough voltage then these metalised-perspex laminated blocks can enmass A MUCH LARGER AMOUNT OF ELECTRICITY THAN WHAT IS PUT INTO THEM.

This, perhaps, is the previously unknown electronic phenomenon that the Methernitha group have so zealously been trying to protect against unscrupulous entrepreneurs. But I would say that this copious supply of free energy is already known to the world - it is not readily available - and its principles are not fully understood, as yet, but it is known about.

As the descriptions say (on the <u>Testatika website</u>), between the horseshoe magnet legs are four blocks of transparent 'plexiglass' type material alternated with copper and aluminium plates (that may or may not be perforated), in the sequence c-p-a-c-p-a-c-p-a (also see <u>fig.6</u>). And according to the <u>Linden Experiment</u>, where Paul Baumann induces a resonance of about 80-140 MHz in a coiled horseshoe and then has an aluminium-insulator-copper block moved between the horseshoe legs, a voltage could be taken off the plates of the block which measured 700 volts (DC presumably) <u>[note 13]</u>. This incredible phenomenon has never been replicated by any 'outside researcher', and is said to be the basis by which the Methernitha machine could be understood how to work [the clue, possibly, to this principle may be <u>variable-capacitance and dielectric-absorpsion]</u>.

But what, I hear you say, is an **electron cascade**... Well, it was only by chance, very recently, that I happened to listen to an audio tape by a Dr. Flanagan about crystal water; when I switched the tape over after the end of side one Dr. Flanagan then began talking about an electronic configuration that applied a high frequency, high voltage alternating field across an insulator – that created what he called an <u>electron</u>

cascade effect – Yes, I thought, here is the answer to the Methernitha Machine.

The electron cascade or avalanche effect is where air molecules are accelerated to the device at such a high velocity that they collide with other molecules and atoms in the air to liberate new electrons which in turn also collide and liberate even more 'free electrons' from other air molecules (see <u>fig.5</u>), all of which become accelerated by the electric field, and an avalanche of electron-multiplications progresses throughout the whole immediate environment [note 14]. It's a chain reaction, and an entirely safe one, it happens in a more ferocious way in lightning strikes, and is a natural phenomenon. And, as in this case, the environment actually becomes part of the circuit [note 15] because the process is actually negatively-ionising the air surrounding the Methernitha machines, and that is why those who have been near these generators when working say the air around about them is cool and fresh [note 16].

In view of the fact that it's designers have chosen to wind insulated wire (which may be bifilar [note 17]) around the horseshoe metal [note 18], it would be very possible to draw the extra electric current produced directly from the electron cascade blocks, with suitable connections that might lead downward into the wooden base (where it is believed that an alternate layering of perforated metal plates and insulating plates - making up a large high-voltage storage capacitor - is located). This power could then be discharged as a pulsed output of high wattage, especially if configured as a **Pulse Forming Network** [note 18].

The two big cans at the side, are probably not highly technical (see fig.7), once the fundamental formula has been decided upon all models of a testatika generator would follow a similar construction process. The written descriptions are a little contradictory but they seem to suggest a central input rod, or tube, connecting at the bottom of the cans to a stack of inter-linked pancake coils, that are wound secondary-outside primary-inside, fitted around a core of 6 hollow donut-ring magnets stacked in such a way with plastic spacers as to allow air gaps between them, and then finally the output of each can is a connection from the top coil of the secondaries of the pancake coils to a brass ring around the centre of the black plastic top lid – and from the photographs can be seen a large diameter wire or tube [note 19] connecting that polarity's output terminal to the top lid's brass ring via a brass screw terminal. I would suggest that the ring magnets (of anistropic ferrite perhaps) are gapped in this way to prevent the magnetic flux fields of the pancake primaries co-joining as one sprawling field, because it would be more advantageous, and safer, to have each separate pancake's magnetic flux cut it's own adjoining secondary coil, and divide the secondary output voltage into smaller amounts of potential, thus depending less on complicated insulating procedures that accompany high voltage single primary / single secondary transformers.

The use of aluminium mesh and solid copper sheeting is commonly used in electronic construction; the outer aluminium mesh cylinder would be used to shield stray electrostatic charges, and the solid copper cylinder is to shield the large amount of stray electromagnetic fields produced by the transforming process from high voltage/low current to lower voltage/higher current [note 20], obviously they don't want field contamination taking place between the sensitive electrostatic generator and the transformers. In the red wired can the transformer is wired to output negative, and the blue wired can's transformer is wired to output positive polarity. Special note should be made of a similar arrangement devised by Van de Graaff in his 'High Voltage Electromagnetic Charged-Particle Accelerator Apparatus Having an Insulating Magnetic Core' [note 21] with respect to magnetic reluctance gaps.

Whilst it has been said that the clear perspex disc was designated the 'cloud' disc, and the (rear) dark disc the 'ground' disc I would think this relates to different types of acrylics or plastics that might become charged to different polarities, as in the triboelectric series, where frictional charging of different plastics - and then bringing them close together, might cause donation or acceptance from one to the other; I would think from the above that cloud represents a donator (positive charge) and that ground must mean an acceptor (negative charge). Has anyone tried the combination of a teflon disc (extremely negative charge) with a glass disc (highly positive charge)?

Or doped discs perhaps [note 22]?

The <i>Testatika</i> design based on the Pidgeon/Wimshurst machine is of course only one type of electrostatic
generator to build this system around. Since the early 1900s such power generators have come a long
way in sophistication - and in power output - recently developed machines output 300,000 volts which
can then be transformed and utilized [note 23].

For more information on electrostatic generators such as the *Testatika* e-mail Freeelectric.

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	Back-Engineered	Methernitha	Testatika	Notes
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#### **Back-Engineered Methernitha – Notes**

Note 1 – For more information on the Pidgeon machine see "Electrical Influence Machines" by John Gray 1903 pp206 & "Philosophical Magazine" Dec 1898 pp564, and of course the Pidgeon patents.

Note 2 – See "Modern High Speed Influence Machines" by V.E.Johnson 1921 pp76. Johnson was not only a researcher of electrostatic machines but was also an innovative constructor of them, and as such was keen to try any technique that made his generators more powerful than even the specialised Wommelsdorf multi-disc condenser machines. This book is an absolute must for those who wish to work in this field. Another 'must' is the website of Antonio Carlos M. de Queiroz which is absolutely **full of information** about (and with links to) present-day developments in electrostatic machines.

Note 3 – See "Self-Excited, Alternating, High-Voltage Generation Using A Modified Electrostatic Influence Machine" by M.Zahn et al, American Journal of Physics Vol 42 (1974) pp289.

Note 4 – The Methernitha designers have taken a basic Pidgeon electric field system and added a few modifications of their own, partly to lock a certain polarity of charge to a certain area so as to stabilise it, and also to boost certain areas with charge. As in their use, for example, of an extra field plate located at the top-centre in front of the front disc (just under the rectifying valve), note also that this plate, or antennae key, is indirectly coupled to the rest of the circuit, via a coil setup. Much the same occurs with the two plates slightly below it, these plates are connected to a brass terminal which connects to a copper wire that goes down and winds in a coil shape around a hollow plastic tube, and inside the tube will be another wire or small coil that draws off the electric charge. So these three plates are using not direct connection but induction to get their charge.

Note 5 – By looking at how each of the photographed machines have been constructed you can see that these are high quality crafted structures. I would think each would start off as sub-assemblies fitted together by pairs or small groups of members, those sub-assemblies of wooden base, big cans, perspex framework, discs with bearings and axles, when completed would be passed on to the electrical engineers of the community who would then fit the wiring connections, vacuum tube rectifier and make sure that not only did they work but that they looked like a work of art.

Note 6 – The Fleming valve had been around since 1905 and while it progressed to the thermionic valve and audion, by 1922 the 'Pearson and Anson Effect' was discovered whereby oscillating currents could be produced with a resistor, capacitor and thermionic valve coupled together.

Note 7 – See US Patent 1,540,998 (9 June 1925) Conversion of Atmospheric Electric Energy by Hermann Plauson. He also wrote a book of the subject titled "Gewinnung und Verwertung

der Atmospharischen Elektrizitat" in 1920 in German.

Note 8 – Whilst some have seen the smaller 300 Watt machine's discharger/rectifier quite open and not encased in a vacuum tube the vacuum tube models would be much more efficient and would waste less current. Also, the rectifier tube must have a heated filament (which on the 3KW machines can be seen as a glowing line running the whole length of the grid and coil assembly between the two black end caps, and in the films you can see faint flashes coming from behind the rectifier so possibly the filament is wrapped around the other side of the grid/coil assembly as well). Coolridge, back in the 1900's, discovered that no discharge from the cathode to the anode would occur, even at 100,000 volts, unless the filament was heated (Physics Review Vol 2 Dec 1913 p418). Aluminium mesh will give off electrons quite readily and can be used as a cold cathode – but a heated cathode offers the advantage of being able to control the oscillations.

Note 9 – The two long upright tubes are without doubt choke coil assemblies in precisely the right place to slow down the current where it gets oscillated and rectified. In a choke the higher the flow of current the greater will be its resistance to that current flow. An even better form of choke will have some form of iron core inside it.

Note 10 – I have come up with 6 different circuits for this oscillation section, some of which include small quartz crystals. (See notes 13 and 16 on frequency of oscillation). The black dial at the rear of the 3kw machine is most likely to select a variety of capacitances so as to control the oscillations of the circuit, which in turn control disc rotational speed.

Note 11 – The phenomenon of electrostatic motors has been well researched over the years (see "Electrostatic Motors" O.Jefimenko in "Physics Teacher" Vol 9 March 1971 p121-9, and in "Electrostatics – And Its Applications" by A.D.Moore (1973) p131-147; "Electrostatic Motors" by B.Bollee in "Philips Tech. Review" Vol 30 1969 p178-194). The Methernitha Testatika generators (see a recent report by 30 engineers) auto-rotate, after they have been started by hand, by the same principles of these ES motors.

Note 12 – J.G.Trump worked for the US Air Force and pioneered some highly efficient electrostatic machines around the 1960's (see"Electrostatic Sources of Electric Power" in "Elec. Eng" 66:525 June 1947; and "High Voltage Generation in Space:The Parametric Electrostatic Machine" in "Progr. Astronaut. Rocketry" (vol 3 – Energy Conversion for Space Power) 1961 p745).

Note 13 – Although the 'Linden Experiment' was thought to register a frequency of 80-140 MHz this does not necessarily mean that the Methernitha generators would oscillate at that rate also. Such a frequency seems unnecessarily high.

Note 14 – See "Plasma – The Fourth State of Matter" by D.A. Frank-Kamenetskii (1972) pp10, and Dr.Patrick Flanagan's US patents 4,743,275(May 10 1988) and 4,391,773(Jul 5 1983).

Note 15 – The effect is very similar to the converging forces in a non-uniform field, the oscillating perspex blocks become one 'electrode' and the surrounding air in the room becomes the opposite 'electrode', and by the processes of electrophoresis and dielectrophoresis the electrically charged particles in the air (the electrons and negative ions) are drawn toward the central electrode, which in this case is the perspex block assembly (see "Nonuniform Electric Fields" by Herbert A. Pohl in "Scientific American" (Dec 1960) p107-8). I am much more inclined to believe that the ingenuity of the design of these types of machines comes from physicists and not electronic engineers.

Note 16 – Dr. Flanagan actually uses the electron field generator in his own special ionizer (see Method of Purifying Air and Negative Field Generator US Patent 4,391,773).

How does it work, I would think that while you have an alternating electron movement (and Dr. Flanagan reckons this effect occurs with a high voltage field alternating at above 20 KHz) at the metal electrodes, the perspex blocks sandwiched between them would transfer the electricity not *through* their mass but around it, as surface charge – actually in the layer of air right next to the insulator's surface. Its the same principle as dielectric absorbtion - the perspex blocks don't discharge themselves fast enough to keep up with the alternating voltage and so they accumulate more and more charge - until it forms a layer of charge on the insulator's surface. This means that at a high enough frequency the surface-air molecules polarize, with the more mobile electrons separating from the slower bulks of those molecules and while the electrons get thrusted back and forth a secondary layer of (slower) positive air ions develops, and so on, and the process of high voltage high frequency polarization triggers the electron avalanche effect.

Note 17 – There are several definitions of *Bifilar*, one where the wires cancel out their magnetic fields, and one where the wires are wound to ensure a tight low-loss coupling, in this case you need all the flux you can get so it must be the latter – See "Transformers For Electronic Circuits" by Nathan R. Grossner (1967) p224 etc.

Note 18 – Most commonly used is Mumetal, which is an easily saturable magnetic material, routing magnetic flux through it rather than in the surrounding air, but that is probably not what is needed in this case. Also what you don't need, is a system that discharges all of its generated power in short sharp shocks. What is needed is a Pulse Forming Network. "Such a network is an improvement on simple capacitor storage because of the cascading action from one capacitor to the next along the chain. At the beginning, all capacitors are charged to the same voltage but as soon as the first one starts to loose voltage, the one behind it is then free to discharge into it. This topping-up action, which trickles down the network from capacitor to capacitor, is the mechanism by which the voltage across the output terminals tends to hold onto its original level." (see – "High Energy Discharge Systems" A.P.Stephenson "ETI" [Electronics Today International]; March 1992 p24-26).

Note 19 – When voltage of a high potential and high frequency flows along a wire it does so on the outer surface (called the 'skin effect') and so the Methernitha would use thick wiring or even 1/8" tubing to connect its circuit.

Note 20 – Again, you want as much magnetic flux activity as possible so, if these transformers are wired 'bifilar' then it is to provide a tight coupling.

Note 21 – US patents 3,323,069 (May 30 1967) and 3,187,208 (June 1 1965). This system by Van de Graaff may be a little too complicated for the Methernitha, but, nevertheless, may be of some interest.

Note 22 – Dr. Flanagan modified his insulator blocks, made of resin, by doping them with paramagnetic granules (such as silicon carbide) to enhance even more the electron cascade effect; which is an idea that the physicist Thomas Townsend Brown first experimented with (by using lead oxide granules) in his US patent 3,187,206 (June 1 1965) to good effect. The surrounding air could also be 'enhanced' in similar fashion to improve its side of the performance (for those interested in the 'physics' of this see an article by W.A.Douglas Rudge "On Some Sources of Disturbance of the Normal Atmospheric Potential Gradient" in Proc. Royal Soc. A - Vol 90 (1914) pp571 etc).

Note 23 – Some other generators with similarities to the *Testatika* machine are the "Electrostatic Energy Field Power Generating System" invented by William W. Hyde (US Patent 4897592 of Jan 30 1990) is a rotor/stator variable capacitance machine capable of producing 300 KV. Other such generators are; "Parametric Electric Machine" invented by Ferdinand Cap (US Patent 4622510 of Nov 11 1986) which has a series resonant (LCR) circuit structured into it so that it oscillates - and indeed operates AT RESONANCE to ensure a high

output; "Electrostatic Generator" invented by Dan B. Le May (et al) (US Patent 3094653 of Jun 18 1963) is a very ingenious system of variable capacitance; the "Electrostatic Machine" by Noel Felici (US Patent 2522106 of Sep 12 1950) is a good standard which utilizes a valve rectifier; and the "Electrostatic Generator" by William S. Spencer (US Patent 1415779 of May 9 1922) is an early rotor/stator generator which transferred its electric impulses through a transformer to produce a higher current output.

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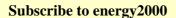
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**Testatika demonstration with over 30 engineers** - Translation by Stefan Hartmann and Hans Holzherr on 4th of August 1999.

Recently, over 30 technicians and engineers (most of them retired) were allowed to visit the Methernitha group in Linden, Switzerland, where they witnessed a demo of the different Testatika machines. Here is a report from Hans Holzherr from Switzerland who was present:

Re: Testatika demonstration? From: Hans Holzherr To: Stefan Hartmann

Hello Mr. Hartmann, To your questions:

Have you seen live a machine with a load? If so, load?

I am referring in the following to the model with the 50-cm diameter disks. This machine was already running when the visitors stepped into the room, and was not halted during the whole time - we were there for about 1.5 hrs. As a first load a 1000-Watt lamp was connected for approximately 10 seconds whose brightness did NOT diminish - the corresponding sequence on the Testatika film is just an effect of the camera aperture's automatic adjusting to the sudden brightness! The second load was a U-shaped heating element, that Mr.Baumann handed to me. It became so hot within one second that I had to put it down immediately! What was particularly impressive was that while he pulled back one of the contact wires (that was with the lamp, I believe), a 1-cm long arc appeared between the output electrode and the connecting wire for approximately one second. The apparatus was under a plexiglass hood. Near the base it had two holes which Baumann used to insert the contact wires to touch the output electrodes.

How do you think the high wattage is produced? Good question! I'd love to know the answer, too!

Did the disks slow down when a load was placed across the output electrodes?

I did not notice that (nobody else did), but of course you tend to turn your look to 'where the action is' (the lamp etc.) The disks turned with 15 rpm, which is quite slow. The spin rate was regulated magnetically.

What general impression did you have? It was really impressive! One can hardly believe it, with this slow rotation. In any case, this cannot be explained in terms of bare electrostatics in the sense of the Wimshurst machine. The perforated sheets seem to have a key function... Beside the pick-up and the drive electrodes there are a number of small plexiglass blocks with glued-on perforated sheets, whose function is unknown.

As Adolf Schneider already mentioned, my colleague Bernhard XXX and I want to try to copy the principle experiment shown by Baumann - without much hope to find anything extraordinary, though. The device consists of a horizontal swiveling plexiglass arm with a small rectangular plexiglass plate at both ends glued to the lower side of the arm. The lower side of the arm is

covered with perforated aluminum sheets (square holes), while the bottom of the plates is covered with brass wire mesh. Beneath each plate five additional plates are glued onto the base plate. There is also wire mesh between each pair of plates in the two blocks. From the mesh layer between the lowest plate and the base a wire goes to the two capacitors, which are connected in parallel. Baumann SEIZED the arm with both hands and turned it about ten times back and forth (a full rotation was not possible, because the capacitors were in the way), then measured the DC voltage with a digital measuring instrument: 60 Volts. Then, as he short-circuited the condensers a loud crack could be heard. I don't know if that already is an abnormal result... On my question Baumann replied that with metal foil (instead of wire mesh) the device would not produce that effect. Picture copyright 1999 by Hans Holzherr.

Re: Testatika demonstration? to: Stefan Hartmann

Hello Mr. Hartmann, here are further specifications to your questions: Did the machine ran the whole time ? 1,5 hours?

Yes.

Could you imagine that in the base of the machine batteries of the flat cheque card type are hidden, or the would these be depleted too soon to account for the power produced during that 1.5-hour period?

Unfortunately, I cannot judge that. If one considers that the Methernitha community gains neither money nor fame from the machine, and that they are so media-shy and otherwise restrictive I find the thought of a simple battery trick pretty absurd..... (Of course a skeptic might argue that they are media-shy BECAUSE it's a battery trick...)

Could you touch the machine? Is the base of the device empty or is there something in it, or is it build from massive wood?

It was forbidden to touch the 50 cm machine, let alone lift it up. Therefore I cannot say anything about the base other than that it appeared solid. BUT one could touch the smaller type models e. g. the small models with the 12 cm disks. One could lift them and examine them - while the disks kept turning. The whole atmosphere was rather loose - surprisingly. In this regard, being a group of over 30 persons was an advantage: The two Methernitha people couldn't watch all our fingers at all times! The earliest model is, by the way, the only one whose disks are propelled by an electric motor which is driven by a capacitor which in turn is continuously recharged.

I see, the plastic cover was for HV security?

Also, I think it is a dust shield. The machine is really beautiful...

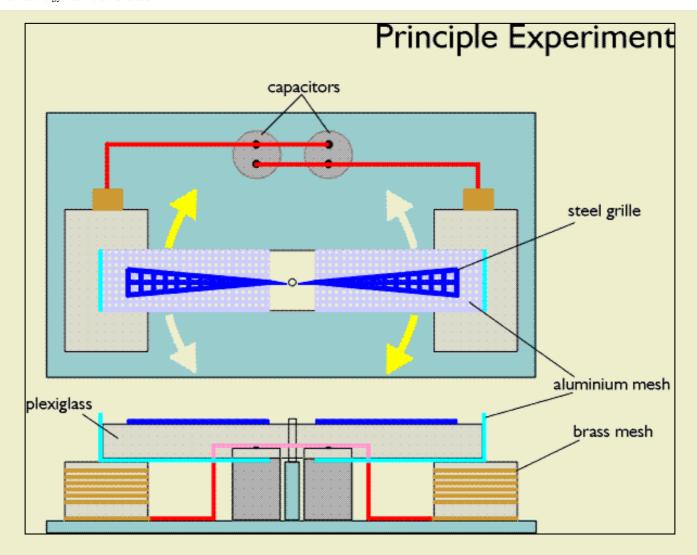
Hmm, in former reports it was stated that it ran with 50 RPM!!?

I have read that, too. With this demo, however, the speed was approximately just 15 RPM. There is a number of plexiglass blocks with glued-on perforated sheet, their function is unknown.

Aha, very strange.... Are these "special antennas"?

I don't know. Some have **perforated sheets glued on two opposite sides**, so they could be condensers; others have only one perforated sheet which is bent over an edge of the plexiglass block, so it covers two adjacent sides.

After my visit I made a diagram of the 'PRINCIPLE EXPERIMENT' - see the picture below!



Hmm, was that another device, or was that just a briefly modified existing machine??

#### Another device! Baumann's comment: this is how it all started!

Recently we got to know a person, who had copied the 50-cm machine based on the Testatika literature. However, this model does not function (is not self-running).

Yes a pure Wimshusrt machine will probably not even run itself, if one does not know the Methernitha secrets. I saw a photo from this copied device, and at first sight it looked like the original, including the horseshoe magnets.

Apparently, Mr. Baumann and Mr. Bosshardt were in a pretty informative mood that day!

Yes, you could say that. Unfortunately I had difficulties to understand Baumann because he spoke softly and fast, and provided explanations in non-scientific terms. However, it's very interesting that he answered my question, if the energy source of the Testatika was radium chloride, with a definite NO. Also, they said, there exists no other Testatika machine elsewhere. Nelson Camus had told a different story: that he had encountered a similar community in South America which was in touch with Methernitha, and which also possessed a Testatika. According to Camus the apparatus functions with radium chloride-doped condensers. That also works, but for that you don't need any moving parts! (Hubbard generator). [From Stefan Hartmann: I really doubt this claim from Nelson Camus...!!]

Did Methernitha have no problem to show you the "principle setup" of your above picture?

Obviously not. They probably trust in the fact that not all secrets are VISIBLE on the machine. E. g. - it looks like - the molecular orientation of all plexiglass plates must be the same. And then the material plays a role. (we know this from a different source.)

Don't they object against anybody copying the machine? Or do they think that one cannot understand the whole system quickly enough in such a demo? No and yes, and they are probably darn right! It is hard to grasp!

Could you see the small machines with a load, too? how much Watts could these deliver?

Approx. 300 Watts? Those are more simply built, right?

With the 12 cm original model Baumann got a voltage of 130 V. He connected a load to it, which consisted of two small lamps and a resistor. Values unknown. After that two visitors were asked short circuit the apparatus via their bodies, which gave them an electric shock!

Interestingly enough, the digital voltmeter showed only briefly 130 Volts, and then stopped working. All following measurements, also on the 50 cm machine, were made with an analog meter. The smaller Testatikas are simpler. Each one is built a bit differently. One has only one disk. Several, including a 1-meter model under construction, have 'sector wires' instead of sector foils, which are sort of 'woven' into the disk, changing sides three times.

Were there bifilary coils inside the Leydener bottles?

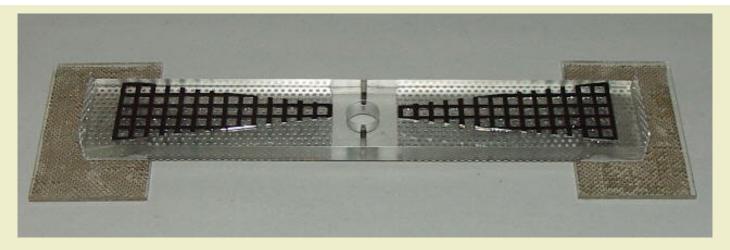
You could not see inside them. In the large capacitors there are **20 layers of perforated sheet** (Baumann said). One just cannot see inside!

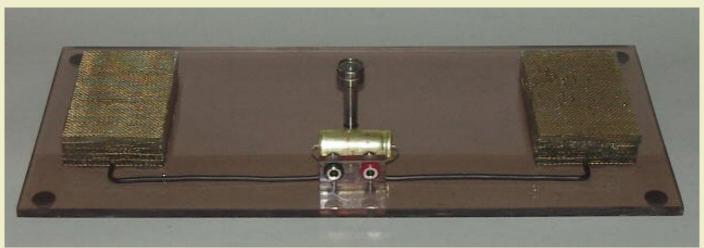
And there is a **crystal diode** somewhere?

Yes, it's probably the object at the top. Baumann mentioned that also. On the original model it seemed to me to consist only of a rough coil around one central straight wire, with a total of **4 leads**. With the 50-cm apparatus I tried my best but could only make out 2 supply wires, so the structure was not very clear, maybe also a rough spiral around something (tube from perforated sheet ?); perhaps there was also a tube around everything (my memory has faded), but I could not detect a crystal. I remember that it was hard to see inside. Regarding visibility in general, I noticed that a thin layer (which might be a lead) between two plexiglass plates is hardly noticeable at all, because of the total light reflection.

An attempt to reproduce the device as described in the principle as above.

I am not sure if said device worked as claimed.







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The Principle	Experiments	of the	Back-Engineere	d Metherniths	Testatika Note

#### **Principle Experiment**

With respect to the <u>engineer's report</u> the **'principle experiment'** is set up in such a way (<u>see diag 1</u>) that when someone grabs hold of the swivelling cross-piece they transfer some static electricity from their body to the grilles of the cross-piece which, when vigorously turned back and forth will initiate a transfer of electric charge to the two blocks below them attached to the base. This is because anyone walking over a carpet or wearing man-made fibres will already hold thousands of volts of electrostatic charge - which will be enough to 'prime' this apparatus, after touching it, to get it to work; much the same as when a rotating influence machine has to be primed with an electric charge before it will work.

The use of mesh around the cross-piece guarantees a variable capacitance to the moving arms - and as these are moved quickly over the base blocks (again, alternated with mesh and Plexiglas) an amount of electric charge will be transferred to them EACH TIME the arms go backward-and-forward over them. Electronically, you have one variable capacitance acting upon another variable capacitance - which is why Baumann said that if metal foil were used instead of the mesh it would not produce the same effect.

What happens next is called "dielectric absorption", and the following extract, from "Dielectrics" by P.J.Harrop (1972) pp71, will explain;

"When a given dielectric [ie plexiglas] has a field put across it, and this field is then removed, the electrodes are briefly shorted out (not enough for all the ions and particles to relapse back) and the device left on open circuit one finds subsequently that it has partially charged up again. This is due to the slow-moving charge carriers remaining in position. It can be a frightening phenomenon with practical dielectrics since a person who has briefly discharged a charged insulator may subsequently touch it and be severely shocked." Some dielectric materials being more prone to this effect than others, and so obviously some experimentation will be needed to choose the best perspex, plexiglas, plastic, or acrylic materials so as to take the most advantage from this dielectric absorption effect.

Once the blocks are being charged up the electric charge simply flows into the two interconnected capacitors and accumulates.

#### **Linden Experiment**

A careful look at the diagram of the Linden experiment (see diag 2) shows a horseshoe magnet coupled to a closed-ended wire which acts as both an induction coil and an antennae loop. It can also be seen in this diagram that the wire coils around the magnet are sufficiently spaced apart so as to provide capacitance (between each coil of the wire) in the circuit. So, with capacitance, an inductor coil, and magnetic flux, you have all the ingredients needed to make an oscillating circuit - all that remains is an initial pulse or blip of electricity to start it off and you have a circuit that will resonate.

Indeed, because the wire has a 2 feet loop, it will readily act as an antennae to pick up electronic pulses, and all you would need to do is place this wire loop near something that is already oscillating (like a Testatika generator), or even if you were to just wave your hand near

the wire loop, it will cause the wire, coil, and horseshoe magnet, to pulse and subsequently to continually oscillate. The frequency of resonance would depend on the values of inductance and capacitance included in the circuit.

And as with the Linden experiment if a block comprising two metal plates separated by a suitable dielectric material (such as plexiglas) is placed in an oscillating electric field the electric charge on the metal plates will permeate into the dielectric, and for the same reasons as detailed above for the 'principle experiment', will accumulate to a higher and higher voltage because of **dielectric absorption**. As I have already said elsewhere there is a great similarity between the phenomenon of the Testatika horseshoe blocks and the principle behind Patrick Flanagan's <u>Electron Field Generator</u> which energizes an electron cascade mechanism throughout the immediate environment.

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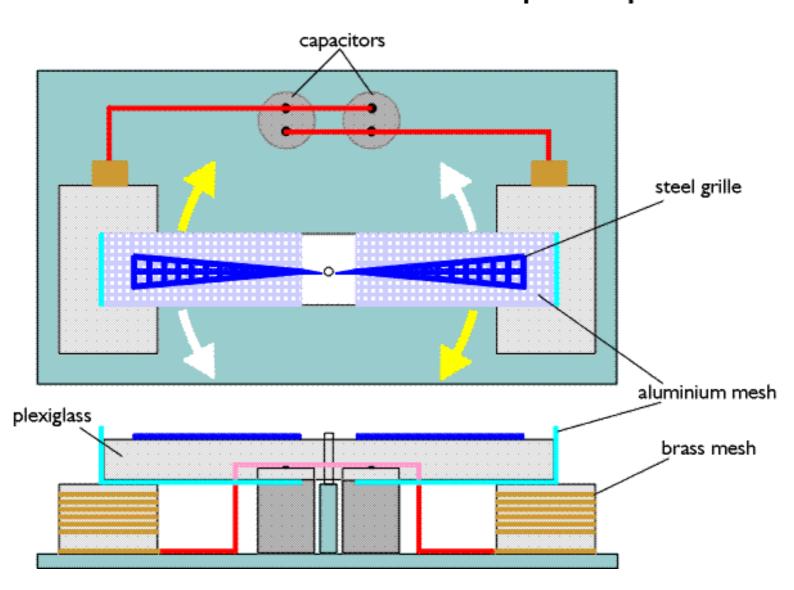


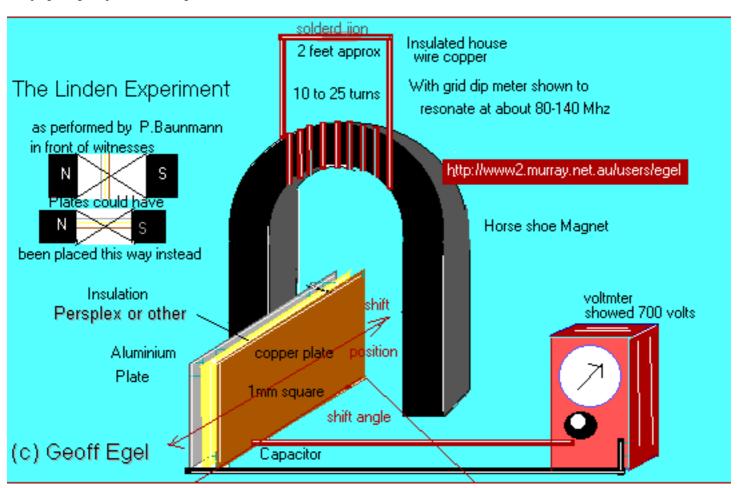
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# Principle Experiment

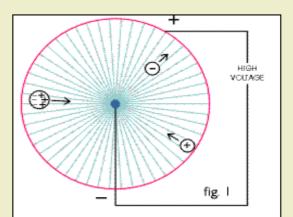




#### **ELECTRON CASCADE EFFECT**

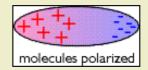
Taken from Patrick Flanagan's taped lecture on **The Electron Field Generator** (c.1988). The electron cascade is a phenomenon of continuous production of electrons - throughout the environment in the air itself. The production of the electron cascade effect, according to Patrick is...

"Number one, we have this phenomenon whereby we found that certain insulators, and some insulators are more effective than others, if we apply a high frequency, high voltage, alternating field across an insulator that we produce this [J. Willard Gibbs phenomenon, this non-Maxwellian field, which has a differential polarization, that is, that it creates a polarity differential between it and the environment such that neutral and charged air molecules are accelerated at extremely high speed. not very low speed, but at very high speed toward the emitter. As these molecules are accelerated they collide with other molecules in the air and when this collision occurs the electrons are knocked off the molecules, that is, free electrons are knocked off the molecules and they in turn are accelerated by this field and then collide with the other the basis of what we call the electron cascade - we have an entire cascade of electrons being generated everywhere in the environment.

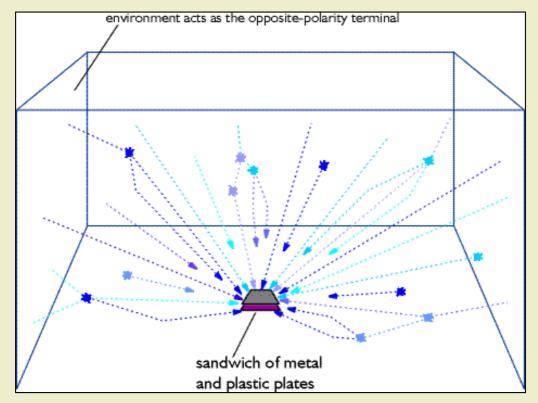


Lines of electric force converge toward electrode at center, indicating that the field grows stronger from outside in. Nonuniform field acts on both neutral and polarized particles; neutral particles move to the strongest part of the field, while polarized particles move to the electrode of opposite polarity.

Now its true that we have a greater, that is, higher velocity, electrons being generated in the vicinity of the machine, however, so that the air passing through the machine (we have a fan that brings air through the machine, through this emitter device), although the air passing through the machine is exposed to very high concentration of free electrons the



machine is also creating free electrons in space around the machine, that is, so that, it is affecting air and purifying air in the environment."



The standard negative-ion ionizer charges only a very LOCAL area of air, of about one metre from the unit (directly outside of which is strongly *positively* charged); whereas the superior **electron cascade effect** creates free-electrons actually in the environment by speeding up electrons, which in turn collide with air atoms, to create more free-electrons. The force of the free-electrons is then enhanced by dielectrophoresis and electrophoresis acting in a nonuniform electric field, resulting in a cooled environment of fresh negative-ion air.

See his US patents 4,391,773 (July 5 1983), and 4,743,275 (May 10 1988) The Electron Field Generator.

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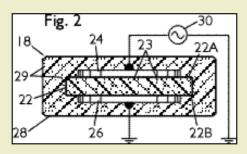
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#### **ELECTRON FIELD GENERATOR**

Patrick Flanagan's US Patent #4,743,275 of May 10 1988.

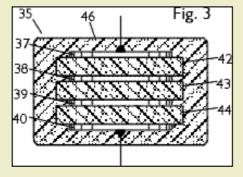


Referring to fig.2, the field emitter 18 may be seen to comprise a slab or sheet 22 of a solid dielectric material such as glass, paraffin, acrylic, epoxy or other suitable dielectric in which a plurality of small particles or granules 23 of conductive or semiconductive material are dispersed. A pair of planar electrodes 24 and 26 are mounted to the opposite faces 22A and 22B of the member 22 to form a capacitor which may be encapsulated in an insulator 28. The member 22 is square

when viewed from the top as are the electrodes 24 and 26, but these members may, if desired, be circular or of some other suitable shape. The corresponding dimensions of the dielectric member are greater than those of the electrodes 24 and 26. The insulator 28 is also a solid dielectric material such as glass, paraffin, acrylic, epoxy or other suitable dielectric and may be **DOPED** so as to include conductive or semiconductive particles or granules 29 dispersed therein.

As shown, the electrode 24 is connected to one terminal of a high voltage, high frequency source of electric energy 30, and the electrode 26 is connected via ground to the other terminal of the energy source 30. The voltage applied across the emitter has a frequency of at least 20 kiloHertz and a voltage of at least 5000 volts rms.

The reason why the field strength is increased by the presence of conductive particles in the dielectric material is not fully understood. However, comparative tests have proven that the electric field is strengthened and significantly improved air purification is achieved when such materials are dispersed in the dielectric, and it is believed that the work function of the dielectric is altered by the added material and this results in the increased emission from the device.



Referring to fig.3, there is shown a negative electric field emitter 35 which comprises a plurality of planar metallic electrodes 37, 38, 39 and 40 separated by a plurality of flat dielectric members 42, 43 and 44. The electrodes and the dielectric members are encapsulated in an insulating material 46. Conductive leads extend from the electrodes 37 and 40 through the insulating material 46 for connection of the field emitter 35 to a high frequency, high voltage source to develop a generally toroidal electric field around the field emitter 35...

In order to substantiate the fact that doping of the insulator with different non-dielectric materials alters the resultant field and in some cases increases the field strength a substantial amount, several different experiments were conducted. In making these experiments, three different emitters of identical size and shape were constructed. The dielectric slabs were circular being 80 mm in diameter and 15 mm thick. The plates were 63

mm in diameter. In one emitter, the dielectric was a pure epoxy. In a second emitter the dielectric was epoxy containing ten percent by volume of small lead spheres dispersed throughout the epoxy so as to be insulated from one another. The spheres had a diameter of 0.7 mm. In a third emitter the epoxy was doped with SILICON CARBIDE GRANULES having a size of 75 mesh. These granules were of the type used in lapidary grinding and thus contain a substantial amount of elemental impurities wherefor the material is actually a crude semi-conductor. It is also PARAMAGNETIC.

The emitters were connected across a high frequency power supply of 24 kV at 44 kiloHertz in the manner described in my US Patent # 4,391,773 using a Kiethly electrometer and an ion/electron probe.

[Additional data from his other US patent 4,391,773...When a power source having a voltage of 24 kilovolts at a frequency of 38 kiloHertz was used, readings as high as 6.38X10<sup>13</sup> ions per cm<sup>2</sup> were measured at a distance of 50 cm from the device 10. This negative field is sufficiently strong to purify air by discharging particulates entrained therein and to destroy bacteria in the air. An input voltage of 5 kilovolts at a frequency of about 20 kiloHertz produced a negative field which appears to have about the minimum strength for purifying air. The measured field strength at 50 cm from the device was 500,000 ions per cm<sup>2</sup> per second.]

At a distance of ten centimeters from the emitters the following measurements were made.

Pure epoxy dielectric 2.98X10<sup>11</sup> electrons/cm<sup>2</sup>

Epoxy with lead spheres 3.97X10<sup>11</sup> electrons/cm<sup>2</sup>

Epoxy with silicon carbide 4.76X10<sup>11</sup> electrons/cm<sup>2</sup>

It may thus be seen that the addition of conductive or semiconductive or PARAMAGNETIC particles to the dielectric greatly increases the field strength of the field generated by the emitter.

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### Testatika demonstration with over 30 engineers

translation by Stefan Hartmann and Hans Holzherr on 4th of Aug. 99

Recently, over 30 technicians and engineers (most of them retired) were allowed to visit the Methernitha group in Linden, Switzerland, where they witnessed a demo of the different Testatika machines.

Here is a report from Hans Holzherr from Switzerland who was present:

Re: Testatika demonstration?

From: Hans Holzherr

To: Stefan Hartmann < harti@harti.com >

Hello Mr. Hartmann.

To your questions:

- > Have you seen live a machine with a load?
- > If so, what load?

I am referring in the following to the model with the 50-cm diameter disks. This machine was already running when the visitors stepped into the room, and was not halted during the whole time - we were there for about 1.5 hrs. As a first load a 1000-Watt lamp was connected for approximately 10 seconds whose brightness did NOT diminish - the corresponding sequence on the Testatika film is just an effect of the camera aperture's automatic adjusting to the sudden brightness! The second load was a U-shaped heating element, that Mr. Baumann handed to me. It became so hot within one second that I had to put it down immediately! What was particularly impressive was that while he pulled back one of the contact wires (that was with the lamp, I believe), a 1-cm long arc appeared between the output electrode and the connecting wire for approximately one second. The apparatus was under a plexiglass hood. Near the base it had two holes which Baumann used to insert the contact wires to touch the output electrodes.

> How do you think the high wattage is produced?

Good question! I'd love to know the answer, too!

> Did the disks slow down when a load was placed across the output electrodes?

I did not notice that (nobody else did), but of course you tend to turn your look to 'where the action is' (the lamp etc.) The disks turned with 15 rpm, which is quite slow. The spin rate was regulated magnetically.

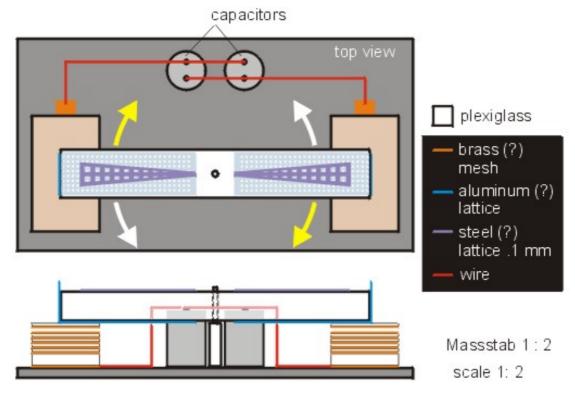
> What general impression did you have?

It was really impressive! One can hardly believe it, with this slow rotation. In any case, this cannot be explained in terms of bare electrostatics in the sense of the Wimshurst machine. The perforated sheets seem to have a key function... Beside the pick-up and the drive electrodes there are a number of small plexiglass blocks with glued-on perforated sheets, whose function is unknown.

As Adolf Schneider already mentioned, my colleague Bernhard XXX and I want to try to copy the principle experiment shown by Baumann - without much hope to find anything extraordinary, though.

The device consists of a horizontal swiveling plexiglass arm with a small rectangular plexiglass plate at both ends glued to the lower side of the arm. The lower side of the arm is covered with perforated aluminum sheets (square holes), while the bottom of the plates is covered with brass wire mesh. Beneath each plate five additional plates are glued onto the base plate. There is also wire mesh between each pair of plates in the two blocks. From the mesh layer between the lowest plate and the base a wire goes to the two capacitors, which are connected in parallel . Baumann seized the arm with both hands and turned it about ten times back and forth (a full rotation was not possible, because the capacitors were in the way), then measured the DC voltage with a digital measuring instrument: 60 Volts. Then, as he short-circuited the condensers a loud crack could be heard. I don't know if that already is an abnormal result...

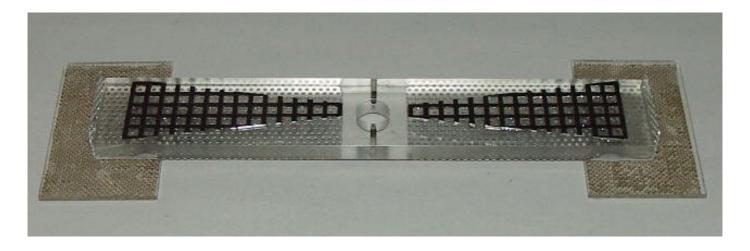
On my question Baumann replied that with metal foil (instead of wire mesh) the device would not produce that effect.

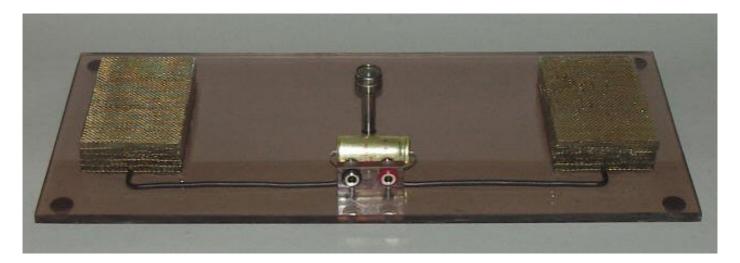


Picture copyright 1999 by Hans Holzherr

An attempt to reproduce the device as described in the principle as above.

I am not sure if said device worked as claimed.







Recently we got to know a person who had copied the 50-cm machine based on the Testatika literature. However, his model does not function (is not self-running).

Re: Testatika demonstration? to: Stefan Hartmann < harti@harti.com >

Hello Mr. Hartmann,

here are further specifications to your questions:

> Did the machine ran the whole time ? 1,5 hours?

Yes.

>Could you imagine that in the base of the machine batteries of the flat
> cheque card type are hidden, or the would these be depleted too soon to account for the >power produced during that 1.5-hour period?

Unfortunately, I cannot judge that. If one considers that the Methernitha community gains neither money nor fame from the machine, and that they are so media-shy and otherwise restrictive I find the thought of a simple battery trick pretty absurd.....

(Of course a skeptic might argue that they are media-shy BECAUSE it's a battery trick...)

> Could you touch the machine? Is the base of the device empty or is there something in it, > or is it build from massive wood?

It was forbidden to touch the 50 cm machine, let alone lift it up. Therefore I cannot say anything about the base other than that it appeared solid. BUT one could touch the smaller type models e.g. the small models with the 12 cm disks. One could lift them and examine them - while the disks kept turning. The whole atmosphere was rather loose - surprisingly. In this regard, being a group of over 30 persons was an advantage: The two Methernitha people couldn't watch all our fingers at all times! The earliest model is, by the way, the only one whose disks are propelled by an electric motor which is driven by a capacitor which in turn is continuously recharged.

> I see, the plastic cover was for HV security?

Also, I think it is a dust shield. The machine is really beautiful...

> Hmm, in former reports it was stated that it ran with 50 RPM!!?

I have read that, too. With this demo, however, the speed was approximately just 15 RPM.

>> there is a number of plexiglass blocks with glued-on perforated sheet, their
>> function is unknown.
>
> Aha, very strange....
>
> Are these "special antennas"?

I don't know. Some have perforated sheets glued on two opposite sides, so they could be condensers; others have only one perforated sheet which is bent over an edge of the plexiglass block, so it covers two adjacent sides.

After my visit I made a diagram of the 'principle experiment' - see the picture above!

> Hmm, was that another device, or was that just a briefly modified existing machine??

Another device! Baumann's comment: this is how it all started!

>>Recently we got to know a person, who had copied the 50-cm machine based on the >>Testatika literature. However, this model does not function (is not self-running).

> Yes a pure Wimhusrt machine will probably not even run itself, > if one does not know the Methernitha secrets

I saw a photo from this copied device, and at first sight it looked like the original, including the horseshoe magnets.

> P.s.: May anybody know that you were at Methernitha?
> you are the first with an "email address" to have seen that 'live'!
> Other visitors did not have internet ACCESS, it could
> be that you'll get a great many emails...
> Could I list you as a "witness" in the Free Energy lists?

Thanks for the warning! Then it will be better without email address. I am also only a witness, without being able to prove that the thing absolutely works...

Re: Testatika demonstration?

Date: Mon, 2 August 1999 16:39:44 -0400

From: Hans XXX

to: Stefan Hartmann < harti@harti.com >

### Hello Mr. Hartmann,

> Can I put the picture onto overunity.com the server?

Yes, you can.

> Should I mention your name?

As the author of the picture.

> I will translate your emails into English and post them > into the Free Energy lists.

Yes, perhaps I could then check the English version. Has Adolf sent you the NET Journal article about the Methernitha visit? There you find additional specifications, information that other visitors have gained. However, I find the 'yield ' of the visit report somewhat disappointing.

> I will not then mention your email address there.

O.k.

> Apparently, Mr. Baumann and Mr. Bosshardt were in a pretty informative mood that day!

Yes, you could say that. Unfortunately I had difficulties to understand Baumann because he spoke softly and fast, and provided explanations in non-scientific terms. However, it's very interesting that he answered my question, if the energy source of the Testatika was radium chloride, with a definite NO. Also, they said, there exists no other Testatika machine elsewhere. Nelson Camus had told a different story: that he had encountered a similar community in South America which was in touch with Methernitha, and which also possessed a Testatika. According to Camus the apparatus functions with radium chloride-doped condensers. That also works, but for that you don't need any moving parts! (Hubbard generator).

(from Stefan Hartmann: I really doubt this claim from Nelson Camus....!!)

> Did Methernitha have no problem to show you the "principle setup" of your above picture?

Obviously not. They probably trust in the fact that not all secrets are VISIBLE on the machine. E.g. - it looks like - the molecular orientation of all plexiglass plates must be the same. And then the material plays a role. (we know this from a different source.)

> Don't they object against anybody copying the machine? > Or do they think that one cannot understand the whole system quickly enough in such a demo?

No and yes, and they are probably darn right! It is hard to grasp!

> could you see the small machines with a load, too? > how much Watts could these deliver? Approx. 300 Watts? > those are more simply built, right?

With the 12 cm original model Baumann got a voltage of 130 V. He connected a load to it, which consisted of two small lamps and a resistor. Values unknown. After that two visitors were asked short circuit the apparatus via their bodies, which gave them an electric shock!

Interestingly enough, the digital voltmeter showed only briefly 130 Volts, and then stopped working. All following measurements, also on the 50 cm machine, were made with an analog meter. The smaller Testatikas are simpler. Each one is built a bit differently. One has only one disk. Several, including a 1-meter model under construction, have 'sector wires'

instead of sector foils, which are sort of 'woven' into the disk, changing sides three times.

> Were there bifilary coils inside the Leydener bottles?

You could not see inside them. In the large capacitors there are 20 layers of perforated sheet (Baumann said). One just cannot see inside!

> and there is a crystal diode somewhere?

Yes, it's probably the object at the top. Baumann mentioned that also.

On the original model it seemed to me to consist only of a rough coil around one central straight wire, with a total of 4 leads. With the 50-cm apparatus I tried my best but could only make out 2 supply wires, so the structure was not very clear, maybe also a rough spiral around something (tube from perforated sheet?); perhaps there was also a tube around everything (my memory has faded), but I could not detect a crystal. I remember that it was hard to see inside. Regarding visibility in general, I noticed that a thin layer (which might be a lead) between two plexiglass plates is hardly noticeable at all, because of the total light reflection.

MfG Hans Holzherr

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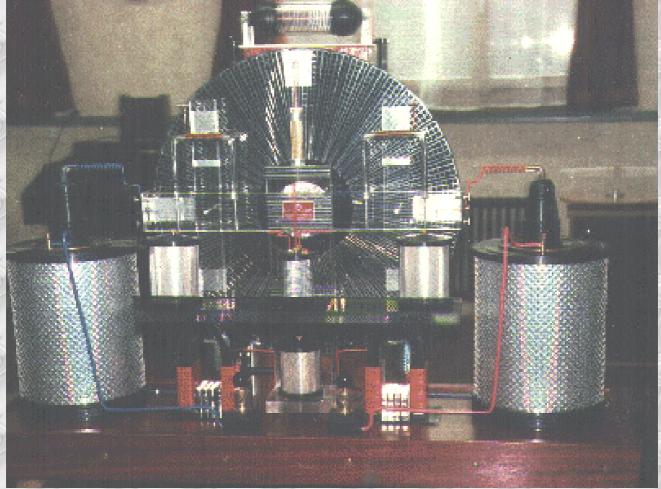
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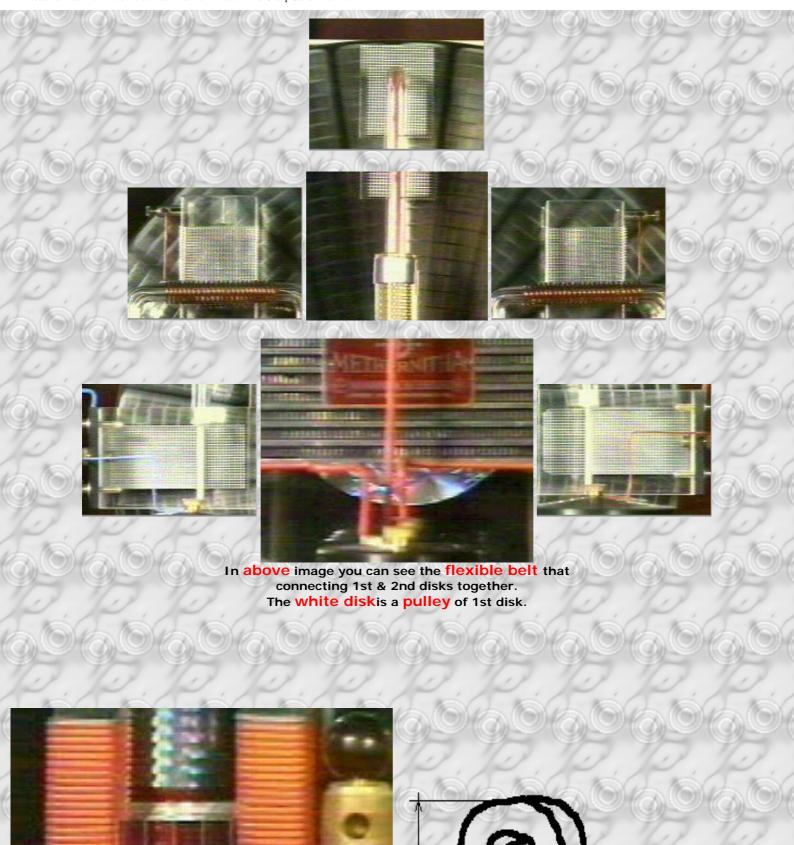
# **REAL IMAGE**

# Front view:



If you observe at the left of the little can between 2 shoe magnet you can see a one black tube, this one connect the "2 disk controrotating system" with the small D.C. motor I think that is the "black object with index" visible in the "Rear View" in the neighbour imege.

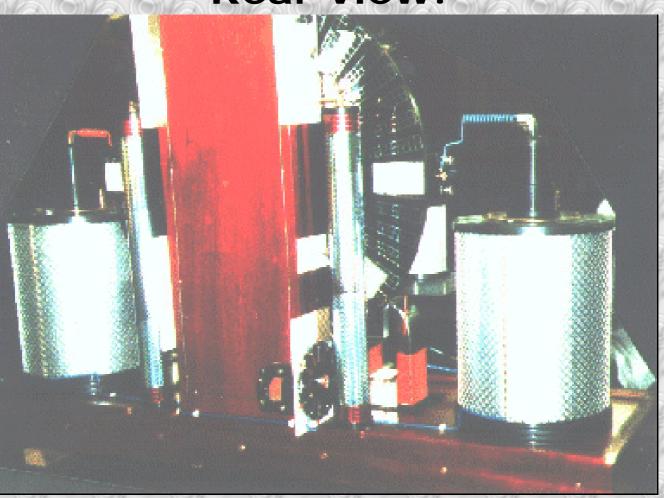
# A few particular:



If you observe between the shoe magnet legs there are 4 transparent plexyglass (plexyglass because is possible observing the rear basament objet that is red), these are alternaded by alluminium and copper plate in this sequence: cpacpacpacpa.

During my observation at the all my photo that I can found in most other site that speak about Thestatik Machine, I can tell that the dimention of this 4 is: 70 x 70 x 10 mm

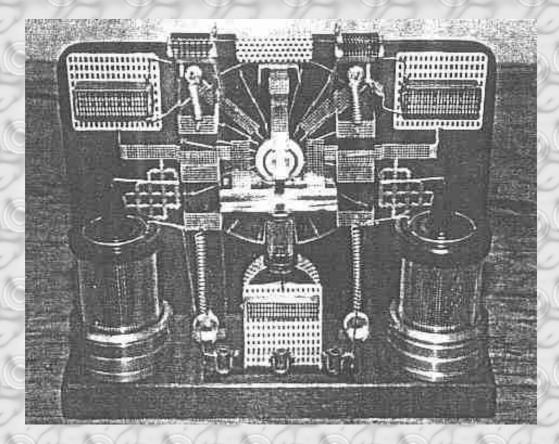




The
Testatik machine
that powering a
1000W bulb lamp:



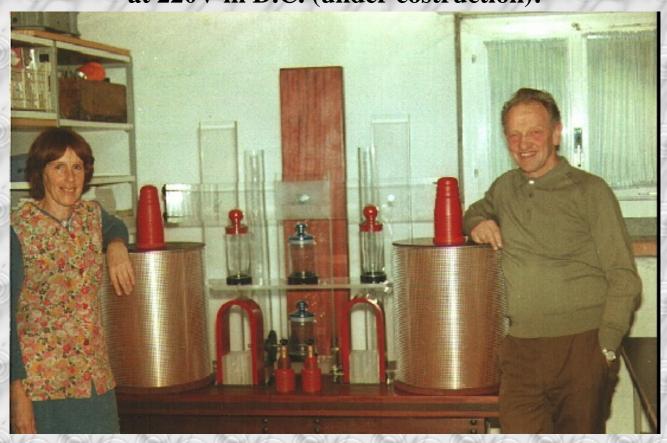
# Small version:



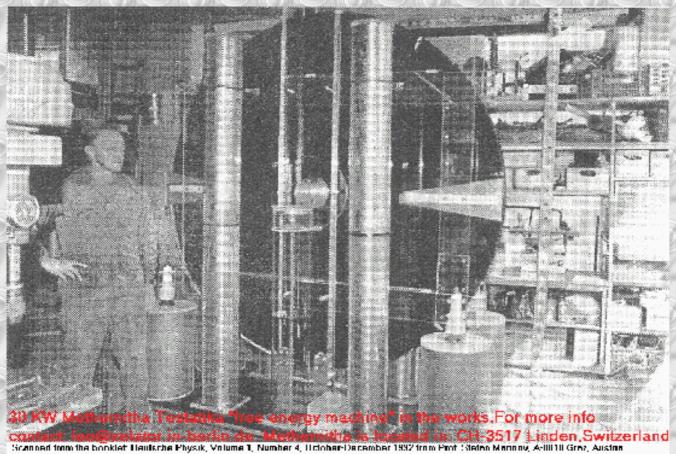
The Swiss 300 watt single disk unit

There also seem to be a four inch single disk version that gave out 300 watts.

A medium
"Testatik Machine M/L converter"
that can producing 10kw of
FREE ENERGY
at 220V in D.C. (under costruction):



A big "Testatik Machine M/L converter" that can producing 30kw of FREE ENERGY at 220V in D.C.:



My friend L. Cathomen, the mechanician of the TESTATIKA machines, with the last and biggest one which has a diameter more than 2 m and will deliver 30 kW free energy.

This is Luzi Cathomen, a mechanician in the Methernitha Group

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#### **Testatika-Distatica Machine**

(Transcribed from the Methernitha Testatika video by Paul E Potter)

"... The efficient utilization of wind energy was one of the first objectives of Methernitha's research program.

At the beginning generators with special excitation were developed which allowed to load the cells of accumulators **even at low rpm**, at times when there are only moderate movements.

Utilizing the kinetic energy of water currents was another field of interest of the development team, but it was pursued more as hobby. The key problem was here to transfer the slow revolutions of the water-wheel to an extent that the excitation threshold of the generator could be surpassed by a minimal loss of energy. Also solar cells and solar heat collectors attracted the attention of our researchers since a long time. But since in these fields other institutions have obtained outstanding results Methernitha started, and this was already more than 20 years ago [since 1960], to concentrate its efforts on lesser-known and even generally unknown sources of energy, the result of this scientific work is the Testatika machine of which most of you may have heard already.

The two counter-rotating discs generate an electrostatic charge. One disc represents the earth, the other the cloud. Using **grid-electrodes**\* the charges are bound. After that they are collected by non-contacted, so-called, **antennae keys**\*\* and then sorted [shorted ?].

After being initially turned on by hand the discs rotate by themselves according to the electrostatic laws about attraction and repulsion.

A **rectifying-diode** keeps the cycles in steady state, otherwise the impulses of attraction and repulsion would accumulate and cause the disc to run faster and faster. The correct speed is of great importance, and for optimum power generation the discs have to run quite steady and slow.

By means of **grid-condensers**\* the energy is stored and it is then uniformly discharged, at the same time reducing the high-voltage and building up power with additional devices.

Finally, the machine supplies a uniform direct current which varies according to size of the model.

The machine furnishes about 3 to 4 Kilo-Watt permanent output, depending on humidity, whereby the electrical potential ranges from 270 to 320 volt. High humidity of the atmosphere prevents the build up of electric potential. The dryer the air the better.

No doubt, through the so-far achieved results, one main objective has been reached, namely,

to prove that it is possible to use free energy. Nevertheless, the research work is not yet completed: To finish a model which can be handed out more or less to anybody and without any haphazards, also to non-specialists, much work and also time will still be needed.

...Only partly we could use the concepts of conventional physical terminology in order to explain and define only approximately the functions and properties of the various parts of the machine. After all, it will be necessary to create some more new concepts, like the one we have already used before, when we termed the non-contacting collectors of electric charge as **antennae keys\*\***. This machine puts experts who are just trained in conventional physics to a very hard test..."

[\* The German original has gitter-condensers, with *gitter* defined as wire lattice, grille, grate.

\*\* the original word used is *tasten* or *taster*, which means antenna, probe, key.]

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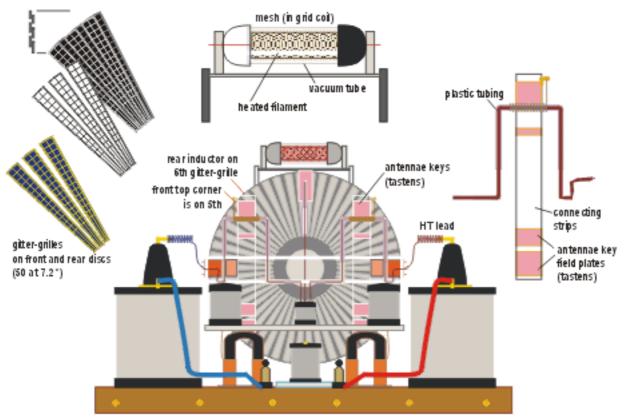
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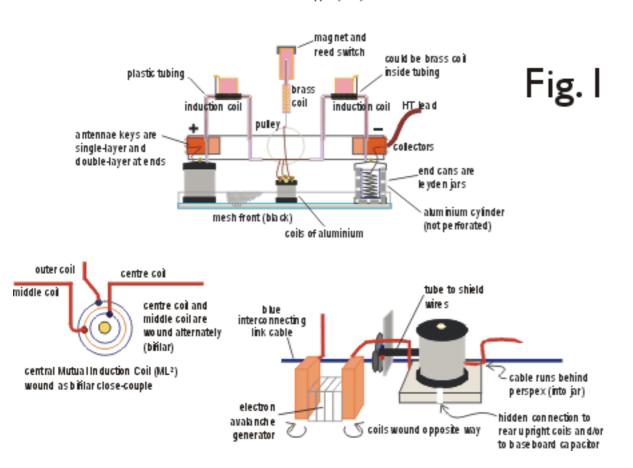
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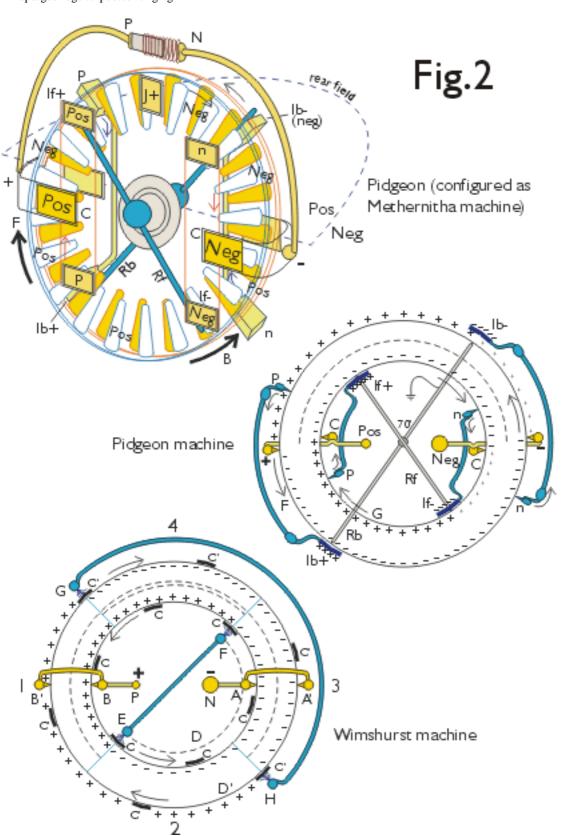


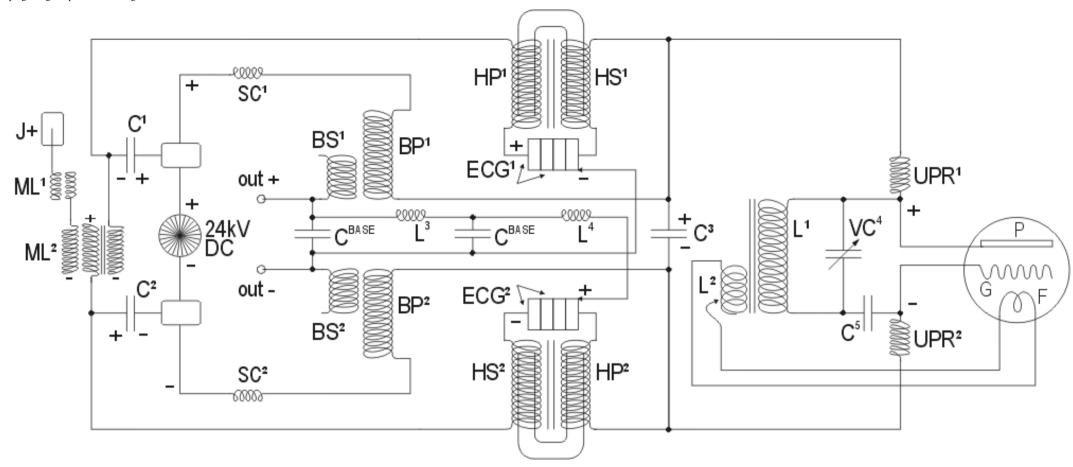
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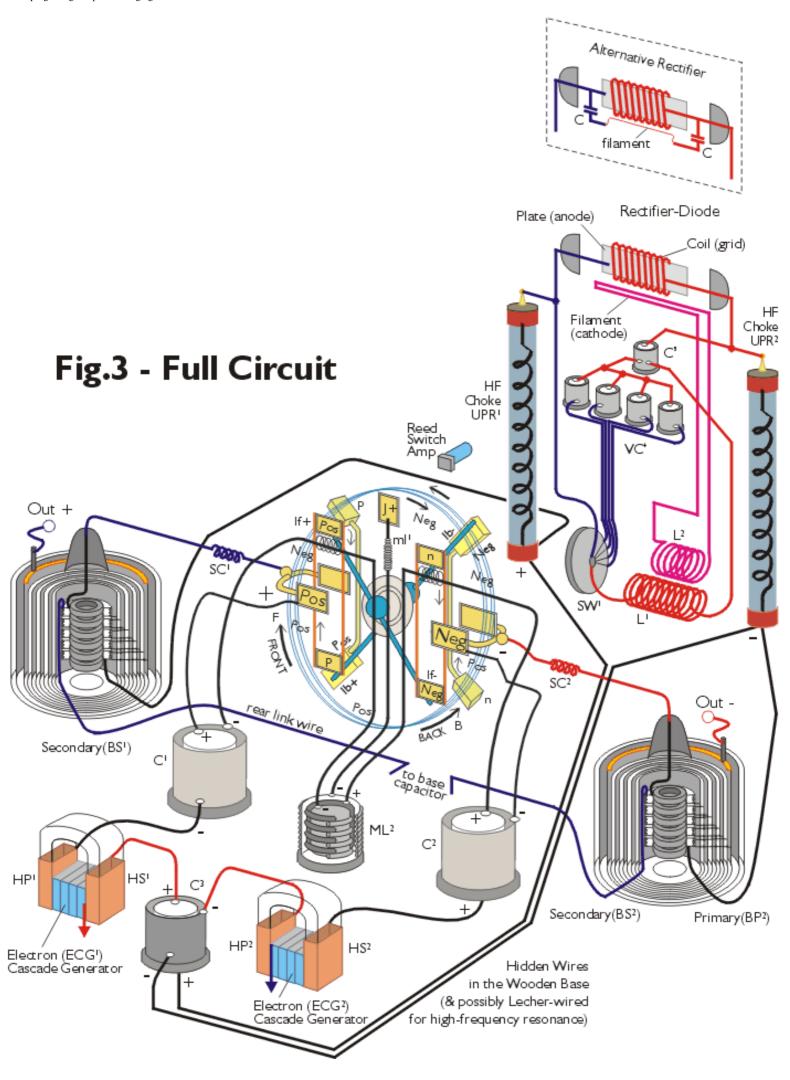


copper (rods) - mesh/insulation laminated base









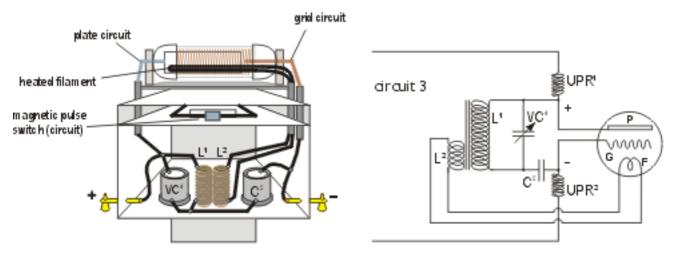


Fig. 4 - Tower Circuits

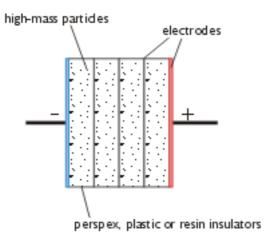


Fig. 6 - ECG Doped

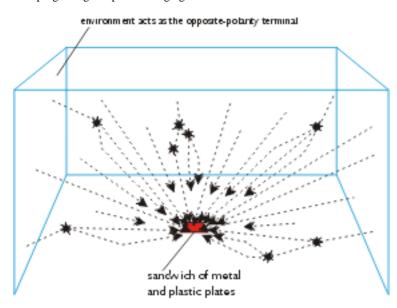
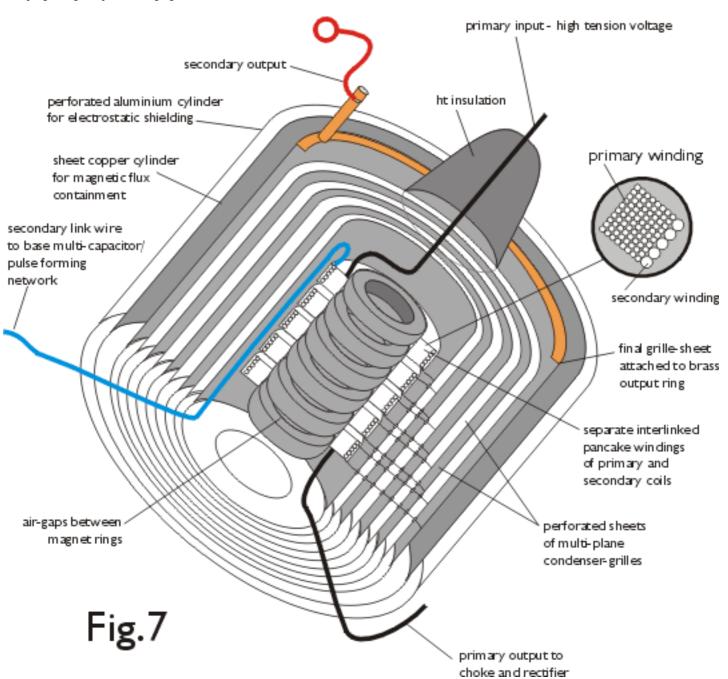


Fig.5 - Electron Cascade



## **EXHAUST GAS HEAT RECOVERY SYSTEM**

Part one of this series

Additional drawings from the inventor

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The Exhaust Gas Heat Recovery System is an alternate with superior performance to the exhaust heat recovery system shown on page 8 and page 9, part 22 of the shop drawing-5.

Most other inventions that used engine exhaust heat suffered many short comings.

Where as most previous designs cannot make use of large amounts off engine exhaust hot gas, because the engine exhaust is too hot to be injected in large quantity into the heat exchanger or combustion chamber without the high risk of pre igniting the fuel.

Others have diverted a portion of the engine exhaust into the heat exchanger or combustion chamber.

Unfortunately heat obtained from a portion of the engine exhaust cannot provide a constant stable temperature under all engine loads and conditions.

Others have suffered from laminar flow, which yields poor heat transfer. Others have suffered from high exhaust back pressure, with a drastic reduction in engine efficiency.

## **DESCRIPTION OF INVENTION**

Our exhaust Gas Heat Recovery System has over come the above failures and shorts comings other inventions.

Fig.20

Hot engine exhaust enters middle inlet 1.; when engine is cold the exhaust flow regulator is closed 2 engine exhaust is diverted to the left side inlet 6 and the right side inlet 7 - The servo motor 10 regulates engine exhaust flow through the exhaust gas flow regulator 8 through the heat exchanger 11; and through heat exchanger plates 1, 2,3,4,5 and 6 which is shown in figs 25 and 26. Fig 20. Engine exhaust then flows into the right side outlet 12, which

flows into the middle outlet 5, which exhaust through the conventional muffler.

Fig 20.

Hot engine exhaust enters left side inlet 6. Servo motor 18 regulates engine exhaust flow through exhaust gas flow regulator 16. Then through heat exchanger plates 1,2,3,4,5 and 6 which is shown in figs 25 and 26. Engine exhaust then flows into the middle outlet 5, Which exhausts into the conventional muffler.

Fig 20 and 24

Coolant source enters the coolant inlet 22; then travels through the left side of the heat exchanger 19. Best shown in Figs 21,22,23 and 24 the coolant flow across the strait finned plates 7.8,9,10 and Lal; extracting heat from the engine exhaust plates 1,2,3,4,5 and 6; Hot coolant then flows through coolant outlet 23; Then flows to the hot coolant inlet 28a and 28b which is best shown in fig 4.

Fig 20.

Fresh air source enters the intake fresh air inlet 14 through the left side of the heat exchanger 11;

As best shown in Figs 21,22,23 and 24 The fresh air flows across the straight-finned plates 7,8,9,10 and 11; Extracting heat from the engine exhaust plates 1,2,3,4,5 and 6 Then hot air flows through the discharge fresh hot air outlet 15; which is best shown on page A of the shop drawings, part 21 which is the inlet of the high out put fan.

NOTE As seen from above both the heat exchangers can be made from the same plates to produce air to air or liquid to air heat transfer. Also the heat exchangers can be milled, machined, extruded or die cast in aluminium, steel iron, stainless steel and of most other metals, ideally stainless steel is preferred.

As best shown in fig 20 the engine exhaust can flow straight through the muffler or can be diverted to the left side liquid to air beat exchanger which produces hot coolant and at the same time it can be diverted to the right side air to air heat exchanger which produces fresh hot air.

Servo motors 4,10 and 18 are controlled with thermostats located in the vaporising chambers of the Fluid vaporising System; which controls the exhaust glow regulators 2,8 and 16; which give total control of both the coolant and the hot fresh air.

NOTE: The catalytic converter is a chemical filter connected to the exhaust system of an automotive vehicle so as to reduce air pollution.

Whereas our Fluid Vaporising system reduces air pollution to almost unmeasurable Levels. Which renders the catalytic converter and most other pollution devices useless. Therefore our Exhaust Gas Heat Recovery System can be installed in the space where the catalytic converter once occupied, not to mention the large savings in the cost of the catalytic converter,

## **EXHAUST GAS HEAT RECOVERY SYSTEM**

Fig 20, Exhaust Gas Heat Recovery System.

- 1.) Engine Exhaust Gas Middle Inlet.
- 2.) Exhaust Gas Flow Regulator.
- 3.) Stainless Steel Rod.
- 4.) Servo Motor.
- 5.) Engine Exhaust Gas Middle Outlet.
- 6.) Engine Exhaust Gas Left Side Inlet.
- 7.) Engine Exhaust Gas Right Side Inlet,
- 8.) Engine Exhaust Gas Flow Regulator.
- 9.) Stainless Steel Rod.
- 10.) Servo Motor.
- 11.) Air to Air Cross-Flow Heat Exchanger,
- 12.) Engine Exhaust Gas Right Side Outlet,
- 13.) Intake Fresh Air Filter.
- 14.) Intake Fresh Air Inlet.
- 15.) Discharge Fresh Air Outlet.
- 6.) ENGINE EXHAUST GAS LEFT SIDE INLET.
- 16.) Exhaust Gas Flow Regulator.
- 17.) Stainless Steel Rod.
- 18.) Servo Motor.
- 19.) Liquid to Air Cross-Flow Heat Exchanger.
- 20.) Engine Exhaust Gas Left Side Outlet.





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# **Fuel Vaporisation system**

United States Patent 5,782,225 Caggiano July 21, 1998

Additional drawings from the inventor

Part two of this series

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The inventor claims he gets 100+ miles to the gallon when using this invention

## **Abstract**

A fluid vaporisation system comprises a first fluid inlet for receiving a first fluid, a second fluid inlet for receiving a second fluid, and a first discharge aperture for discharging the first fluid and the second fluid. A first connecting passage connects the first fluid inlet and the second fluid inlet in fluid communication with the first discharge aperture, mixes the first fluid and the second fluid to define a fluid mixture, and delivers the fluid mixture to the first discharge aperture. A third fluid inlet receives a third fluid and a second discharge aperture discharges the third fluid. A second connecting passage in heat transfer relationship with the first connecting passage connects the third fluid inlet in fluid communication with the second discharge aperture and delivers the third fluid from the third fluid inlet to the second discharge aperture to effect heat transfer from the third fluid to the fluid mixture such that the fluid mixture is discharged by the first discharge aperture in a vaporised state.

## **Inventors:**

Filed:

Caggiano; Allen (P.O. Box 1273, Plymouth, MA 02362)

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Primary Examiner: Kamen; Noah P.
Attorney, Agent or Firm: Seidel Gonda Lavorgna & Monaco, PC
Parent Case Text
This is a continuation of co-pending application Ser. No. 08/420,749 filed on
Apr. 12, 1995.
Claims
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## http://geoffegel.tripod.com/fuel\_vapourizor.htm (3 sur 21)19/09/2004 23:28:18

1. A fluid vaporisation system comprising:

What is claimed is:

a first inlet for receiving a first fluid; a second inlet for receiving a second fluid; a first discharge for discharging the first fluid and the second fluid;

a plurality of first interconnected passages connecting the first inlet and the second inlet in fluid communication with the first discharge for mixing the first fluid and the second fluid to form a fluid mixture and delivering the fluid mixture to the first discharge;

a third inlet for receiving a third fluid; a second discharge for discharging the third fluid; a second connecting passage in heat transfer relationship with the first connecting passages and connecting the third inlet in fluid communication with the second discharge for delivering the third fluid from the third inlet to the second discharge to effect transfer of heat energy between the third fluid and the fluid mixture to vaporise the fluid mixture and discharge the mixture by the first discharge in a vaporised state; and a controller disposed between at least two of the first connecting passages for controlling the amount of fluid mixture delivered from one connecting passage to another and to the first discharge.

- 2. A fluid vaporisation system as claimed in claim 1, wherein each of the controllers comprises a rotatable rod having radially extending vanes, the rotating rod being rotatable between a first position, in which the radially extending vanes permit the fluid mixture to flow through the connecting passages, and a second position, in which the radially extending vanes block the flow of the fluid mixture through the connecting passages.
- 3. A fluid vaporisation system comprising:

an upper plate;

a lower plate;

a plurality of side plates interconnecting the upper plate and the lower plate in spaced relation to define a sealed chamber;

first inlet means disposed in the upper plate for receiving a first fluid;

second inlet means disposed in a first one of the side plates for receiving a second fluid;

first discharge means disposed in the lower plate for discharging the first fluid and the second fluid;

third inlet means disposed in a second one of the side plates for receiving a third fluid;

second discharge means disposed in the second side plate for discharging the third fluid;

at least one intermediate plate disposed within the sealed chamber and

connected to the side plates to define first connecting passage means connecting the first inlet means and the second inlet means in fluid communication with the first discharge means for mixing the first fluid and the second fluid to define a fluid mixture and delivering the fluid mixture to the first discharge means; and

aperture means disposed in the upper plate, the lower plate, the side plates and the intermediate plate and defining second connecting passage means in heat transfer relationship with the first connecting passage means connecting the third inlet means in fluid communication with the second discharge means for delivering the third fluid from the third inlet means to the second discharge means to effect heat transfer from the third fluid to the fluid mixture to effect vaporisation of the fluid mixture and discharge thereof by the first discharge means in a vaporized state.

- 4. A fluid vaporisation system as claimed in claim 3; wherein each of the first connecting passage means and the second connecting passage means defines a fluid flow passage which is serpentine in shape.
- 5. A fluid vaporisation system as claimed in claim 3; further comprising fourth inlet means for receiving the third fluid and third discharge means for discharging the third fluid; the aperture means defining third connecting passage means in heat transfer relationship with the first connecting passage means for connecting the third inlet means in fluid communication with the second discharge means and delivering the third fluid from the fourth inlet means to the second discharge means.
- 6. A fluid vaporisation system as claimed in claim 5; wherein the third connecting passage means defines a fluid passage which is serpentine in shape.
- 7. A fluid vaporisation system as claimed in claim 3; further comprising first controlling means for controlling the amount of the first fluid which enters the first connecting passage means; second controlling means for controlling the amount of the second fluid which enters the first connecting passage means; and third controlling means for controlling the amount of the third fluid which enters the second connecting passage means.
- 8. A fluid vaporisation system comprising:

first connecting passages which receive a first fluid and a second fluid for mixing the first fluid and the second fluid to form a fluid mixture and discharges the fluid mixture;

second connecting passages which receive and discharges a third fluid, the second passages being in heat transfer relationship with the first passages and defining a serpentine cross-counterflow heat exchanger to effect transfer of heat energy from the third fluid to the fluid mixture to vaporize the fluid mixture and discharge the fluid mixture in a vaporized state;

a first controller for controlling the amount of the first fluid which enters the first passages, the first controller comprising a first bore for receiving the first fluid, a second bore in fluid communication with the first bore and the first passages, and a rotatable rod having a radial bore and being rotatably disposed within the second bore, the rotatable rod being rotatable between a first position, in which the radial bore is in fluid communication with the first bore such that the first fluid is permitted to flow into the first passages and a second position in which the radial passage is not in fluid communication with the first bore such that the first fluid is prevented from flowing into the first passages;

a second controller for controlling the amount of the second fluid which enters the first passages;

a third controller for controlling the amount of the third fluid which enters the second passages.

- 9. A fluid vaporisation system as claimed in claim 8, wherein the third controller comprises a fluid control valve.
- 10. A fluid vaporisation system as claimed in claim 8, further comprising a fourth controller disposed in the first passages for controlling the amount of fluid mixture discharged therefrom.
- 11. A fluid vaporisation system as claimed in claim 10, wherein the fourth controller comprises a rotatable rod having radially extending vanes, the rotatable rod being rotatable between a first position, in which the radially extending vanes permit the fluid mixture to flow through the first passages, and a second position in which the radially extending vanes block the flow of the fluid mixture through the first passages.
- 12. A fluid vaporisation system comprising:

first connecting passages which receive a first fluid and a second fluid for mixing the first fluid and the second fluid to form a fluid mixture and discharges the fluid mixture;

second connecting passages which receive and discharges a third fluid, the second passages being in heat transfer relationship with the first passages and defining a serpentine cross-counterflow heat exchanger to effect transfer of heat energy from the third fluid to the fluid mixture to vaporize the fluid mixture and discharge the fluid mixture in a vaporized state;

a first controller for controlling the amount of the first fluid which enters the first passages;

a second controller for controlling the amount of the second fluid which enters the first passages, the second controller comprising a rotatable rod having radially extending vanes, the rotatable rod being rotatable between a first position, in which the radially extending vanes permit the second fluid to flow into the first passages, and a second position, in which the radially extending vanes block the flow of the second fluid into the first passages;

a third controller for controlling the amount of the third fluid which enters the second passages.

- 13. A fluid vaporisation system as claimed in claim 12, wherein the third controller comprises a fluid control valve.
- 14. A fluid vaporisation system as claimed in claim 12, further comprising a fourth controller disposed in the first passages for controlling the amount of fluid mixture discharged therefrom.
- 15. A fluid vaporisation system as claimed in claim 14, wherein the fourth controller comprises a rotatable rod having radially extending vanes, the rotatable rod being rotatable between a first position, in which the radially extending vanes permit the fluid mixture to flow through the first passages, and a second position in which the radially extending vanes block the flow of the fluid mixture through the first passages.

## **Description**

## **BACKGROUND OF THE INVENTION**

### 1. Field of the Invention

The invention relates generally to a fluid vaporisation system and, more particularly, to a fluid vaporisation system which heats a mixture of fluids and delivers the mixture in a vaporised state.

The fluid vaporisation system is particularly well adapted for heating a mixture of air and liquid fuel and delivering it to an internal combustion engine as a vapour.

2. Background of the Invention

In an effort to reduce pollution and conserve resources, continual efforts are being made to improve the performance of internal combustion engines, particularly in automobiles and other motor vehicles.

Motor vehicle engines must operate as efficiently as possible while simultaneously minimising emissions and providing sufficient power.

Toward these goals, it has been sought to provide the most efficient and complete combustion of the fuel/air mixture consumed by the engine.

In order to improve combustion of the fuel/air mixture, one approach has been to heat the fuel/air mixture to a vapour state before the fuel enters the engine.

However, this and other attempts to achieve improved engine performance and reduced emissions by vaporizing the fuel/air mixture have suffered from a number of shortcomings.

Some attempts have suffered from an inability to sufficiently control the

amount of vaporised fuel produced under all engine load conditions, especially under full load conditions.

Other attempts have suffered from premature detonation of the vaporised fuel prior to reaching the engine and excessive accumulation of vaporised fuel outside of the engine causing safety concerns.

Yet other attempts have suffered from the inability to produce sufficient vaporised fuel under engine loads greater than an idle condition.

Accordingly, an improved fluid vaporisation system is desired that provides a more optimal and effective fuel/air mixture to an engine and is capable of supplying a fuel/air mixture in a vaporised state such that fuel efficiency is increased while emissions and safety concerns are decreased.

## SUMMARY OF THE INVENTION

It is an object of the present invention to provide a highly efficient fluid vaporisation system which employs a dual cross-counterflow heat exchanger to provide a fuel/air vapour mixture to an internal combustion engine to increase the fuel efficiency and decrease emissions.

It is another object of the present invention to provide a fluid vaporisation system for an internal combustion engine in which air flow, fuel flow, and coolant or exhaust gas flow are all independently controllable such that a fuel/air mixture flowing through the system is fully vaporised under all engine load conditions.

It is yet another object of the present invention to provide a fluid vaporisation system comprising a vaporizing unit which is easily fabricated, assembled and disassembled to reduce manufacturing costs and facilitate field repairs.

It is a further object of the invention to provide a fluid vaporisation system which can precisely control the amount of fuel/air mixture introduced into the vaporizing unit to adequately power an engine under any load condition.

It is a further object of the present invention to provide a fluid vaporisation system which can precisely control the flow of a fuel/air mixture within the system and allow for expansion of the heated fuel/air mixture therein.

It is a further object of the present invention to provide a fluid vaporisation system which can be utilised in both carbureted and fuel injected engines.

It is yet a further object of the present invention to provide a fluid vaporisation system with numerous safety features that eliminate the risks of predetonation and excessive fuel vapour accumulation.

The foregoing and other objects of the present invention are carried out by a fluid vaporisation system including a first fluid inlet for receiving a first fluid, a second fluid inlet for receiving a second fluid, and a first discharge

aperture for discharging the first and second fluids.

A first connecting passage connects the first fluid inlet and the second fluid inlet in fluid communication with the first discharge aperture, mixes the first fluid and the second fluid to form a fluid mixture, and delivers the fluid mixture to the first discharge aperture.

A third fluid inlet receives a third fluid and a second discharge aperture discharges the third fluid.

A second connecting passage in heat transfer relationship with the first connecting passage connects the third fluid inlet in fluid communication with the second discharge aperture and delivers the third fluid from the third fluid inlet to the second discharge aperture to effect heat transfer from the third fluid to the fluid mixture such that the fluid mixture is discharged by the first discharge aperture in a vaporised state.

## BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description of the preferred embodiment of the invention, will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings an embodiment which is presently preferred.

It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown. In the drawings:

FIG. 1 is a perspective view of a vaporizing unit employed in a fluid vaporisation system according to an embodiment of the present invention;

FIG. 2 is a perspective view of the vaporizing unit of FIG. 1 with the front outer plate assembly removed;

FIG. 3a is a block diagram showing the fuel circuit of the vaporizing system according to the present invention;

FIG. 3b is a block diagram showing the hydraulic coolant circuit of the fluid vaporisation system according to the present invention;

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FIG. 4 is a cross sectional view of the back outer plate assembly, taken along line IVIV of FIG. 1;
FIG. 5 is a cross sectional view of the back outer plate assembly, taken along line VV of FIG. 4;
FIG. 6 is a cross sectional view of the front outer plate assembly, taken along line VIVI of FIG. 1;
FIG. 7 is a cross sectional view of the front outer plate assembly, taken along line VIIVII of FIG. 6;
FIG. 8 is a cross sectional view of the right side outer plate assembly, taken along line VIIIVIII of FIG. 1;
FIG. 9 is a cross sectional view of the right side outer plate assembly, taken along line IXIX of FIG. 8;
FIG. 10 is a cross sectional view of the left side outer plate assembly, taken along line XX of FIG. 1;
FIG. 11 is a cross sectional view of the left side outer plate assembly, taken along line XIXI of FIG. 10;
FIG. 12 is a cross sectional view of the upper outer plate assembly, taken along line XIIXII of FIG. 2;
FIG. 13 is a cross sectional view of the upper outer plate assembly, taken along line XIIIXIII of FIG. 12;
FIG. 14 is a cross sectional view of the lower outer plate assembly, taken

FIG. 16 is a cross sectional view of the lower inner plate assembly, taken along line XVI--XVI of FIG. 2;

FIG. 15 is a cross sectional view of the lower outer plate assembly, taken

along line XIV--XIV of FIG. 2;

along line XV--XV of FIG. 14;

FIG. 17 is a cross sectional view of the upper inner plate assembly, taken along line XVII--XVII of FIG. 2;

FIG. 18 is a cross sectional view of the fuel bar assembly, taken along line XVIII--XVIII of FIG. 12; and

FIG. 19 is a cross sectional view of the fuel bar assembly, taken along line XIX--XIX of FIG. 18.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The preferred embodiment of the vaporizing system according to the present invention is described below with a specific application to an internal combustion engine, where the mixture of fluids is, for example, a mixture of air and liquid fuel which is heated and delivered by the fluid vaporisation system to the internal combustion engine in a vaporised state.

However, it will be understood by those of ordinary skill in the art that the present invention is also suitable for other applications requiring the input of fluids in a vaporised state, such as, for example, heating oil fuel processors, air conditioning systems, refrigeration systems and ice storage tanks.

It will further be understood that the fluids could be one or more types of liquids or a combination of one or more types of liquids and gases.

Certain terminology is used in the following description for convenience only and is not intended to be limiting. The words right, left, rear, front, upper, lower, inner and outer designate directions in the drawing to which reference is made.

Such terminology includes the words above specifically mentioned and words of similar import.

Referring now to the drawings in detail, wherein like reference numerals are used to designate identical or corresponding parts throughout the several views, FIGS. 3a and 3b show a fluid vaporisation system, generally designated 10, according to an embodiment of the present invention.

The fluid vaporisation system 10 is applied in connection with an internal combustion engine and comprises a vaporizing unit 11 connected to the carburetor 10a of an engine 9.

In the present embodiment, the mixture of fluids comprises, for example, a

mixture of a liquid fuel, such as hydrocarbon fuel, and air.

As shown in FIGS. 1 and 2, the vaporizing unit 11 comprises a heat exchange housing 12 and a fuel bar assembly 100 for controlling the amount of fuel entering the vaporizing unit 11 as further described below.

The heat exchange housing 12 is preferably formed of plated, die cast, or extruded aluminum, and is sufficiently sealed such that the air and fuel being mixed and vaporised within the housing do not escape therefrom.

It is understood that the fluid vaporisation system of the present invention could be manufactured from other materials such as iron, copper, stainless steel, or highly thermally conductive polymers depending on the application.

The heat exchange housing 12 includes a rear outer plate assembly 20, a front outer plate assembly 30, a right side outer plate assembly 40, a left side outer plate assembly 50, an upper outer plate assembly 60, a lower outer plate assembly 70, a lower inner plate assembly 80, and an upper inner plate assembly 90.

The plate assemblies 60 and 70 comprise upper and lower plates 61 and 71, respectively, and the plate assemblies 20, 30, 40 and 50 comprise side plates 21, 31, 41 and 51, respectively, connecting the upper plate 61 and the lower plate 71 in spaced relation so as to define an airtight sealed chamber.

The plate assemblies 80 and 90 comprise intermediate plates 81 and 91 disposed within the sealed chamber and connected to the side plates 40 and 50.

As shown in FIG. 1, the vaporizing unit 11 is linked to a conventional progressive linkage 114 which controls the operation of the fuel bar assembly 100 as further described below.

As best shown in FIGS. 4 and 5, the side plate or rear outer plate 21 of the rear outer plate assembly 20 includes a left inlet 28a, a right inlet 28b, a left discharge outlet 27a, and a right discharge outlet 27b.

The left and right inlets 28a and 28b open out from the bottom wall of the plate 21, and the left and right outlets 27a and 27b open out from the top wall of the plate 21.

The left inlet 28a connects to a left lower channel 22a, and the right inlet 28b connects to a right lower channel 22b. The left lower channel 22a and the right lower channel 22b have openings in the inner wall of the plate 21.

The left discharge outlet 27a connects to the left upper channel 26a and the right discharge outlet 27b connects to a right upper channel 26b.

Left upper channel 26a and right upper channel 26b have openings in the inner wall of plate 21.

The plate 21 also includes a left medial cavity 24a and a right medial cavity

24b disposed at an intermediate portion of the plate 21.

The left medial cavity 24a connects with a left upper medial channel 25a and a left lower medial channel 23a.

The right medial cavity 24b connects with a right upper medial channel 25b and a right lower medial channel 23b.

Medial channels 23a, 23b, 25a and 25b all open out from the inner wall of the plate 21.

As shown in FIGS. 6 and 7, the side plate or front outer plate 31 of the front outer plate assembly 30 includes a left lower cavity 38a, a left upper cavity 32a, a right lower cavity 38b, and a right upper cavity 32b.

The left lower cavity 38a connects with a left lower cavity lower channel 33a and a left lower cavity upper channel 34a.

The right lower cavity 38b connects with a right lower cavity lower channel 33b and a right lower cavity upper channel 34b.

The left upper cavity 32a connects with a left upper cavity lower channel 35a and a left upper cavity upper channel 36a.

The right upper cavity 32b connects with a right upper cavity lower channel 35b and a right upper cavity upper channel 36b. Channels 33a, 33b, 34a, 34b, 35a, 35b, 36a, and 36b all open out from the inner wall of the plate 31.

FIGS. 8 and 9 show cross sectional views of the right side plate assembly 40. In the present embodiment, the right side plate assembly 40 is a solid side plate 41.

Referring now to FIGS. 10 and 11, the left side outer plate assembly 50 includes a left side plate 51 and an inlet channel 59 extending therethrough.

An air damper assembly 52 is rotatably disposed within the inlet channel 59 for controlling the volume of air that enters through inlet channel 59.

The damper assembly 52 includes a central rod 55 and radially extending vanes 56 and 57.

The central rod 55 extends past a frontal edge 58 of the plate 51 for attachment to the progressive linkage 114 shown in FIG. 1.

Rotation of the damper assembly 52 is controlled by the progressive linkage 114 to regulate the amount of air drawn through the heat exchange housing 12.

Preferably, an air filter 53 is attached to the inlet channel 59 for removing contaminants from the incoming air.

The air filter 53 can also contain an air heating coil 54 for raising the temperature of the air entering the air filter.

Referring now to FIGS. 12 and 13, the upper plate 61 of the upper outer plate assembly 60 is provided with a left side channel 62a, a right side channel 62b and fluid inlet or bore 64.

The left side channel 62a, the right side channel 62b and the bore 64 extend through the entire height of the plate 61 from an upper end 66 to a lower end 68 of the plate 61.

A fluid bar assembly 100 is disposed within the bore 64 as further described below.

As shown in FIGS. 14 and 15, the lower plate 71 of the lower outer plate assembly 70 is provided with a left side channel 72a extending through the entire height of the plate 71 and a right side channel 72b extending through the entire height of the plate 71.

The plate 71 further includes a discharge opening 73 within which is disposed a damper assembly 74. The damper assembly 74 comprises a central rod 75 and radially extending vanes 76 and 77.

The damper assembly 74 is rotatably mounted within the discharge opening 73, and the central rod 75 extends past a frontal edge of plate 71 for attachment to the progressive linkage 114 as described above for the damper assembly 52.

It is also desirable to provide a drain (not shown) on both the right and left sides of the plate 71 to allow for draining of any fluids that collect therein.

Referring now to FIG. 16, the intermediate plate 81 of the lower inner plate assembly 80 includes a left side channel 82a extending through the entire height of the plate 81 and a right side channel 82b that also extends through the entire height of the plate 81.

The plate 81 further includes a discharge opening 83 within which is disposed a damper assembly 84. The damper assembly 84 comprises a central rod 85 and radially extending vanes 86 and 87.

The damper assembly 84 is rotatably mounted within the discharge opening 83, and the central rod 85 extends past a frontal edge of plate 81 for attachment to the progressive linkage 114 as described above for the damper assembly 52.

As shown in FIG. 17, the intermediate plate 91 of the upper inner plate assembly 90 includes a left side channel 92a extending through the entire height of the plate 91 and a right side channel 92b also extending through the entire height of the plate 91.

The plate 91 further includes a discharge opening 93 within which is disposed a damper assembly 94. The damper assembly 94 comprises a central rod 95 and radially extending vanes 96 and 97.

The damper assembly 94 is rotatably mounted within the discharge opening 93 and the central rod 95 extends past a frontal edge of the plate 91 for attachment to the progressive linkage 114 as described above for the damper assembly 52.

When assembled, as shown in FIGS. 1 and 2, the plate assemblies 20, 30, 40, 50, 60, 70, 80 and 90 constitute the heat exchange housing 12 of the vaporizing unit 11 and provide three passageways therein: an upper passageway 120, a medial passageway 121, and a lower passageway 122.

The upper passageway 120 is defined by the lower side of the upper outer plate assembly 60 and the upper side of the upper inner plate assembly 90.

The medial passageway 121 is defined by the lower side of the upper inner plate assembly 90 and the upper side of the lower inner plate assembly 80.

The lower passageway 122 is defined by the lower side of the lower inner plate assembly 80 and the upper side of the lower outer plate assembly 70.

The upper passageway 120, the medial passageway 121, and the lower passageway 122 define a "first" continuous connecting passage having a serpentine shape which connects the fluid inlet or bore 64 of the upper plate 61 and the inlet channel 59 of the left side plate 51 in fluid communication with the discharge opening 73 of the lower plate 71.

Preferably, the height of each passageway varies to accommodate expansion of the fluid traveling therein as a result of heating.

For example, when the vaporizing unit 11 is employed in combination with a hydrocarbon fuel-burning internal combustion engine, it has been found that the optimal height for each passageway is as follows:

If the height of the upper passageway 120 equals x, then the height of the medial passageway 121 equals 1.25x, and the height of the lower passageway 122 equals 1.5x.

Referring now to FIGS. 12, 18 and 19, a fluid bar assembly 100 is disposed within the bore 64 of the upper outer plate assembly 60.

The fuel bar assembly 100 comprises an upper blind bore 101 and a lower blind bore 102.

The upper blind bore 101 opens at an inlet end 103 thereof and the lower blind bore opens at an inlet end 103a thereof, both located at a left end of the fluid bar assembly 100.

Upper ports 104a, 104b, and 104c connect the upper blind bore 101 in fluid communication with the lower blind bore 102.

Lower ports 105a, 105b, and 105c connect the lower blind bore 102 to a lower surface 115 of the fluid bar assembly 100.

A rod 106 is disposed within the lower blind bore 102 and is mounted for rotational movement therein.

The rod 106 has bores 107a, 107b, and 107c extending therethrough in spaced relation to establish fluid communication between the ports 104a, 104b, 104c and the ports 105a, 105b, 105c, respectively, upon rotation of the rod 106.

Disposed on the outer circumference of the rod 106 are 0-ring gaskets 108 and seals 109 to prevent leakage of fluid from the outlet end of bore 102.

A return spring 111 is provided for returning the rod 106 to a normally closed position wherein the rod 106 blocks passage of fluids to the ports 105a-105c. Disposed at outlet ends of the ports 105a, 105b and 105c are nozzles 110a, 110b, and 110c, respectively.

Preferably, as shown in FIG. 19, the fluid bar assembly 100 is provided with protrusions 112a and 112b formed along the top edge of the fluid bar assembly 100. Mating grooves (not shown) cut in the plate 61 matingly receive the protrusions 112a and 112b of the fluid bar assembly 100 and facilitate the removal of the fluid bar assembly 100 from the plate 61.

It is also understood that the fluid bar assembly 100 can be formed integrally with the plate 61, with the rod 106 permitted to rotate freely relative to the plate 61.

The operation of the fluid vaporisation system 10 according to the present invention will be described with an internal combustion engine with reference to FIGS. 3a and 3b.

In such an application, the mixture of fluids to be delivered to the internal combustion engine in a vaporised state comprises a mixture of liquid fuel and air, and the fluid bar assembly 100 comprises a fuel bar assembly.

As shown schematically in FIG. 3a, the vaporizing unit 11 of the present invention is attached to the bottom part of a conventional carburetor 10a.

The top part of the conventional carburetor, including the casing that contains the choke assembly, is removed prior to attachment of the vaporizing unit 11. In this arrangement, the air damper assembly 74 disposed in the lower outer plate assembly 70 functions as the carburetor choke assembly.

As shown in FIG. 3b, high temperature coolant from a coolant source 6, preferably engine coolant, is pumped via a pump 7 to a coil heater 5. The heater 5 heats the engine coolant to approximately 180.degree. F. when and if required.

Upon exiting the coil heater 5, the high-temperature coolant travels to inlet valves 8a and 8b such as, for example, conventional mechanical or electronic ball valves, which control the amount of coolant passing therethrough into the left and right inlets 28a and 28b, respectively, of the vaporizing unit 11. Upon entering the vaporizing unit 11, the high-temperature coolant travels in

two adjacent paths defined by the various plate assemblies 20, 30, 40, 50, 60, 70, 80 and 90 as described below.

The first path is serially defined by the left inlet 28a and the left lower channel 22a of the rear outer plate 20; the left side channel 72a of the lower outer plate 70; the left lower cavity lower channel 33a, the left lower cavity 38a, and the left lower cavity upper channel 34a of the front outer plate assembly 30; the left side channel 82a of the lower inner plate assembly 80; the left lower medial channel 23a, the left medial cavity 24a, the left upper medial channel 25a of the rear outer plate assembly 20; the left side channel 92a of the upper inner plate assembly 90; the left upper cavity lower channel 35a, the left upper cavity 32a, and the left upper cavity upper channel 36a of the front outer plate assembly 30; the left side channel 62a of the upper outer plate assembly 60; and the left upper channel 26a and the left outlet 27a of the rear outer plate assembly 20.

It is apparent from the above description that the first path defines a "second" continuous connecting passage having a serpentine shape for connecting the left inlet 28a in fluid communication with the left outlet 27b.

The second path is serially defined by the right inlet 28b and the left lower channel 22b of the rear outer plate 20; the left side channel 72b of the lower outer plate 70; the left lower cavity lower channel 33b, the left lower cavity 38b, and the left lower cavity upper channel 34b of the front outer plate assembly 30; the left side channel 82b of the lower inner plate assembly 80; the left lower medial channel 23b, the left medial cavity 24b, the left upper medial channel 25b of the rear outer plate assembly 20; the left side channel 92b of the upper inner plate assembly 90; the left upper cavity lower channel 35b, the left upper cavity 32b, and the left upper cavity upper channel 36b of the front outer plate assembly 30; the left side channel 62b of the upper outer plate assembly 60; and the left upper channel 26b and the right outlet 27b of the rear outer plate assembly 20.

It is apparent from the above description that the second path defines a "third" continuous connecting passage having a serpentine shape for connecting the right inlet 28b in fluid communication with the right outlet 27b.

The inlet valves 8a and 8b are regulated, for example, by two independent thermostats (not shown) which are submerged in the coolant paths on the lower outer plate assembly 70.

The foregoing construction facilitates maintaining, under all load conditions, a constant temperature across the first and second coolant paths and the upper, medial and lower passageways, thus preventing a drop in temperature which will cause the vapour fuel to undergo condensation and greatly decrease the fuel efficiency and increase exhaust pollutants.

Coolant exiting from the outlets 27a and 27b is then returned to the engine coolant source 6.

It is understood by those skilled in the art that the engine coolant may be substituted with hot engine exhaust gases if desired.

It is apparent from the above description that the first and second coolant paths within the heat exchange housing 12 are capable of being independently regulated, and facilitate a dual cross-counterflow arrangement for optimal heat exchange with respect to the fuel/air mixture traveling through the vaporizing unit 11 as described below.

Referring again to FIG. 3a, hydrocarbon fuel from a fuel source 13 is supplied to a high pressure fuel pump 3.

The high pressure fuel pump 3 pressurizes the fuel to a desired pressure depending upon various factors including the number of chambers of the internal combustion engine 9 and delivers the high pressure fuel to the inlet end 103 of the upper blind bore 101 of the fuel bar assembly 100 shown in FIGS. 18-19.

For example, the minimum required fuel pressure for a four cylinder engine is 100 psi, for a six cylinder engine it is 125 psi, for an eight cylinder engine it is 150 psi, for a ten cylinder engine it is 200 psi, and for a small aircraft engine it is between 200 to 300 psi.

The pump pressure set point is optimally chosen so that the vaporizing unit 11 will only supply enough vaporised fuel/air mixture to the engine 9 sufficient for, for example, fifteen seconds use under full engine load.

Upon entering the fuel bar assembly 100, the fuel travels through the upper ports 104a-104c, through-bores 107a-107c of the rod 106 and through the lower ports 105a-105c and is discharged through the nozzles 110a-110c.

In one example of the present embodiment, the pressure of the fuel exiting the fuel bar assembly 100 is chosen to be approximately 1/3 the discharge pressure of the pump 3.

It will be appreciated by those skilled in the art that the rod 106 of the fuel bar assembly 100 acts as a rotatable throttle to control the amount of fuel flowing through the fuel bar assembly 100.

The rotation of the rod 106 is controlled by the progressive linkage 114.

The progressive linkage 114 also controls the position of the air damper assemblies 52, 74, 84, and 94 to regulate the amount of air drawn through the heat exchange housing 10 as described below.

However, it is understood by those skilled in the art that other control mechanisms are suitable for controlling the fuel bar assembly and the damper assemblies.

For example, the fuel bar assembly and damper assemblies could be controlled by an electronically controlled servo motor (not shown).

Air is drawn through the air filter 53 and heated by the heating coil 54 and the heated air flows through the damper assembly 52 of the left side outer plate assembly 50.

The flow of air then enters the left side of the upper passageway 120. The incoming air mixes with the pressurised fuel exiting the fuel bar assembly 100 and travels along the length of the upper passageway 120.

The fuel/air mixture then passes through the damper assembly 94 and enters the medial passageway 121. The fuel/air mixture travels along the length of the medial passageway 121, passing through the damper assembly 84, and enters the lower passageway 122.

Next, the fuel/air mixture travels along the length of the lower passageway 122 and exits the heat exchange housing 12 through the damper assembly 74.

The fuel/air mixture is sufficiently heated by heat transfer occurring between the high temperature engine coolant flowing through the first and second paths and the fuel/air mixture flowing through the passageways 120, 121 and 122. Preferably the fuel/air mixture will be almost completely (i.e., approximately 98% or more) vaporised and ready to be fed via the lower part of the carburettor 10a to the cylinders of the internal combustion engine 9.

Acceleration of the engine 9 is achieved by manipulation of the progressive linkage 114 (FIG. 1) which rotates the rod 106 of the fuel bar assembly 100 allowing an increased flow of fuel into the ports 105a-105c and out through nozzles 110a-110c, while simultaneously rotating the air damper assemblies 52, 74, and 94 which allow increased air and fuel/air mixture to pass through the vaporizing unit 11.

It will be appreciated that the damper assemblies not only provide for rapid acceleration and deceleration of the fuel/air mixture, but also function as independent flow rate regulators to maintain a constant ideal vaporisation environment within the heat exchange housing 12.

Furthermore, although the damper assemblies in the present embodiment are controlled mechanically by a progressive linkage 114, it is understood by those skilled in the art that the damper assemblies may be controlled instead with electronic servo motors.

Start-up of the engine 9 is accomplished by turning an ignition switch 4a to the ON position. A relay 4b is energised and activates a low pressure fuel pump 2.

The fuel pump 2 pumps fuel to the lower part of the carburettor 10a since the engine must start on liquid fuel and the vaporizing unit 11 will not function effectively until it has reached a proper operating temperature.

Accordingly, the relay 4b simultaneously activates the air heating coil 54 and the coolant heating coil 5 to rapidly achieve a minimum operating temperature (i.e., approximately 150.degree. F.) of the vaporising unit 11.

As the engine 9 achieves its normal operating temperature and thusly raises the temperature of the engine coolant to approximately 190.degree. F., dependence on the air heating coil 54 and the coolant heating coil 5 is reduced.

When the minimum operating temperature of the vaporizing unit 11 is sensed by a temperature sensing array 4d, the relay 4b deactivates the low pressure fuel pump 2 and activates the high pressure fuel pump 3 which begins pumping fuel to the fuel bar assembly 100.

The vaporizing unit 11 maintains its optimal operating temperature of approximately 190.degree. F. via the temperature sensing array 4d which controls the temperature of the air heating coil 54 and the coolant heating coil 5.

Stopping of the engine 9 is accomplished by turning the ignition switch 4a to the OFF position, which activates a timer 4c, deactivates the high pressure fuel pump 3, and activates the low pressure fuel pump 2.

The timer 4c keeps the engine 9 running for a sufficient time, approximately 15 seconds, to allow all of the vaporised fuel in the vaporizing unit 11 to be consumed by the engine 9 and for the bottom part of the carburettor 10a to fill with liquid fuel.

This delayed shut-off process serves to eliminate accidental detonation of the vaporised fuel in the vaporizing unit 11 after engine shut-off and prepares the engine 9 for a subsequent start-up.

From the foregoing description, it can be seen that the present invention comprises an improved fluid vaporisation system.

It will be appreciated by those skilled in the art that obvious changes could be made to the embodiment described in the foregoing description without departing from the broad inventive concept thereof.

For example, although the foregoing embodiment of the fluid vaporisation system has been described with a specific application to an internal combustion engine, it will be appreciated that the fluid vaporisation system is also well adapted for other applications, such as, for example, heating oil fuel processors, air conditioning systems, refrigeration systems and ice storage tanks.

It is understood, therefore, that this invention is not limited to the particular embodiment disclosed, but is intended to cover all modifications thereof which are within the scope and spirit of the invention as defined by the appended claims.



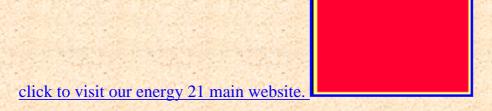


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# **Fuel Vaporisation system**

United States Patent

5,782,225

Caggiano

July 21, 1998

Part one of this series
Part two of this series

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## 14

## Gas electrical hydrogen generator

#### Abstract

A hydrogen gas generator system for converting water into hydrogen and oxygen gasses, in combination with a magnetic particle accelerator for voltage/current electrical potential generation. The hydrogen gas generator encompasses an array of plates immersed in a housing and having natural water pass therethrough. Direct current, voltage dependant/current limited, potential applied to the plates causes the hydrogen/oxygen gasses to disassociate from the water molecule. The upper portion of the container is a hydrogen/oxygen mixture collection chamber for maintaining a predetermined gas pressure. There is introduced into the hydrogen/oxygen collection chamber, from a source, a substantial quantity of permanently magnetically polarized particles. Attached to the gas collection chamber outlet is a non-magnetic, non-conductive closed loop of tubing. The polarized magnetic particles are caused to circulate in the closed loop tubing by an electrical and/or mechanical pump. A pick-up coil wound around the tubing will have a voltage induced therein as the magnetic field of the polarized magnetized gas particles pass therethrough. The induced voltage has utilization as an electrical power source. In that the hydrogen/oxygen gasses are not polarized the gasses will seek a pressure release via an outlet. The hydrogen and oxygen gasses may be utilized such as in a burner system.

### Claims

### I claim:

- 1. In combination, a hydrogen/oxygen generator comprising:
- a hydrogen/oxygen generator including a housing having a gas collection chamber for maintaining a preset volume of gas therein under pressure,
- an outlet attached to said collection chamber,
- a non-magnetic tubing connected to said outlet,
- a gas line tubing connected to the other end of said non-magnetic tubing and said collection chamber in a closed loop,
- utilization means, and
- a Y type of connector alternately connecting said gas line tubing to said gas utilization means and said collection chamber;
- an inlet means attached to said gas collection chamber,

a source of permanently magnetized polarized particles connected to said inlet and wherein said particles upon entering said inlet to said chamber become superimposed on said hydrogen/oxygen gases,

means in said non-magnetic tubing for maintaining said polarized particles circulating through said closed loop,

a pick-up coil positioned over said non-magnetic tubing and wherein the magnetic field of said magnetized particles passing through said tubing and traversing said pick-up coil induces a voltage/current therein,

means for varying the acceleration of said polarized particles in said closed-loop tubing to vary the output magnitude of said induced voltage in said coils,

means connected to said coil for utilization of said induced voltage/current potential; and

wherein said hydrogen/oxygen gasses are pressure released to said utilization means, and the attractive force of said particles causes a continuous movement through said closed loop non-magnetic tubing.

2. The combination as set forth in claim 1 further comprising:

two directional valve means, and

a demand circuit connected to said valve means for selectively connecting said gas line tubing to said gas utilization means; and

wherein said hydrogen/oxygen gasses have superimposed thereon said polarized particles;

in a quiescent circuit demand said polarized particles continue in motion through said closed loop.

3. The combination as set forth in claim 1 further comprising:

a nozzle connected to said gas utilization means of a predetermined size and configuration having a port for expelling said mixed gasses, and

means for igniting said gasses.

- 4. The combination as set forth in claim 1 further comprising:
- a pressure gauge for determining the pressure in said collection chamber, and
- switch means connected to said direct current voltage source to terminate the generation of hydrogen/oxygen gasses upon said collection chamber attaining a predetermined pressure.
- 5. The combination as set forth in claim 1 wherein said polarized particles circulating means comprises an electrical/mechanical means, and wherein said means for varying the acceleration of said polarized particles comprises varying the speed of said electrical/mechanical means.
- 6. The combination as set forth in claim 1 wherein said polarized particle circulating means comprises

mechanical means, and wherein said means for varying the acceleration of said polarized particles comprises varying the speed of the motive force of said mechanical means.

- 7. The combination of claim 1 wherein said polarized particle circulating means comprises electrical means, and wherein said means for varying the acceleration of said polarized particles comprises varying the electrical input to said electrical means.
- 8. The combination of claim 7 wherein said electrical means has an alternating voltage input and wherein said means for varying the accleration of said polarized particles comprises varying the frequency of said alternating input voltage.
- 9. The combination of a gas electrical generator as set forth in claim 1 wherein:
- said coil comprises a plurality of windings wound in parallel, and wherein said induced voltage/current therein is of a single polarity.
- 10. The combination of a gas electrical generator as set forth in claim 1 wherein:
- said coil comprises a plurality of windings wound in series, and wherein said induced voltage/current therein is of alternate polarity.
- 11. The combination of a gas electrical generator as set forth in claim 1 wherein:
- said coil comprises a plurality of windings and wherein the number of windings is determinative of the frequency of said induced voltage/current therein.
- 12. The combination of a gas electrical generator as set forth in claim 1 wherein said hydrogen/oxygen generator further comprises an array of plates positioned in said housing and means for passing natural water therebetween,
- a variable voltage source having circuit means for restricting current, and a positive and a negative terminal, means for connecting said positive terminal and said negative terminal to alternate plates, means for connecting the output of said pick-up coil to said voltage source.

## Description

### CROSS REFERENCE AND BACKGROUND

There is disclosed in my co-pending patent application, filed, Sept. 16, 1981, U.S. Ser. No. 302,807, for Hydrogen Generator, a hydrogen gas generating system. The apparatus comprises a pressure tight enclosure for a water bath having immersed therein an array of plates. The hydrogen and oxygen atoms are disassociated from the water molecule by the application of a non-regulated, non-filtered, d.c. voltage/current limited potential to the plates having natural water pass therebetween. The plates, as well as the housing, are non-oxidizing, non-corrosive, non-reactive, and of similar material. The upper portion of the container is a hydrogen/oxygen storage chamber for maintaining a predetermined level of pressure.

In my co-pending patent application, Ser. No. 411,977, for, Controlled Hydrogen Gas Flame, filed, Aug. 25, 1982, there is disclosed a hydrogen gas burner. The nozzle in the burner is connected to the storage area or gas collection chamber via an appropriate line. The port in the nozzle has an opening of a controlled size and configuration, related to the size of the flame and the temperature and velocity of the burning gas mixture.

Also, in my co-pending patent application, Ser. No. 367,051, for Electrical Particle Generator, filed Apr. 4, 1982, there is disclosed an electrical generating system that is utilized in combination with the aforesaid hydrogen/oxygen generator.

### **OBJECTS**

It is a principal object of the present invention to provide a hydrogen gas electrical generator capable of producing a voltage/current much greater in magnitude hereintofore possible.

Another object of the present invention is to provide such a hydrogen gas electrical generator utilizing magnetized elements and wherein the magnetized particles are accelerated in a closed loop tubing to induce a voltage/current in a pick-up winding.

Another object of the present invention is to provide such an electrical generator in combination with a controlled output hydrogen generator.

Another object of the present invention is to provide such an electrical generator that utilizes readily available components that are adaptable to a simplified embodiment.

### SUMMARY OF INVENTION

The present invention utilizes the basic principle of inducing a voltage current in a pick-up winding by passing a magnetic element therethrough in combination with a hydrogen gas generator. The particle accelerator utilizes the principles of my co-pending application Ser. No. 367,051, and the hydrogen generator is particularly that of my co-pending patent application, Ser. No. 302,807.

The hydrogen gas generator encompasses an array of plates immersed in housing having natural water pass therethrough. Direct current, voltage dependant/current limited, potential applied to the plates causes the hydrogen/oxygen gasses to disassociate from the water molecule. The upper portion of the container is a hydrogen/oxygen collection chamber for maintaining a predetermined gas pressure including an outlet means.

There is introduced into the hydrogen/oxygen collection chamber from a source a substantial quantity of permanently magnetically polarized particles. The particles dispersed in the collection chamber will superimpose themselves on the generated hydrogen/oxygen gasses. Attached to the gas collection chamber outlet is a non-magnetic/non-conductive closed loop of tubing. The polarized magnetic particles are caused to circulate in the closed loop tubing by an electrical and/or mechanical pump. Due to the alignment and the attraction of the particles, the particles movement through the loop is continuous. A pick-up coil wound around the tubing will have a voltage induced therein as the polarized magnetized gas particles pass therethrough. The induced voltage has utilization as an electrical power source. In that the hydrogen/oxygen gasses are not polarized the gasses will seek a pressure release via an outlet. The hydrogen and oxygen as may be utilized such as in a burner system.

Other objects and features of the present invention will become apparent from the following detailed

description when taken in conjunction with the drawings in which:

### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a simplified illustration of the principles of the invention, in cross-section showing the electrical particle voltage/current generator together with the hydrogen generator in a preferred embodiment.

FIG. 2 is a magnetic particle tubing, in an electrical schematic circuit arrangement, illustrating the induced direct and alternating current voltage.

### DETAILED DESCRIPTION OF DRAWINGS

Referring now to FIG. 1 there is illustrated the invention of the preferred embodiment in a simplified schematic arrangement. The generator 10 comprises an airtight pressure housing 15 of non-corrosive, non-oxydizing, non-reactive material. The housing 15 is filled with natural water of a predetermined level. Immersed in the water 12 is an array of plates 14.

In the preferred embodiment of the invention of FIG. 1, as disclosed in my co-pending application Ser. No. 302,807, the plates 14 are in pairs of similar non-corrosive, non-oxydizing, non-reactive material. A variable voltage source 16 having circuitry to restrict the amperage comprises additionally a pair of terminals connecting a positive and negative voltage to alternate plates 14 in the pair. The applied potential to the plates causes the hydrogen and oxygen atoms to disassociate themselves from the water molecule.

The released hydrogen gas depicted as particles 20a xxx 20n and oxygen gas particles 22a xxx 22n are collected and stored in the chamber 23 together with other released gasses such as nitrogen 21a xxx 21n.

The loop arrangement of tubing 50 has wound thereon a substantial number of turns 60a xxx 60n in a winding 60. The number and size of the turns is related to the tubing configuration and voltage/current output as setforth in my co-pending application. The magnetically charged particles traveling with a high accelerated velocity pass through the tubing 50. As the magnetically charged particles pass through the core of the winding 60, their magnetic field 36a traverses the windings 60a xxx 60n, and induces a voltage/current therein. The output voltage/current is utilized via terminals 70-72.

As aforesaid, the storage chamber 23 is maintained at a predetermined pressure; and once the pressure is attained the hydrogen/oxygen gasses will be expelled into outlet line 25 with a substantial velocity. The pressure released gas mixture continues through the entire loop arrangement of tubing 50.

Upon demand for the flame, (such as for heat) from demand circuit 65, the valve 37 is opened causing the gas mixture circulating in closed loop 50 to be released to the nozzle 40 and provide the flame 45 upon ignition.

The hydrogen/oxygen gasses having the particles superimposed therein will separate and be pressure released via tubing 35 to the nozzle 40. In that the magnetic fields of the polarized particles provide an attractive force, the motion of the polarized particles through the closed loop 50 will be greater than the gas mixture pressure release. That is, with the valve 37 open the hydrogen/oxygen gasses will separate themselves from the polarized particles. The hydrogen/oxygen gasses will go via 35 to nozzle 40 whereas the polarized particles will continue to circulate through the closed loop. The chamber 23 further includes switch means 57 to shut off the electrical source 16 to the generator system when the pressure in the chamber 23 sensed by pressure gauge 55, achieves a predetermined level.

In the operation of the hydrogen generator as a burner, as disclosed in the co-pending patent application Ser. No. 411,797, the outlet tube 25 is connected directly to the nozzle 40 to obtain the flame 45 upon ignition. The operation of the gas burner is not altered in the present invention.

The housing 15 further comprises an inlet 34 having source 36 connected thereto. This permits the entry into the chamber 23 of a substantial amount of permanently polarized magnetized particles 36a xxx 36n.

The polarized particles 36a xxx 36n upon entry into the chamber 23 superimpose themselves on the hydrogen/oxygen gasses.

Upon demand, as set forth below, the opening of the valve 37 causes a pressure differential with the gasses collected in the chamber 23. In this way the gasses having the polarized particles superimposed thereon will be pressure released and caused to enter the closed loop 50.

Once in the closed loop the accelerator 45 will maintain the gasses and the superimposed polarized particles in a continuous circulating motion through the closed loop 50.

Connected to the outlet tubing 25 is a series of loops of non-magnetic tubing 50. The tubing in its loop configuration can be any one of the arrangements illustrated in my co-pending patent application, supra. The opposite end 51 of the loop 60 tubing is connected, via a Y connection, either to the burner assembly 40, via line 35, or a return line 42 to the storage 30. chamber 23.

It is to be appreciated that a miniscule amount of polarized particles will be carried into the outlet 35 as well as hydrogen/oxygen gas continuing to circulate through the closed loop. In the event the amount of polarized particles expended should become significant, the quantity of particles will be replenished from source 32.

Upon satisfaction of the demand, the valve 37 will close and thereby cause the gas mixture circulating through closed loop 50 to return to the collection chamber 23 via close loop line 42. In this arrangement the pump 45 will continue to be operative and cause a continuous circulation of the polarized particles through the closed loop. If the gas in the collection chamber is of the preset pressure, as sensed at gauge 55, the voltage via terminal 16 will be cutoff discontinuing the generation of gas.

With hydrogen/oxygen gas mixture demand circuit quiescent, the polarized particles will not be separated from the hydrogen/oxygen gasses at the outlet 35. The pump 45 is a continuous pump and thereby continuous to circulate through the closed loop 50 the polarized particles superimposed on the gas mixture from chamber 23.

The magnetized particle source 32 is operative to transform a material into minute vapor particles that are capable of being permanently polarized magnetically. The vapor, in the nature of a gas will superimpose on the hydrogen/oxygen gas.

With particular reference to FIG. 2 there is illustrated, partly in schematic and partly pictorial the preferred embodiment of the invention.

Initially is is noted that the pump 45 of FIG. 1 has been replaced by the electrical particle accelerator 46. The accelerator 46 is a non-mechanical/no moving part element and therefore not subject to wear. It is to be recalled, polarized particles have placed there on a magnetic field potential. Hence, as the magnetized particles approach the accelerator 46 they are attracted and as they pass the center of the accelerator and they

are propelled therethrough.

Other propulsion means in lieu of the pump 45 of FIG. 1 or the accelerator 46 of FIG. 2 may be utilized.

As noted in the aforesaid co-pending patent application, the induced current/voltage can be, at the output 70-72, either direct current, or alternating current, or both. With reference to FIG. 2, the simplified schemetic illustrates a direct current voltage 4 parallel winding and an alternating current 75 in serial winding.

The number of coils 74a xxx n of direct current windings of coil 74 will determine the ripple frequency of the direct current voltage and its amplitude. Similarly, the number of alternating current windings 75a xxx n will determine the alternating frequency of the alternating current voltage and its amplitude.

More importantly, the aforesaid ripple frequency of the single polarity voltage of coil 74 and alternating frequency of the alternating voltage of coil 75 can be altered, varied, and controlled. That is, the frequency is a function of the number of discrete windings of the coils times the velocity of the gas per second. The velocity of the polarized particles in tubing 50, in turn, is varied by varying the magnitude of the input voltage to the accelerator 46. Simply an arithmetical increase in acceleration of the polarized particles results in a geometrical increase in frequency an amplitude of the ouput voltage from either the direct current winding 74 or the alternating current winding 75.

In the co-pending application, supra, for the Electrical Particle Generator, the accelerator input voltage source 53 is intended to comprise circuitry to provide alternate forms of electrical power, such as direct current, alternating current, direct current pulsing, and variable voltage. The output taken at the pick-up windings is related to the input voltage in shape, magnitude and in waveform.

With reference to FIG. 1 and with continued reference to FIG. 2, the hydrogen/oxygen generator 10, has applied to the plates 14 a direct current voltage. The voltage applied to the plates 14 from power supply 16, depending upon the utility of the generator, may be a variable voltage. For instance, if it is desired to vary the intensity of the flame 45, the voltage at the plates 14 will be varied.

Further, as specifically repeated, the voltage is current limited. Accordingly, the power source 16 will provide circuitry for varying the voltage to the plates 14 and for restricting the amperage to a neglible value relative to said voltage.

In a self-sustaining embodiment of the gas electrical generator, a portion of the output at the voltage taps 70-72 of the pick-up coils is directed back to the power supply 16. In that the total power requested to be applied to the plates 14 is relatively low, an insignificant portion of the output at taps 70-72 is required for sustained operation of the generator.

The electrical particle portion of the electrical gas generator of the present invention is operative continuously as set forth above. Hence the output voltage at taps 70-72 will be available to the power supply 16 whenever a demand for gas generation is made.

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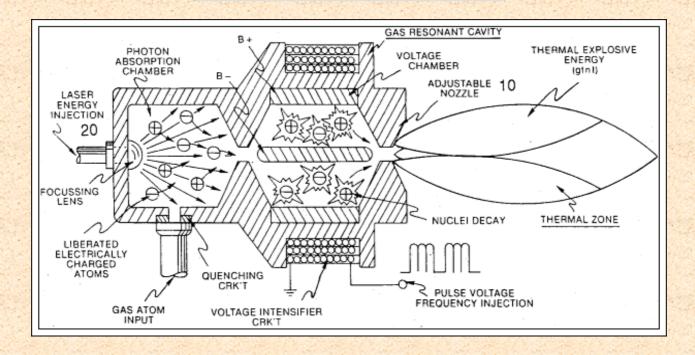


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# Stanley Meyer Water Fuel Cell.



Everyone knows that hydrogen and oxygen can be split from water by the application of electricity across plates submerged in a container of water. This is called hydrolysis and it requires a lot of electrical energy to produce worthwhile volumes of gases. Not only is this process energy hungry but the gases produced are also very dangerous to store and they burn too rapidly to be of effective use as fuels.

Stanley Meyer has worked with these problems (1970's to 1991) and has invented devices that solve beyond expectation all of the related difficulties in harnessing water as a fuel. The knowledge developed by him is relatively easy to grasp and can be applied by anyone with electrical, handyman skills and a decently good home workshop.

In a nutshell,..... water will break into it's elemental parts when exposed to a specific electrical polarity and condition. The first trick is to modify the electrical input so that it resonates in synchronization with the water and it's cell. When the pulse train is at resonance and voltage high, a correctly set up cell consumes mear milli amps of power yet, water is rapidly converted to it elemental gases. When this gas mixture is mixed with air and noncombustible gases (exhaust gas) it will burn with a slow enough combustion rate to use as petrol substitution. Storage of the fuel gas is not required as the fuel is produced instantly on demand.

If these elemental gases are further exposed to excitement by the resonating stimulus of electrical fields and laser energy, intense thermal explosive energies will be released which are the result of entire molecular disintegration!! See drawing at the top of this page.

A new form of nuclear energy?

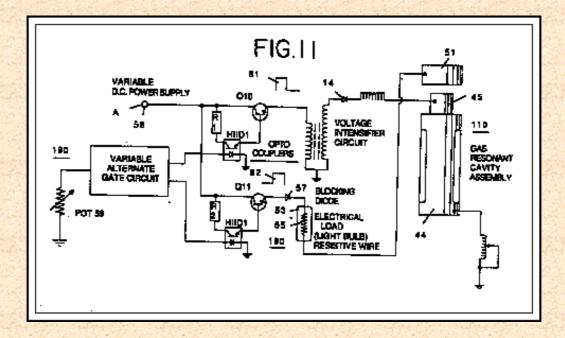
I've also been fortunate to learn as what has been described as "Cold Electricity" This form of electricity was first described and utilized by N Tesla with his wireless transmission of power. The device uses high voltage DC pulsed through a spark gap. Electrostatic fields are gathered. This process effectively splits the magnetic component from the electric. Liberated from the bonds of magnetism, the electric field is an entirely different and highly dynamic animal!! Note that Stan's device also has a high DC voltage pulsed and a spark gap.......

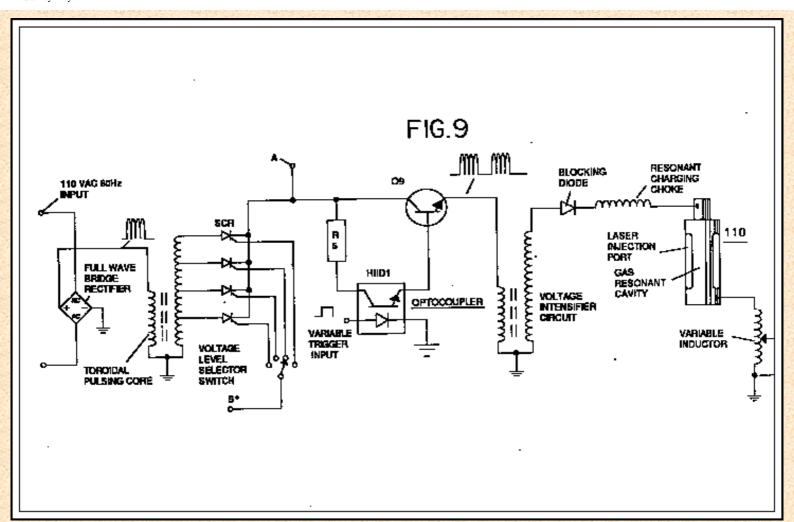
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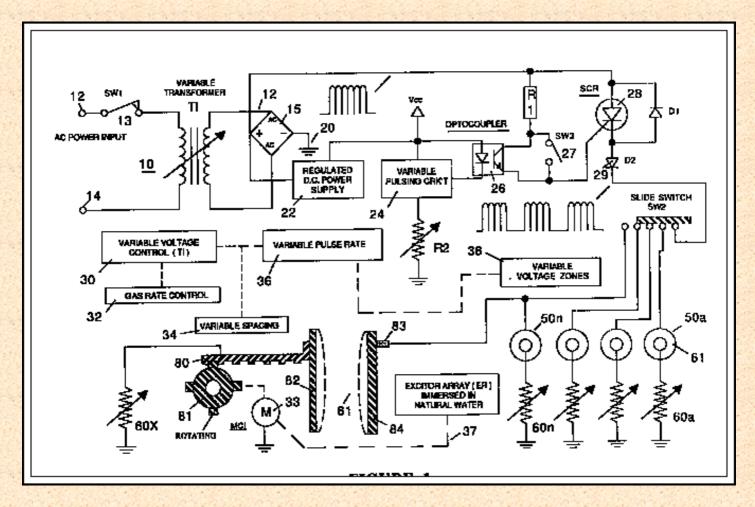
The above patients will keep anyone busy for quite some time. I know I have, and all I've learnt from them appears both plausible and most exciting stuff. I've not done much in the way of building circuits as electronics are not my thing, mind you, if any of you out there are working towards functioning devices or have got workable results, I'd love to know how things are going...

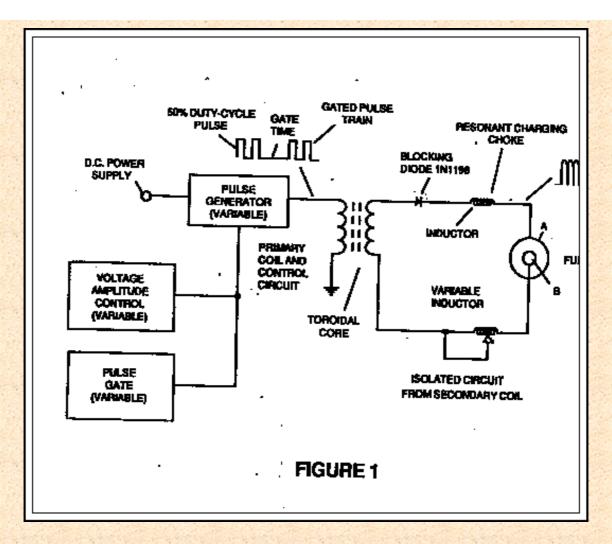
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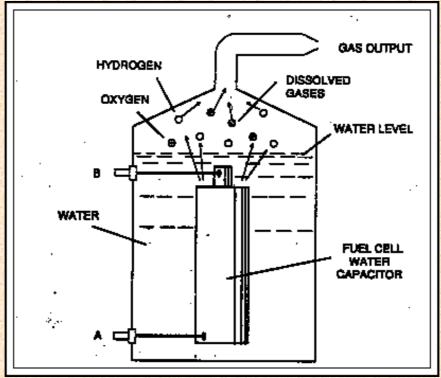
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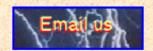




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## Method for the production of a fuel gas

#### **Abstract**

A method for obtaining the release of a fuel gas mixture including hydrogen and oxygen from water in which the water is processed as a dielectric medium in an electrical resonant circuit.

#### Claims

#### What is claimed is:

- 1. A method of obtaining the release of a gas mixture including hydrogen and oxygen and other dissolved gases formerly entrapped in water, from water, consisting of:
- (A) providing a capacitor in which water is included as a dielectric between capacitor plates, in a resonant charging choke circuit that includes an inductance in series with the capacitor;
- (B) subjecting the capacitor to a pulsating, unipolar electric charging voltage in which the polarity does not pass beyond an arbitrary ground, whereby the water molecules within the capacitor are subjected to the electric field between the capacitor plates;
- (C) further subjecting the water in said capacitor to a pulsating electric field resulting from the subjection of the capacitor to the charging voltage such that the pulsating electric field induces a resonance within the water molecules;
- (D) continuing the application of the pulsating charging voltage to the capacitor after resonance occurs so that the energy level within the molecules is increased in cascading incremental steps in proportion to the number of pulses;
- (E) maintaining the charge of said capacitor during the application of the pulsating charging voltage, whereby the co-valent electrical bonding of the hydrogen and oxygen atoms within said molecules is destabilized, such that the force of the electrical field applied to the molecules exceeds the bonding force within the molecules, and hydrogen and oxygen atoms are liberated from the molecules as elemental gases.
- 2. The method of claim 1 including the further steps of collecting said liberated hydrogen and oxygen gases, and any other gases that were formerly dissolved with in the water and discharging said collected gases as a fuel gas mixture.

## Description

#### Field of Invention

This invention relates to a method of and apparatus for obtaining the release of a fuel gas mixture including hydrogen and oxygen from water.

#### BACKGROUND OF THE PRIOR ART

Numerous processes have been proposed for separating a water molecule into its elemental hydrogen and oxygen components. Electrolysis is one such process. Other processes are described in United States patents such as 4,344,831; 4,184,931; 4,023,545; 3,980,053; and Patent Cooperation Treaty application No. PCT/US80/1362, published 30 April, 1981.

#### **OBJECTS OF THE INVENTION**

It is an object of the invention to provide a fuel cell and a process in which molecules of water are broken down into hydrogen and oxygen gases, and a fuel gas mixture including hydrogen, oxygen and other gasses formerly dissolved within the water is produced. As used herein the term "fuel cell" refers to a single unit of the invention comprising a water capacitor cell, as hereinafter explained, that produces the fuel gas in accordance with the method of the invention.

## Brief Description of the Drawings

FIG. 1 illustrates a circuit useful in the process.

FIG. 2 shows a perspective of a "water capacitor" element used in the fuel cell circuit.

FIGS. 3A through 3F are illustrations depicting the theoretical bases for phenomena encountered during operation of the invention herein.

## Description of the Preferred Embodiment

In brief, the invention is a method of obtaining the release of a gas mixture including hydrogen and oxygen and other dissolved gases formerly entrapped in water, from water consisting of: (A) providing a capacitor, in which the water is included as a dielectric liquid between capacitor plates, in a resonant charging choke circuit that includes an inductance in series with the capacitor; (B) subjecting the capacitor to a pulsating, unipolar electric voltage field in which the polarity does not pass beyond an arbitrary ground, whereby the water molecules within the capacitor are subjected to a charge of the same polarity and the water molecules are distended by their subjection to electrical polar forces; (C) further subjecting the water in said capacitor to said pulsating electric field to achieve a pulse frequency such that the Pulsating electric field induces a resonance within the water molecule; (D) continuing the application of the pulsing frequency to the capacitor cell after resonance occurs so that the energy level within the molecule is increased in cascading incremental steps in proportion to the number of pulses; (E) maintaining the charge of said capacitor during the application of the pulsing field, whereby the co-valent electrical bonding of the hydrogen and oxygen atoms within said molecules is destabilized such that the force of the electrical field applied, as the force is effective within the molecule, exceeds the bonding force of the molecule, and hydrogen and oxygen atoms are liberated from the molecule as elemental gases; and (F) collecting said hydrogen and oxygen gases, and any other gases that were formerly dissolved within the water, and discharging the collected gases as a fuel gas mixture.

The process follows the sequence of steps shown in the following Table I in which water molecules are subjected to increasing electrical forces. In an ambient state, randomly oriented water molecules are aligned with respect to a molecular polar orientation. They are next, themselves polarized and "elongated" by the application of an electric Potential to the extent that covalent bonding of the water molecule is so weakened that the atoms disassociate and the molecule breaks down into hydrogen and oxygen elemental components. Engineering design parameters based on known theoretical principles of electrical circuits determine the incremental levels of electrical and wave energy input required to produce resonance in the system whereby the fuel gas comprised of a mixture of hydrogen, oxygen, and the other gases such as air test were formerly dissolved within the water, is produced.

#### TABLE I

PROCESS STEPS
THE SEQUENCE OF THE RELATIVE STATE
OF THE WATER MOLECULE AND/OR
HYDROGEN/OXYGEN/OTHER ATOMS:

- A. (AMBIENT STATE) RANDOM
- B. ALIGNMENT OF POLAR FIELDS
- C. POLARIZATION OF MOLECULE
- D. MOLECULAR ELONGATION
- E. ATOM LIBERATION BY BREAKDOWN OF COVALENT BOND
- F. RELEASE OF GASES

In the process, the point of optimum gas release is reached at a circuit resonance. Water in the fuel cell is subjected to a pulsating, polar electric field produced by the electrical circuit whereby the water molecules are distended by reason of their subjection to electrical polar forces of the capacitor plates. The polar pulsating frequency applied is such that the pulsating electric field induces a resonance in the molecule. A cascade effect occurs and the overall energy level of specific water molecules is increased in cascading, incremental steps. The hydrogen and oxygen atomic gases, and other gas components formerly entrapped as dissolved gases in water, are released when the resonant energy exceeds the co-valent bonding force of the water molecule. A preferred construction material for the capacitor plates is a stainless steel T-304 which is non-chemically reactive with water, hydrogen, or oxygen. An electrically conductive material which is inert in the fluid environment is a desirable material of construction for the electrical field plates of the "water capacitor" employed in the circuit.

Once triggered, the gas output is controllable by the attenuation of operational parameters. Thus, once the frequency of resonance is identified, by varying the applied pulse voltage to the water fuel cell assembly, gas output is varied. By varying the pulse shape and/or amplitude or pulse train sequence of the initial pulsing wave source, final gas output is varied. Attenuation of the voltage field frequency in the form of OFF and ON pulses likewise affects output.

The overall apparatus thus includes an electrical circuit in which a water capacitor having a known dielectric property is an element. The fuel gases are obtained from the water by the disassociation of the water molecule. The water molecules are split into component atomic elements (hydrogen and oxygen gases) by a voltage stimulation process called the electrical polarization process which also releases dissolved gases entrapped in the water.

From the outline of physical phenomena associated with the process described in Table 1, the theoretical basis of the invention considers the respective states of molecules and gases and ions derived from liquid water. Before voltage stimulation, water molecules are randomly dispersed throughout water within a container. When a unipolar voltage pulse train such as shown in FIGS. 3B through 3F is applied to positive and negative capacitor plates, an increasing voltage potential is induced in the molecules in a linear, step-like charging effect. The electrical field of the particles within a volume of water including the electrical field plates increases from a low energy state to a high energy state successively in a step manner following each pulse-train as illustrated figuratively in the depictions of FIG. 3A through 3F. The increasing voltage potential is always positive in direct relationship to negative ground potential during each pulse. The voltage polarity on the plates which create the voltage fields remains constant although the voltage charge increases. Positive and negative voltage "zones" are thus formed simultaneously in the electrical field of the capacitor plates.

In the first stage of the process described in Table 1, because the water molecule naturally exhibits opposite electrical fields in a relatively polar configuration (the two hydrogen atoms are positively electrically charged relative to the negative electrically charged oxygen atom), the voltage pulse causes initially randomly oriented water molecules in the liquid state to spin and orient themselves with reference to positive and negative poles of the voltage fields applied. The positive electrically charged hydrogen atoms of said water molecule are attracted to a negative voltage field; while, at the same time, the negative electrically charged oxygen atoms of the same water molecule are attracted to a positive voltage field. Even a slight potential difference applied to inert, conductive plates of a containment chamber which forms a capacitor will initiate polar atomic orientation within the water molecule based on polarity differences.

When the potential difference applied causes the orientated water molecules to align themselves between the conductive plates, pulsing causes the voltage field intensity to be increased in accordance with FIG. 3B. As further molecular alignment occurs, molecular movement is hindered. Because the positively charged hydrogen atoms of said aligned molecules are attracted in a direction opposite to the negatively charged oxygen atoms, a polar charge alignment or distribution occurs within the molecules between said voltage zones, as shown in FIG. 3B. And as the energy level of the atoms subjected to resonant pulsing increases, the stationary water molecules become elongated as shown in FIGS. 3C and 3D. Electrically charged nuclei and electrons are attracted toward opposite electrically charged voltage zones --disrupting the mass and charge equilibrium of the water molecule.

As the water molecule is further exposed to an increasing potential difference resulting from the step charging of the capacitor, the electrical force of attraction of the atoms within the molecule to the capacitor plates of the chamber also increases in strength. As a result, the co-valent bonding between atoms which form the molecule is weakened --and ultimately terminated. The negatively charged electron is attracted toward the positively charged hydrogen atoms, while at the same time, the negatively charged oxygen atoms repel electrons.

In a more specific explanation of the "sub-atomic" action that occurs in the water fuel cell, it is known that natural water is a liquid which has a dielectric constant of 78.54 at 20.degree. C. and 1 atm pressure. [Handbook of Chemistry and Physics, 68th ed., CRC Press (Boca Raton, Florida (1987-88)), Section E-50. H. sub.2 O (water)].

When a volume of water is isolated and electrically conductive plates, that are chemically inert in water and are separated by a distance, are immersed in the water, a capacitor is formed, having a capacitance determined by the surface area of the plates, the distance of their separation and the dielectric constant of water.

When water molecules are exposed to voltage at a restricted current, water takes on an electrical charge. By

the laws of electrical attraction, molecules align according to positive and negative polarity fields of the molecule and the alignment field. The plates of a capacitor constitute such an alignment field when a voltage is applied.

When a charge is applied to a capacitor, the electrical charge of the capacitor equals the applied voltage charge; in a water capacitor, the dielectric property of water resists the flow of amps in the circuit, and the water molecule itself, because it has polarity fields formed by the relationship of hydrogen and oxygen in the covalent bond, and an intrinsic dielectric property, becomes part of the electrical circuit, analogous to a "microcapacitor" within the capacitor defined by the plates.

In the Example of a fuel cell circuit of FIG. 1, a water capacitor is included. The step-up coil is formed on a conventional torroidal core formed of a compressed ferromagnetic powdered material that will not itself become permanently magnetized, such as the trademarked "Ferramic 06# "Permag" powder as described in Siemens Ferrites Catalog, CG-2000-002-121, (Cleveland, Ohio) No. F626-1205. The core is 1.50 inch in diameter and 0.25 inch in thickness. A primary coil of 200 turns of 24 gauge copper wire is provided and a coil of 600 turns of 36 gauge wire comprises the secondary winding.

In the circuit of FIG. 1, the diode is a lN1198 diode which acts as a blocking diode and an electric switch that allows voltage flow in one direction only. Thus, the capacitor is never subjected to a pulse of reverse polarity.

The primary coil of the torroid is subject to a 50% duty cycle pulse. The torroidal pulsing coil provides a voltage step-up from the pulse generator in excess of five times, although the relative amount of step-up is determined by pre-selected criteria for a particular application. As the stepped-up pulse enters first inductor (formed from 100 turns of 24 gauge wire 1 inch in diameter), an electromagnetic field is formed around the inductor, voltage is switched off when the pulse ends, and the field collapses and produces another pulse of the same polarity; i.e., another positive pulse is formed where the 50% duty cycle was terminated. Thus, a double pulse frequency is produced; however, in a pulse train of unipolar pulses, there is a brief time when pulses are not present.

By being so subjected to electrical pulses in the circuit of FIG. 1, water confined in the volume that includes the capacitor plates takes on an electrical charge that is increased by a step charging phenomenon occurring in the water capacitor. Voltage continually increases (to about 1000 volts and more) and the water molecule starts to elongate.

The pulse train is then switched off; the voltage across the water capacitor drops to the amount of charge that the water molecules have taken on, i.e. voltage is maintained across the charged capacitor. The pulse train is then reapplied.

Because a voltage potential applied to a capacitor can perform work, the higher the voltage potential, the more work is performed by a given capacitor. In an optimum capacitor that is wholly non-conductive, zero (0) current flow will occur across the capacitor. Thus, in view of an idealized capacitor circuit, the object of the water capacitor circuit is to prevent electron flow through the circuit, i.e. such as occurs by electron flow or leakage through a resistive element that produces heat. Electrical leakage in water will occur, however, because of some residual conductivity and impurities or ions that may be otherwise present in the water. Thus, the water capacitor is preferably chemically inert. An electrolyte is not added to the water.

In the isolated water bath, the water molecule takes on charge, and the charge increases. The object of the process is to switch off the co-valent bonding of the water molecule and interrupt the sub-atomic force, i.e. the electrical force or electromagnetic force, that binds the hydrogen and oxygen atoms to form a molecule so

that the hydrogen and oxygen separate.

Because an electron will only occupy a certain electron shell (the shells are well known) the voltage applied to the capacitor affects the electrical forces inherent in the co-valent bond. As a result of the charge applied by the plates, the applied force becomes greater than the force of the co-valent bonds between the atom of the water molecule; and the water molecule becomes elongated. When this happens, the time share ratio of the electrons between the atoms and the electron shells is modified.

In the process, electrons are extracted from the water bath; electrons are not consumed nor are electrons introduced into the water bath by the circuit as electrons are conventionally introduced in an electrolysis process. There may nevertheless occur a leakage current through the water. Those hydrogen atoms missing electrons become neutralized; and atoms are liberated from the water. The charged atoms and electrons are attracted to opposite polarity voltage zones created between the capacitor plates. The electrons formerly shared by atoms in the water co-valent bond are re-allocated such that neutral elemental gases are liberated.

In the process, the electrical resonance may be reached at all levels of voltage potential. The overall circuit is characterized as a "resonant charging choke" circuit which is an inductor in series with a capacitor that produces a resonant circuit. [SAMS Modern Dictionary of Electronics, Rudolff Garff, .COPYRGT. 1984, Howard W. Sams & Co. (Indianapolis, Ind.), page 859.]Such a resonant charging choke is on each side of the capacitor. In the circuit, the diode acts as a switch that allows the magnetic field produced in the inductor to collapse, thereby doubling the pulse frequency and preventing the capacitor from discharging. In this manner a continuous voltage is produced across the capacitor plates in the water bath; and the capacitor does not discharge. The water molecules are thus subjected to a continuously charged field until the breakdown of the co-valent bond occurs.

As noted initially, the capacitance depends on the dielectric properties of the water and the size and separation of the conductive elements forming the water capacitor.

#### **EXAMPLE I**

In an example of the circuit of FIG. 1 (in which other circuit element specifications are provided above), two concentric cylinders 4 inches long formed the water capacitor of the fuel cell in the volume of water. The outside cylinder was 0.75 inch in outside diameter; the inner cylinder was 0.5 inch in outside diameter. Spacing from the outside of the inner cylinder to the inner surface of the outside cylinder was 0.0625 inch. Reasonance in the circuit was achieved at a 26 volt applied pulse to the primary coil of the torroid at 0KH.sub. z, and the water molecules disassociated into elemental hydrogen and oxygen and the gas released from the fuel cell comprised a mixture of hydrogen, oxygen from the water molecule, and gases formerly dissolved in the water such as the atmospheric gases or oxygen, nitrogen, and argon.

In achieving resonance in any circuit, as the pulse frequency is adjusted, the flow of amps is minimized and voltage is maximized to a peak. Calculation of the resonance frequency of an overall circuit is determined by known means; different cavities have a different frequency of resonance dependent on parameters of the water dielectric, plate size, configuration and distance, circuit inductors, and the like. Control of the production of fuel gas is determined by variation of the period of time between a train of pulses, pulse amplitude and capacitor plate size and configuration, with corresponding value adjustments to other circuit components.

The wiper arm on the second inductor tunes the circuit and accommodates to contaminants in water so that the charge is always applied to the capacitor. The voltage applied determines the rate of breakdown of the

molecule into its atomic components. As water in the cell is consumed, it is replaced by any appropriate means or control system.

Variations of the process and apparatus may be evident to those skilled in the art.

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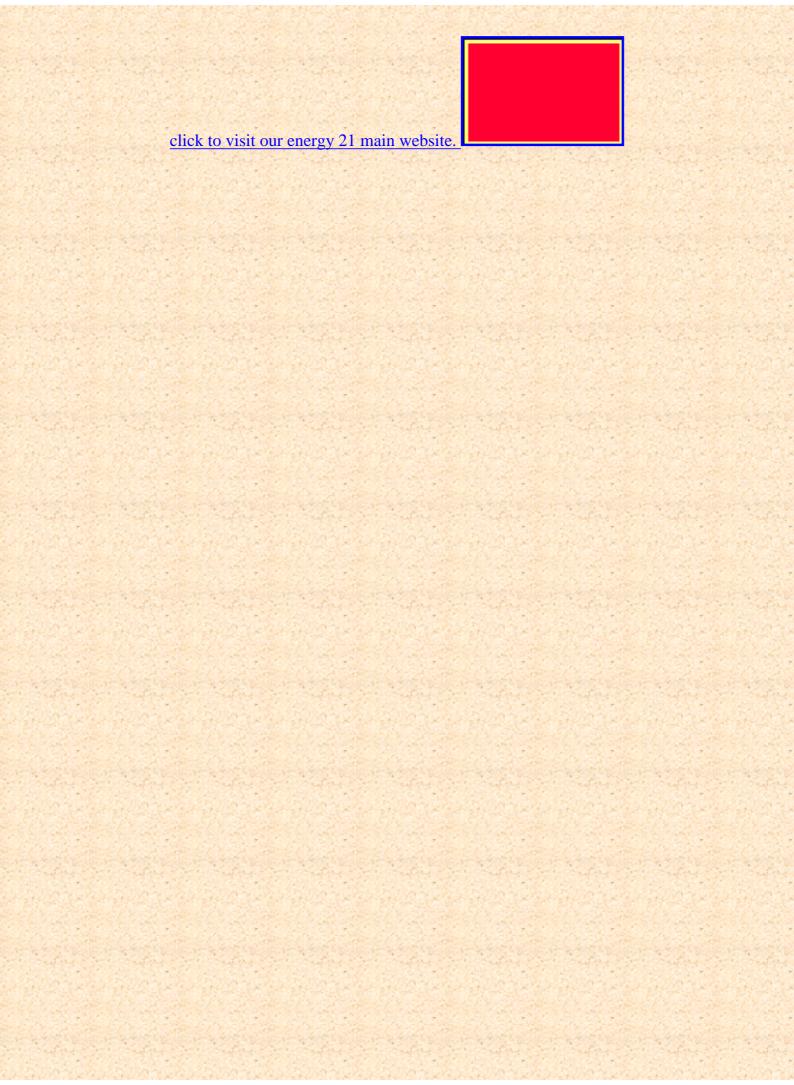
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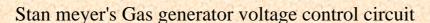
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#### Abstract

A power supply in a system utilizing as a source of fuel a generator for separating hydrogen and oxygen gasses from natural water and having the capabilities to control the production of gasses by varying the amplitude of the voltage and/or the pulse repetition rate of the voltage pulses applied to a pair of plate exciters in a vessel of natural water, comprising a sequence of circuitry operative to limit the current of a d.c. potential to a minimum value relative to the magnitude of the voltage applied to the plate exciters. The circuits each function up to a given magnitude of voltage to inhibit and curtail the flow of electrons from the plate exciter having the negative voltage potential applied thereto. The first circuit operative from a first magnitude of voltage comprises converting the voltage potential applied to the plate exciters to a unipolar pulse voltage d.c. of a repetitive frequency. The next circuit varies the duty cycle of the unipolar pulse voltage d.c.; followed by rearranging the application of the voltage to the exciters to individual exciters each having the voltage applied thereto independently of the other plate exciters in the generator. The next circuit comprises an electron inhibitor that prevents the flow of electrons; the circuit being in the terminal line between the negative plate exciter and ground. In those applications of the generator wherein excessively high voltage is to be applied to the plate exciters for a very high yield of gasses, a second electron inhibitor of a unique structure is serially connected with the first electron inhibiter. The second named inhibiter having a relatively fixed value and the first inhibiter connected in series is variable to fine tune the circuits to eliminate current flow.

#### Claims

### I claim:

In a generator for producing a mixture of hydrogen and oxygen and other dissolved gas from natural water which generator includes at least a pair of plate exciters within a water containing vessel, a variable voltage source for applying a pulsating predetermined potential difference between the plates and wherein the rate of production of the mixture of gasses is controlled by varying at least one of the amplitude of the voltage and the pulse repetition rate of the pulsating potential difference applied to the plate exciters.

The variable voltage source includes a means for restricting the current flow between the plate exciters to a minimum value relative to a predetermined potential difference applied to the plates, the improvement in the means for restricting said current flow comprising: variable voltage source means for converting an input voltage potential to unipolar d.c. voltage pulses that are applied to the exciter plates and have a pulsating potential difference when measured from an arbitrary ground.

There is also a means for regulating the voltage pulses in a repetitive frequency to inhibit the current flow caused by electron leakage between the plate exciters resulting from the amplitude of the applied voltage potential whereby said current flow is inhibited from exceeding a first minimum level.

The input voltage is an alternating current voltage and said circuit for converting said alternating current voltage to unipolar d.c. voltage pulses further comprises, means for varying the frequency of said alternating current voltage input to further inhibit electron leakage upon increasing the amplitude of the voltage applied

to the plate exciters to a second level.

The variable voltage source is an alternating current voltage for converting alternating current voltage to unipolar d.c. voltage pulses also comprises a transformer having primary and secondary windings, and a rectifier circuit connected across said secondary windings.

The transformer further includes variable inductive means for varying the output frequency of the voltage induced in said secondary winding to further inhibit electron leakage upon increasing the amplitude of the voltage applied to the plate exciters to a third level.

The variable voltage source also has a pulse forming circuit for varying the duty cycle of the unipolar d.c. voltage pulses to a predetermined repetition rate to inhibit electron leakage upon increasing the amplitude of the voltage applied to the plate exciters to a fourth level.

A means is further provided to vary the amplitude of the duty cycle pulses to vary the rate of production of the hydrogen and oxygen gasses, further comprising means for correlating the repetition of said duty cycle pulses with the amplitude of said duty cycle pulses to provide an average amplitude pulse below the amplitude level causing electron leakage.

The variable voltage source of the generator of claim 5 wherein said varying of the duty cycle of said unipolar d.c. voltage pulses to inhibit electron leakage is a periodic varying and aperiodic varying. It also has circuit means for varying the amplitude of said duty cycle pulses from a first gradient level to a second gradient level, and a means for varying the duty cycle pulses to a plurality of distinctive gradient levels.

It also has circuit means for nonuniformly varying the duty cycle pulses to a plurality of distinctive gradient levels.

The unipolar d.c. voltage pulses in the duty cycle is non-repetitive.

Varying of the duty cycle of said pulses to inhibit electron leakage comprise circuit means for varying the amplitude from a first gradient minimum level to a plurality of gradient levels. Gradient levels of amplitude represent demand functions for a utilitarian device.

The circuit further comprises means for varying the frequency of the alternating voltage including a transformer having a primary winding and a secondary winding, and wherein said means is connected to the input of the primary of said transformer.

A pair of plate exciters are spatially positioned in natural water with a physical distance there between of a wavelength to that of a particular frequency of the voltage back and forth motion between said exciter plates, and means for varying said unipolar d.c. voltage pulses in frequency to match the wavelength distance of the pair of plate exciters.

The pair of plate exciters are spatially positioned in the water with a physical distance there between of a wavelength to that of a particular frequency of the voltage back and forth motion between said exciter plates, and pulse forming means for varying the duty cycle of said unipolar d.c. voltage; and a means for varying said duty cycle pulse in repetition rate to match the wavelength distance of said pair of plate exciters.

The pair of plate exciters are spatially positioned in water with a physical distance therebetween of a wavelength to that of particular frequency of the voltage back and forth motion between the exciter plates, and pulse forming means for varying the duty cycle of said unipolar d.c. voltage; and a means for varying the

duty cycle pulse in repetition rate to match the wavelength distance of the pair of plate exciters, and means for varying the amplitude of said duty cycle pulses to a minimum level to maintain resonance between said pair of plate exciters; and a means for varying the repetition frequency of said unipolar d.c. voltage pulses to vary the rate of generation of gasses.

The negative plate has a ground and an electron inhibiting resistive element connected between the negative plate and ground, providing a means to vary the resistive element with a variable resistor to maximize electron inhibition.

The variable voltage source of the generator of claim 28 wherein the amplitude of the voltage induced in the secondary is dependant on the number of turns in said secondary winding.

There is a circuit component means for converting an input voltage to unipolar d.c. voltage pulses of a repetitive frequency to inhibit electron leakage upon varying the amplitude of the applied voltage above a first predetermined amplitude level,

a pulse forming circuit for varying the duty cycle of said unipolar d.c. voltage pulses to a predetermined repetition rate to inhibit electron leakage upon varying the amplitude of the voltage beyond a second level of amplitude circuit means for varying the frequency of said unipolar d.c. voltage pulses to inhibit electron leakage upon varying the amplitude of the applied voltage above a third predetermined level, a ground and a variable resistive element connected between the plate exciter having a negative voltage applied it and ground to limit electron leakage upon varying the amplitude of the voltage beyond a fourth level of amplitude,

a pair of plates and a resistive material sandwiched therebetween connected to said plate exciter having said negative voltage connected thereto and the end of the variable resistor opposite to the ground connection, to limit electron leakage upon varying the amplitude of said voltage applied to said plates bea fifth level.

## Description

#### **BACKGROUND AND CROSS REFERENCES**

The phenomena of physics was discovered that the hydrogen atoms in the water molecule will take on a positive charge whereas the oyxgen atom in the water molecule takes on a negative charge when the water molecule is exposed to an electrical voltage. The two hydrogen positive charged atoms and the one oxygen negative charged atoms, in magnitude, are in a state of equilibrium.

In my co-pending patent application, Ser. No. 302,807, now abandoned for Hydrogen Generator, the above noted principle of polarization is utilized. The simultaneous application of a positive voltage pulse to one plate exciter and a negative polarized voltage pulse to the other plate exciter in a vessel of natural water, will form polarized voltage electrical zones around the plates of a respective polarity. The positive voltage plate exciter zone attracts the negative charged atoms of the water molecule and the negative voltage plate exciter zone attracts the positive charged hydrogen atoms of the water molecule.

The opposing attractive forces causes the hydrogen and oxygen atoms to disassociate from the water molecule; and thereby, release the hydrogen and oxygen gasses. In that natural water is utilized in the generator and that natural water contains a considerable percentage of ambient air, ambient air gas will also be released similarly to the oxygen and hydrogen gasses from the water molecule.

The above described process is apparently not a chemical reaction process such as in Faraday's Laws. In that process electrolyte is added to distilled water to draw current. The reaction of the electrolyte with that of the corrosive electrodes releases the hydrogen and oxygen gasses.

Characteristically, Faraday's Laws requires:

"The rate of deomposition of an electrolyte is dependant on current and independant of voltage. xxx will depend on current regardless of voltage, provided the voltage exceeds a minimum for a potential."

In the voltage dependant/current restricted process of my co-pending patent application, the disassociation of the hydrogen and oxygen atoms from the water molecule, is attributed to the physical force attraction of the polarized zones adjacent the plate exciters on the charged hydrogen and oxygen atoms having a polarity opposite to that of the polarized zone.

This physical force is exemplified in my co-pending patent application, Ser. No. 422,594, filed Sept. 24, 1982, now abandoned for Hydrogen Generator Resonant Cavity, wherein the principle of physics that physical motion of an element between spatially positioned structures will resonate if the distance between the structures, in wavelengths, is matched to the frequency of the force causing the physical motion, is utilized in a practical and useful embodiment.

The d.c. voltage with current restricted, applied to the pair of plate exciters spatially positioned in a vessel of natural water, is pulsed. The pulsing voltage on the plate exciters applying a physical force is matched in repetition rate to the wavelength of the spacing of the plate exciters. The physical motion of the hydrogen and oxygen charged atoms being attracted to the opposite polarity zones will go into resonance. The self sustaining resonant motion of the hydrogen and oxygen atoms of the water molecule greatly enhances their disassociation from the water molecule.

In my co-pending patent application, Ser. No. 411,977, filed Aug. 25, 1982, for Controlled Hydrogen Gas Flame, the gasses separated from the water, the hydrogen and oxygen together with the ambient air non-combustible gasses, are mixed as they are released by the generator. The mixture of gasses are collected in a pressure chamber in the generator and thereafter expelled through a nozzle having a port configuration with openings dependant on the mixture of gasses. The nozzle is connected directly to the collection chamber and ignited.

The gas mixture has a reduced velocity and temperature of the burning flame from that which would occur solely with a hydrogen and oxygen mixture. To further control the flame, there is added to the mixture other non-combustible gasses in a controlled amount. Accordingly, the nozzle ports are related to the temperature and velocity of the flame. The several ports will accommodate flames of greater size without the danger of flashback or blowout such as would happen with a single flame.

This physical force is further demonstrated in the plate separation phenomena of the first aforementioned copending patent application. Simply, the closer the spacing between the plate exciters the greater the attractive force of the opposite polarity plate exciters on the charged hydrogen and oxygen atoms of the water molecule. With a given spacing, an increase in the magnitude of the voltage applied to the plate exciters will result in an increase in the rate of production of the gasses. With a voltage of a fixed amplitude a variation in the plate exciter spacing will affect the rate of production of the gasses. An increase in the spacing will result in less generation, whereas a decrease in the spacing of the plate exciters will result in an increase in gasses.

## THEORETICAL ANALYSIS

The electrical phenomena of a positive potential voltage applied to one plate exciter and the application of a negative voltage potential applied to another plate exciter positioned in a vessel of water, may now be considered.

Distilled water, like air, having no conductive meduim, will inherently inhibit electron leakage. The magnitude of the applied voltage to the pair of plate exciters is correlated with the physical force on the electron movement. The magnitude of the initial force and the magnitude of the force to leak the electrons, and thereafter cause current flow, may be calculated or more readily empirically determined.

A small amplitude negative voltage applied to the negative plate exciter, will cause a physical disturbance to the movement of the floating electrons. However, the small amplitude voltage is insufficient to cause the electrons to leak and enter the attractive field force area of the positive plate. As the magnitude of the applied voltage is increased, the disturbance to the movement of the electrons is increased. With a further increase in the amplitude of the voltage applied to the plate exciters--to a limiting level, the resistance of the meduim to the attractive force of the opposite polarity exciter plate on the electron leakage will be overcome.

As the electron leakage enhances, the flow of the electrons to the positive plate exciter gradually increases as they enter the attractive field of the positive plate. Upon attaining a heavy flow of electrons reaching the positive plate attractive area, arcing will occur. An electrical arc is formed between the two plate exciters. When this occurs a direct short conductive flow of current will flow across the plates.

The electrical arc between the pair of plate exciters will form a direct line of conductivity; current will flow unrestricted. Upon the electron leakage attaining a direct short, the current is at a maximum. The voltage being subjected to the current takeover decreases gradually upon initial electron leakage and thereafter drops as the flow of electrons increases. When the electron leakage arcs over to the positive potential plate exciter, the voltage will drop to zero.

As stated above, the spacing between the pair of plate exciters in a vessel of water having a d.c. voltage applied, is correlated with the gas production rate. The closer the spacing between the pair of plate exciters, the greater the yield of gas generated. If the spacing of the pair of plate exciters is altered to a minimum spacing level, the attractive force of the positive polarity plate will overcome the resistance of the water meduim. Electron leakage will occur and from gradually to rapidly increase until arcing between the pair of plate exciters forms a direct path and consequently a direct short.

The distance between the plates and the amplitude of the voltage applied, each independently affect the other. The two variable factors are interrelated; the one being variable relative to the other. The spacing being inversely proportional to the amplitude of the voltage.

#### SUMMARY OF THE INVENTION

In the utilization of a generator for the separation of the hydrogen and oxygen gasses from water; and the production of the gasses is varied by varying the amplitude of the voltage and/or the pulse rate--duty cycle of the pulsed d.c. voltage applied to the plate exciters in a vessel of water.

The present invention comprises a power supply with the applied voltage to the pair of plate exciters variable from zero upward to extremely high voltages; but yet, that inhibits the electron leakage.

The power supply of the present invention includes circuitry for an increased production of the generation of the gasses through varying the amplitude of the voltage applied to the plate exciters. The circuitry includes

means and components for restriction of the electron leakage (current flow).

The applied voltage to the pair of plate exciters is a unipolar pulse d.c. voltage of a repetitive frequency. Alternate power circuitry is utilized. In the first embodiment the input voltage is alternating current fed to a bridge rectifier; whereas in the second preferred embodiment, the input voltage is direct current applied to the primary of a rotating field secondary winding.

With a very low level of amplitude of the voltage applied to the plate exciters, no electron leakage from the negative potential plate exciter to the positive potential attractive field will occur. An amplitude of the voltage above a first forceful level will cause electron leakage. The circuitry of the invention overcomes the electron leakage with the application to the plate exciters the aforesaid pulsed d.c. voltage.

An increase in amplitude of the applied voltage above a second level, will result in electron leakage.

To obtain additional gas production without electron leakage, circuitry in the power supply prevents electron leakage by varying the duty cycle of the pulsed d.c.voltage applied to the plate exciters. The varying levels of amplitude of the duty cycle pulses effectively restrains the electrons from the B+ attractive field.

The pulsating d.c. voltage and the duty cycle pulses have a maximum amplitude of the level that would cause electron leakage. Varying of the amplitude to an amplitude of maximum level to an amplitude below the maximum level of the pulses, provide an average amplitude below the maximum limit; but with the force of the maximum limit.

In most instances of a practical application of the hydrogen and oxygen generator the pair of plate exciters will be several pairs connected in parallel. There will be one terminal to the positive voltage and another terminal to the negative voltage. A further expediency to eliminate electron leakage is attained by eliminating the large surface area probability of stray electrons.

It is noted that the first two circuit components and the multiple connections for restricing electron leakage relates to the plate exciter having the negative voltage applied thereto. That is the circuitry overcomes the attractive force of the B+ potential field. Additional circuitry is provided for very high yield gas production above the aforesaid upper limits, in the negative applied voltage plate exciter.

A circuit is included in the negative plate exciter that practically eliminates electron flow; that is, the electrons are prevented from reaching the negative plate exciter and thereby eliminating the affect of the attractive force of the B+ field. A current limiting resister connected between the negative plate exciter and ground, prevents current flow--electron leakage to the the opposite polarity field.

The circuit comprises a limiter resistor connected between the negative plate and ground that blocks current flow--electron leakage to the negative plate. The practical elimination of the current has no affect on the voltage, in the preferred embodiment, since there is no voltage drop.

In a sophisticated embodiment, the limiting resistor comprises a unique structure of poorly conductive material having a resistive mixture sandwiched therebetween. A second resistor of the variable type is serially connected to the unique limiter for tuning. The value of the limiting resistance is determined by the current passing therethrough. The variable is employed until the ammeter reads zero or close to zero as possible.

The sandwich type limiter is varied in value by controlling the mixture of resistive material to binder.

The circuitry and expedients to inhibit the electron leakage at all levels of the magnitude of the voltage applied to the plate exciters is a sequence of steps and functions operable from predetermined circuit components. The order of the circuit functions is set and preferably not altered; however, each of the specific variables can be varied independently and varied with interrelated function to the other.

The phenomena that the spacing between two objects is related to the wavelength of a physical motion between the two objects is utilized herein. A relatively small increase in amplitude will yield an output several magnitudes greater when the motion of the water molecule is moving to and fro with a repetition rate to match the resonant length of the spacing between the pair of exciters.

#### **OBJECTS OF THE INVENTION**

It is a principle object of the present invention to provide

- a power supply for a hydrogen and oxygen gas generator wherein varying the voltage amplitude varies the rate of generation of the gasses generated.
- such a power supply that includes circuitry to permit voltage to be varied in amplitude with current restrict to a minimum relative to the amplitude of the voltage.
- such a power supply for a hydrogen and oxygen generator wherein the electron leakage between the plate exciters is inhibited.
- a power supply for a hydrogen and oxygen generator including circuitry for a unipolar pulse d.c. voltage of a repetitive frequency from either an alternating or a direct current input.
- a power supply having varying levels of voltage indicative of varing levels of gas generation that is programmable with a utilitarian device, particularly, when the generator has exciters spaced a distance in wavelength matched by the voltage pulse frequency.

## BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is an overall illustration of the present invention in a preferred embodiment; the components shown partly in blockschematic and partly pictorially.

- FIG. 2 is a first waveform illustrating the unipolar pulse d.c voltage of repetitive frequency with a uniform duty cycle.
- FIG. 3 illustrates the unipolar pulse voltage with a continuous repetitive frequency.
- FIG. 4 illustrates the unipolar pulse voltage of a repetitive frequency having a uniform duty cycle from a low gradient level to high gradient level; FIG. 4A illustrates the duty cycle as being non-uniform and between gradient levels; FIG. B illustrates the duty cycle comprising varying gradient levels and of non-uniform repetition; and FIG. 4C illustrates the varying gradient levels as being uniform.
- FIG. 5 illustrates partly schematic and partly in block the pulse frequency generator from a direct current voltage source.
- FIG. 6 is a schematic of the circuitry for programming the varying levels of voltage to practical applications.
- FIG. 7 is a crossectional perspective of a multiple layer sandwich resistive element for inhibiting electron leakage.

FIG. 8 is a graphical illustration of the varying limitations of voltage amplitude for inhibiting electron leakage.

### **DETAILED DESCRIPTION**

Referring to the drawings and in particular to FIG. 1, there is illustrated the present invention in its preferred embodiment of a power supply for the aforementioned hydrogen and oxygen gas generator, providing variable amplitude voltage with inhibited electron leakage.

The alternating current rectifier circuit 10 comprises input alternating current terminals 12 and 14. Switch 13 is a typical on/off switch.

Transformer 10 is an inductive primary and secondary transformer connected to a bridge rectifier 15. The inductive field 11 of the transformer 10 is variable in a known manner to yield a variable frequency alternating voltage/current to the primary winding.

The bridge 15 arms are connected across the input of the secondary winding of the transformer 10.

The upper and lower arms are connected across the extreme ends of the secondary winding and the left hand arm is connected to the output of the rectifier 15.

The right arm is connected to ground 20.

The rectifier inverts the negative swing of the alternating current and thereby results in an output voltage pulse of a frequency twice that of the input frequency of the alternating current voltage applied to the terminals 12 and 14.

It is appreciated that if the alternating current voltage is varied in frequency by the variable inductive field 11, the output frequency across the bridge 15 will still be twice the frequency of the alternating voltage across the secondary of the transformer secondary winding 10.

The power supply of FIG. 1 includes a variable circuit 30 for varying the amplitude of the rectified voltage by rectifier 15.

The variable voltage circuit, in turn, is directly controlled by the gas rate function separately, sequential, and together with the phenomena of a reseonant cavity.

The waveform output of the bridge is shown as a unipolar d.c. voltage pulse of a repetitive frequency. It is noted that the pulse voltage is not filtered and the plate effect is utilized.

As stated, a voltage with an amplitude below the minimum level for example, with a given size apparatus, 2.5 volts (L-1 of FIG. 8) when applied to the pair of plate exciters, is insufficient amplitude to force the electrons to leak from the negative plate exciter.

The hydrogen and oxygen gasses will be separated from the water at the low level of voltage amplitude; and the gasses generated will also be at the minimum.

Above the minimum level (L-1 of FIG. 8) of amplitude, the applied voltage will have a sufficient force to agitate and cause movement of the electrons around the negative plate exciter. As a consequence electron leakage would take place.

To overcome the forceful effect on the electrons around the negative plate exciter, but apply a voltage of increased amplitude for an increase in gas production, the first step in a sequence is utilized. The pulsed d.c. voltage having a frequency predetermined by the input alternating current to the transformer 10, is applied to

the plate exciter.

The maximum amplitude of the d.c. voltage pulse is sufficient to cause an increase in gas production; however, the minimum amplitude of the pulsed d.c. voltage is insufficient to cause electron leakage. The average of the maximum and the minimum results in an increase gas output but without electron leakage.

The physical force on the movement of the electrons around the negative plate exciter is further controlled in specific situations by varying the frequency of the pulsed d.c. voltage. The frequency of the pulsed d.c. voltage may be altered by an alternating current of another frequency applied to the input terminals 12 and 14. Alternatively, the frequency of the pulsed d.c. voltage may be varied as shown by the variable transformer 10 winding 11.

With reference to FIG. 3, the unipolar pulsed d.c. voltage of a constant frequency is illustrated. In the first mentioned variation of the amplitude of the pulsed voltage, there is further shown in FIG. 3 voltage levels from OV, Va xxx Vn. As noted below a variation of amplitude above the predetermined levels will permit electron leakage.

Refering to FIG. 8, there is illustrated an appreciation of the significance of electron leakage. Initially it is to be noted that the first amplitude level, L-1, is when electron leakage occurs. Prior to leakage, voltage V.sub.1 increases on demand. At the level L-1, when leakage occurs, current begins to flow and as a consequence the voltage V.sub.2 begins to drop. The current flow increase is proportional to the voltage decrease; and upon arcing, a dead short condition for current takeover, the voltage V.sub.2 drops to zero.

The same rise and fall in amplitude of the voltage versus current flow repeats at amplitude levels L-2. L-3, L-4, and L-5; again, in a given size apparatus, voltages of 4, 5.5, 7, and 8.5.

It is seen then, that it is paramount that electron leakage must be curtailed when the operation of the system is dependant on voltage, such as the generator utilized herein.

Returning to the overall circuit of FIG. 1, the unipolar pulsating d.c. voltage is an improvement in raising the amplitude of the voltage without electron leakage. Unfortunately, it too, has a voltage amplitude limit of 4.0 volts as shown by L-2 of FIG. 8.

To further restrict current flow with amplitude voltages above the level L-2 of FIG. 8, electron leakage is inhibited from the exciter plate having the negative voltage applied thereto, by varying the duty cycle pulse of the pulsed d.c. voltages as shown FIGS. 2, 3, and 8. In an initial application the pulsed d.c. voltage is switched on and off for equal periods of time.

With reference again to FIG. 1, the variable pulsing circuit comprises an electronic switch SCR 28 operable from one state to another form the optocoupler timing circuit 26. The operation and of the pulsing of a voltage is within the state of the art.

Diode 29, a blocking diode, is operable in the accepted manner to eliminate stray electrons, shorts, variances, spurious signals, and the like. In addition the diode 29 blocks the back-electromagnetic force.

The pulsing of the pulsed d.c. voltage, as shown by the waveform of FIG. 2, comprises switching, via trigger circuit 26, the pulsed d.c. voltage on an off--in a first instance. As will be understood below relative to the programming circuit of FIG. 6, the time period of the pulses may be varied periodically or aperiodically, the

duration of the on/off period may be varied, the gradient level of the on/off pulses may be varied, and all of the above may be interrelated into a sequence of duty pulses with the varying conditions all as shown in FIGS. 4, 4A, 4B, and 4C.

The duty pulses are effective much in the same manner as the pulsed d.c. voltage pulses in the function of inhibiting electron leakage. The "second" series of force on the electrons around the plate exciter, having the negative potential voltage applied, in terms of voltage amplitude is greater. However, the greater amplitude is averaged by the double pulses to an effective voltage of an amplitude to inhibit electron leakage.

As previously stated, the voltage pulses applied to the plate exciters further enhance the rate of generation of the gasses. Accordingly, to achieve the most effective relationship between gas generation and current limiting, the voltage amplitude is interrelated to the pulse repetition rate of the duty pulses in FIG. 1. Also, the rate of production is related to the frequency of the unipolar d.c. voltage, the frequency then should be interrelated to the duty cycle pulses.

With continued reference to FIG. 1, mechanical switch 40 is a known means for applying the voltages to the plate exciters individually and sequentialy. The negative plate exciter is the center conductor of an inner and outer arrangement. The negative plate exciter is connected to ground 20; ground 20 being the power supply ground.

The dual pulses comprised of the frequency repetitive pulses and the duty cycle pulses similarly to the previous configuration. The amplitude is effective to increase the output gas generation with an upper limit of 5.5 volts, in this instance L-3 of FIG. 8.

In a typical configuration of the hydrogen generator of the aforementioned co-pending application, the plate exciters will comprise a plurality of pairs. In the previous configurations the positive voltage was applied in parallel to all the inner plates; whereas the negative voltage was applied to all of the inner plate exciters in parallel. It has been found that an increased surface between the inner and the outer plates will increase the probability of an electron breaking free and leaking to the attractive field of the positive voltage plate. The surface leakage has been eliminated by applying separately and individually the positive voltage to each of the outer plate exciters and the negative voltage to each of the inner plate exciters.

With reference to FIG. 8 again, it is seen that although the serially connected exciter plates do permit a higher amplitude of voltage to be applied, it too, has a limitation L-4 of 7 volts.

The next expediency in the sequence for inhibiting electron leakage is the current inhibitor resister 60 as shown in FIGS. 1 and 5. The circuit 60 comprises a simple resistor of the commercial type or specially made for the particular application. The resistor is variable to provide fine tuning of the electron inhibiting. In that the each pair of plate exciters are connected separately, a resistor 60a xxx 60n is connected to each of the plates having the negative voltage connected therto. In this embodiment the inner plate of the exciters 50a xxx 50n. In that the inner plate had been normally connected to ground, the resistive element is now connected between the inner plate and ground.

As known in electrical art the resistor will provide a complete block to electron leakage--current flow. However, since the resistor 60 is connected from ground-to-ground there is no real affect on the voltage; and since there is no connection with the positive side there is no voltage drop.

The electron leakage resistor will again raise the upper limit of 8.5 volts amplitude before breakdown as shown at L-5 of FIG. 8. In the generation of the hydrogen and oxygen gasses to an infinite limit, as yet not

fully appreciated, the upper level of amplitude of the voltage is removed with the utilization of the electron inhibitor of FIG. 7.

In this embodiment of the current inhibitor connected to the inner plate having the negative voltage applied thereto, comprises a stainless steel sandwich 70/74 with a resistive material therebetween. The stainless steel is a poor conductive material and hence will restrict to some extent the electron flow. Other poor conductive material may be utilized in lieu of the stainless steel. The electron inhibitor 70/74 is connected in the same manner as resistor 60--between the inner plate having the negative potential connected to it and ground.

The resistive value of the electron inhibitor 70/74 is chosen empirically to a closest value, thereafter the total value of the resistance is fine tuned by the resistor 75 connected serially between the inner plate and ground.

To alter the resistive value of the electron inhibitor 70/74, the resistive material 72 comprising a mixture with a binder is altered in the percentage of resistive material to binder.

With reference to FIGS. 1 and 8, the pulse d.c. voltage of a repetitive frequency and the duty cycle pulses, together with the serially connected plate exciter techniques in the sequence for limiting the electron leakage is in relation to the positive exciter outer plate. The current inhibitor resistor 60 and the current inhibitor resistor 70/74 are in the negative voltage line connected to the inner plate.

With particular reference now to FIG. 5, there is illustrated an alternative embodiment for derivint the unipolar d.c. voltage pulse of a repetitive frequency--similar to that of FIG. 1. The distinction in the embodiment of FIG. 5 is that the input voltage is a direct current in contrast to the alternating current of FIG. 1.

In operation of the circuit of FIG. 5, a low voltage, such as from a battery, is applied to the primary winding to the circuit of a rotating field. The primary winding 42 being the rotating field has it opposite end connected to ground. As the field of the primary winding 42 rotates, there is induced three pulses at the output of each of the three secondary windings 46a 46b, and 46c.

The repetition of the triple pulse is once per each revolution; hence the number of pulses per given period of time is related to the speed of rotation of the rotating field. A faster rotation will produce a greater voltage frequency. An increase in the number of secondary windings will result in an appropriate increase in the number of pulses; whereas an increase in the number of turns on the secondary windings will increase the amplitude of the pulses. The alternating voltage output of the three secondary windings is converted into pulses by the conventional diode rectifiers 65/67 bridge circuit for each of the separate pairs of exciter plates 50a-50n. In this way a constant unipolar pulsating d.c. voltage of a repetitive frequency similar to that of FIG. 3 is applied to each of the exciter plates 50a xxx 50n. The output is similar to that derived from the alternating voltage input of FIG. 1. The d.c. voltage is a constant voltage pulse.

Again similar to FIG. 1, there is provided a timed pulsing circuit comprised of a timer 17, switch 19, and transistor 18. Initially, the d.c. pulse voltage is switched on and off, to provide a constant share time duty cycle to the primary winding 42 of the rotating field. In the off period there will be no voltage on the primary winding 42, and hence, no voltage output on the secondary winding 46.

The circuit of FIG. 5 is especially economical in that extremely low amplitude voltages (0-5 volts) is applied to the primary 42. At this low level, the current is negligible and power consumption is minimum. The output voltages from the secondary windings 46 is relatively high and is in the order of two hundred volts. The output voltages from the secondary windings 46 are variable in amplitude by the resistor 16 in the input

circuit. A very small increment of input voltage results in a much greater output.

The sequence of circuitry of the pulsed d.c. voltage, duty cycle pulses, serially connected exciters, resistor in the ground line, and the plate resistor are each, and together, effective to eliminate electron leakage. The conditions set forth, in each instance were under actual conditions--with distilled water.

In the basic process of water separation as herein utilized, the hydrogen and oxygen gasses are separated by the application of a voltage to the plate exciters with the attendant current as close to zero as possible. Accordingly, the use of natural water having contaminents is equally operable; the contaminents will have no affect upon the separation of the hydrogen and oxygen atoms from the water molecule; nor will the contaminents have an affect on the plate exciters such as fouling up.

With the use of certain natural waters particularly sea water with a salt content or natural water with an iron or other mineral content, the natural water would have a tendancy to draw current. The passing of current as set forth above, would cause the voltage to drop and basically would curtail the operation of the generator.

The resistor 60 of FIGS. 1 and 5, connected between the exciter plate having the negative voltage applied thereto and ground is an effective current limiter/electron inhibiter. In simple terms the restriction to current flow to the negative plate is a restriction to the flow of current between the pair of plate exciters. There can be no electron leakage from the negative potential plate exciter if there are no electrons to leak.

The resistor 60 of FIGS. 1 and 5, and especially when taken together with the resistive plate structure of FIG. 7, current is eliminated from the plate exciters.

In FIG. 1 there is illustrated an alternative manner of varying the rate of separation of the hydrogen and oxygen gasses from water. As fully disclosed and described in the aforesaid copending application Ser. No. 302,807, the spacing between the plate exciters in water is directly related to the rate of separation of the hydrogen and oxygen gasses.

The plate exciters 82 and 83 positioned in water 61 are varied in spacing by the rack 80 and gear 81. The variations can be manually or through the programmer 69 for predetermined gas rate generation. The programmer actuates line 37 to the motor 33 to drive the gear 81.

The closer the spacing the greater the gas yield, i.e., the attractive force of the electrical voltage zones is related to spacing. However as noted above, the closer the spacing the greater the probability of spurious electron leakage. It is appreciated the optimum is the closest spacing for gas generation with a minimum of current leakage.

The pulsed d.c. voltage, the duty cycle pulses, the resistor from negative to ground, the serial connections of the exciters, and the plate resistor in series with a variable resistor between the negative plate and ground, is a sequence of circuits that conteract the electron leakage with increased voltage. Similarly, the same sequence individually and in combination are equally applicable with respect to the variation of plate spacing to vary the rate of generation of the gasses but yet, to restrict electron leakage. The voltage levels from 0 volts upward will be dependant on the physical parameters of the apparatus. In one typical structure of the apparatus the voltage was varied from zero (0) volts to 45 volts. In a smaller structure, the voltage levels of FIG. 8 were utilized.

With reference again to FIGS. 2, 3, 4, 4A, 4B, 4C, and 4D, the waveforms illustrated therein depict the several variations of the pulsed d.c. voltage relative to the duty cycle pulses. Initially, each of the two set of

pulses are varied individually. The on/off time of the two sets of pulses in a first instance is uniform. Then the timing of one or the other is varied; the gradient levels of the voltages are varied periodically and a periodically, pulse duration is varied equally and unequally.

To attain the optimum gas generation with minimum electron leakage, is determined empirically with a gas flow meter and an ammeter. The variables are interrelated but not necessarily having the effect on either gas production or electron leakage. Practical training reduces the tune-up period.

In FIG. 6, there is illustrated the resonate cavity of my aforesaid co-pending patent application Ser. No. 422,594. The resonant cavity described and disclosed therein, is a result of the discovery that when the distance between two stationary bodies is equal in wavelength to the frequency of the movement of an object going back and forth therebetween, the movement of the object will go into resonance. The motion is greatly enhanced and with a repetitive sustained force. The principle applied to the hydrogen and oxygen gas generator of the present invention results in the movement of the water molecules and the atoms to an attractive field will be greatly enhanced when the frequency of the back and forth movement is matched to the wavelength of the distance between the pair of plate exciters.

The amplitude is increased to the minimum for resonance. The voltage amplitude thereafter is maintained at the minimum and raised from the minimum for an increase in gas generation. The minimum is the lower gradient level illustrated in the waveforms of the figures. Since resonance is a matter of matching a physical distance with frequency of the back and forth motion over that distance, matching the particular frequency to the particular wavelength, can be with either d.c. voltage pulses or the duty cycle pulses.

The resonant cavity is depicted in FIG. 4 pictorially. It is understood that the exciter plates 50a-50n of FIG. 1 become resonant cavities by matching the distance between the exciters to a pulse frequency of the same wavelength.

In FIG. 4 and 4C, the duty cycle pulses are matched in pulse repetition rate to the plate distance. In FIG. 4A and 4B, the frequency of the pulsed d.c. voltage is matched to the distance in wavelengths of the plate exciters. With the frequency of one of the set of pulses matched to the resonant wavelength, the frequency of the other set of pulses is varied to further control the electron leakage and/or to vary the rate of generation of the gasses.

Referring again to FIG. 6, attention is directed to the resonant cavity depicted therein pictorially. The resonant cavity would be the plate exciter of FIG. 1 or any other plate exciter wherein the frequency of the pulses of the applied voltage is matched in wavelength to the distance between the exciter plates

The SCR diode is a duty cycle pulse former much in the same manner as the pulse former 27 of FIG. 1. The SCR diode 90 is operational in a conventional manner and the diode 91 is a conventional blocking diode. The operation and function of the resonant cavity is much in the same manner as that of FIG. 1 plate exciters 50a-50n.

In a Hydrogen Resonant Cavity Furnace, the pulse repetition rate is matched to the wavelength distance between the two exciter plates to maximize the rate of generation to voltage amplitude. The flame is pulsed form a first gradient level to a lower gradient level--but not off. The lower gradient level is sufficient to maintain at all times the amplitude to sustain resonance.

The waveform is shown in FIG. 4. The lower level amplitude Va is not OV the zero level; the amplitude level Va is sufficient to maintain resonance with a matched repetition rate of the duty cycle pulses.

In FIG. 6, the programmable switch circuit 79 is for variable inputs to a utilitarian device, such as the aforesaid furnace or the automobile hydrogen engine disclosed and claimed in my co-pending patent application Ser. No. 478,207. In the practical working embodiments the demand may be for hot water, heat, singly or together; and in the automobile the rate of acceleration; or simply the control of the flame size.

The increments of heat, acceleration, or flame size are controlled by the triacs 91, 92, 93, and 94, connected across the secondary winding and to taps on the secondary winding of the input transformer.

Synchronized with the voltage level control of the switching of the duty cycle pulse, is variable pulse circuit 97. The switch 95 provides the demand control to be programmed, that is, the voltage amplitude and the duty cycle pulses. The SCR switching circuit 90 converts the d.c. voltage pulse output of the rectifier 15 to duty pulses. The duty cycle pulse being variable in pulse repetition rate to match the distance in wavelength of the spacing of the plate exciters 86 and 87. Diode 98 is a blocking diode.

Although certain and specific embodiments have been shown the invention is not to be limited thereto. Significantly, the relatively small increase in voltage for a very appreciable gas generation upon resonance has extended applications to other uses of the hydrogen and oxygen gas generator. The control of the electron leakage is especially applicable to systems and processes wherein the potential is voltage dependant with no or little current.

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# 14

# Hydrogen gas injector system for internal combustion engine

#### Abstract

System and apparatus for the controlled intermixing of a volatile hydrogen gas with oxygen and other non-combustible gasses in a combustion system. In a preferred arrangement the source of volatile gas is a hydrogen source, and the non-combustible gasses are the exhaust gasses of the combustion system in a closed loop arrangement. Specific structure for the controlled mixing of the gasses, the fuel flow control, and safety are disclosed.

### Claims

### I claim:

- 1. A combustion system comprising:
- a hydrogen/oxygen generator,
- a housing having a water reservoir for retaining natural water therein and a gas collection chamber maintaining a preset volume of gas under pressure,
- a pair of similar non-oxidizing plates positioned in said water reservoir,
- a direct current voltage source connected to said plates to disassociate the hydrogen atoms and oxygen atoms from said water molecules; and
- a gas mixing chamber,
- means connecting the hydrogen gas from said hydrogen source to said mixing chamber,
- a fuel linear control valve in said hydrogen gas connecting means for regulating the hydrogen gas flow to said mixing means,
- said fuel linear control valve including a port and a linear element in said port regulating the opening therein,
- a source of non-volatile gas;
- means connecting the non-volatile gas from said non-volatile source to said mixing chamber,
- ambient air intake means connected to the input of said mixing chamber for combining air with said hydrogen

gas and said non-volatile gasses,

a gas burner having said controlled amount of hydrogen gas combined with said non-volatile gas and ambient air from said air-intake means fed thereto.

- 2. The combustion system of claim 1 wherein said ambient air-intake means further comprises a housing having a variably positioned plate valve thereover for controlling the amount of air-intake to said mixing chamber.
- 3. The combustion system of claim 1 further comprising a housing in said hydrogen gas connecting means having intake and outlet means and a port intermediate therein and wherein said linear element is positioned in said port.
- 4. The combustion system of claim 1 wherein said linear element is a tapered structure.
- 5. The combustion system of claim 4 further including a rod mechanism connected to said tapered structure, and means for varying said tapered structure relative to said port.
- 6. The combustion system of claim 1 wherein said mixing chamber comprises a quenching apparatus at its hydrogen gas input and a quenching apparatus at its non-volatile gas input.
- 7. The combustion system of claim 1 wherein said gas mixing chamber comprises at its uppermost region a trap area; and wherein said hydrogen gas connection to said mixing chamber is in the uppermost region of said trap area.
- 8. The combustion system of claim 7 wherein said ambient air intake is in the lowermost region of said trap.
- 9. The combustion system of claim 8 wherein said ambient air intake means comprises a control valve and wherein said non-combustible gas intake means comprises a control valve, said valves adjustable to permit predetermined ratio mixtures of air and non-combustible gas to enter said mixing chamber.
- 10. The combustion system of claim 8 wherein said ambient air intake provides a hydrogen release for excess hydrogen in said trap area in said combustion chamber.
- 11. The combustion system of claim 7 wherein said control valve connected to said burner is a pressure regulated valve.
- 12. The combustion system of claim 7 further comprising housing means for enclosing said mixing chamber, a first opening in said housing for the intake of air, and a second opening in said housing for the release of hydrogen gas that may be entrapped therein.
- 13. The combustion system of claim 1 further comprising a control valve connected to said burner and said hydrogen gas fuel connection means for controlling the flow of gas during on and off operation of said combustion system.
- 14. The combustion system of claim 1 wherein said hydrogen gas generator upper enclosed area further comprises a pressure relief valve operable upon the hydrogen gas retained therein exceeding a pre-determined amount.

- 15. The combustion system of claim 14 wherein said hydrogen gas generator further comprises a sensing switch connected to said electrical source and said pressure relief valve and operable to disconnect said electrical source when said combustion system is inoperable.
- 16. The combustion system of claim 1 and wherein said means for connecting said hydrogen gas to said mixing chamber comprises one-way check valve.
- 17. The combustion system of claim 1 and wherein said means for connecting said hydrogen gas to said mixing chamber further comprises a quenching assembly.
- 18. The combustion system of claim 1 wherein said gas burner is an internal combustion engine, and wherein said source of non-volatile gasses is the exhaust for gasses of said engine.
- 19. The combustion system of claim 18 further comprising an oil source and an oil spray connected thereto and to said mixing chamber.

## Description

#### CROSS REFERENCES AND BACKGROUND

There is disclosed in my co-pending U.S. patent application Ser. No. 802,807 filed Sept. 16, 1981 for a Hydrogen-Generator, a generating system converting water into hydrogen and oxygen gasses. In that system and method the hydrogen atoms are disocciated from a water molecule by the application of a non-regulated, non-filtered, low-power, direct current voltage electrical potential applied to two non-oxidizing similar metal plates having water passing there-between. The sub-atomic action is enhanced by pulsing the non-regulated and non-filtered direct current voltage. The apparatus comprises structural configurations in alternative embodiments for segregating the generated hydrogen gas from the oxygen gas.

In my co-pending patent application filed May 5, 1981, U.S. Ser. No. 262,744 now abandoned for Hydrogen-Airdation Processor, non-volatile and non-combustible gasses are controlled in a mixing stage with a volatile gas. The hydrogen airdation processor system utilizes a rotational mechanical gas displacement system to transfer, meter, mix, and pressurize the various gasses. In the gas transformation process, ambient air is passed through an open flame gas-burner system to eliminate gasses and other present substances. Thereafter the non-combustible gas-mixture is cooled, filtered for impurity removal, and mechanically mixed with a predetermined amount of hydrogen gas. There results a new synthetic gas. The synthetic gas formation stage also volume meters and determines the proper gas-mixing ratio for establishing the desired burn-rate of hydrogen gas. The rotational mechanical gas displacement system in that process determines the volume-amount of synthetic gas to be produced.

The above-noted hydrogen airdation processor, of my co-pending application, is a multi-stage system having utility in special applications. Whereas the hydrogen generator system of my other mentioned co-pending application does disclose a very simple and unique hydrogen generator.

In my co-pending patent application Ser. No. 315,945, filed Oct. 18, 1981 there is disclosed a combustion system having utility in a mechanical drive system. Particularly in one instance to drive a piston in an automotive device. There is shown a hydrogen generator for developing hydrogen gas, and perhaps other non-

volatile gasses such as oxygen and nitrogen. The hydrogen gas with the attendant non-volatile gasses are fed via a line to a controlled air intake system. The combined hydrogen, non-volatile gasses, and the air after intermixing are fed to a combustion chamber where it is ignited. The exhaust gasses of the combustion chamber are returned in a closed loop arrangement to the mixing chamber for the mixture of volatile and non-combustible gasses. Particular applications and structural embodiments of the system are disclosed.

#### SUMMARY OF INVENTION

The system of the present invention in its most preferred embodiment is for a combustion system utilizing hydrogen gas; particularly to drive a piston in an automobile device. The system utilizes a hydrogen generator for developing hydrogen gas. The hydrogen gas and other non-volatile gasses are fed to a mixing chamber also having oxygen fed thereto. The mixture is controlled to regulate the burning temperature; that is, to lower the temperature velocity of the hydrogen gas to that of the commercial fuels. The hydrogen gas feed line to the combustion chamber includes a fine linear control gas flow valve. An air intake is the source of oxygen and it also includes a variable valve. The exhaust gasses from the combustion chamber are utilized in a controlled manner as the non-combustible gasses.

The hydrogen generator is improved upon to include a holding tank to provide a source of start-up fuel. Also, the hydrogen gas generator includes a switch to the power source operable from one position to another dependant upon a pressure sensing switch on the combustion chamber.

The simplified structure includes a series of one-way valves, safety valves, and quenching apparatus. The combination of apparatus comprises the complete assembly for converting the standard automobile engine from gasoline (or other fuels) to the hydrogen gas mixture.

## **OBJECTS**

It is accordingly a principal object of the present invention to provide a combustion system of gasses combined from a source of hydrogen and non-combustible gasses.

Another object of the invention is to provide such a combustion system that intermixes the hydrogen and non-combustible gasses in a controlled manner and thereby control the combustion temperature.

A further object of the invention is to provide such a combustion system that controls the fuel flow to the combustion chamber in s system and apparatus particularly adapted to hydrogen gas.

Still other objects and features of the present invention will become apparent from the following detailed description when taken in conjunction with the drawings in which:

### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a mechanical schematic illustration partly in block form of the present invention in its most preferred embodiment.

FIG. 2 is a block schematic illustration of the preferred embodiment of the hydrogen injector system of FIG. 1.

FIG. 3 is the fine linear fuel flow control shown in FIG. 1.

- FIG. 4 is crossectional illustration of the complete fuel injector system in an automobile utilizing the concepts of the present invention.
- FIG. 5 is a schematic drawing in a top view of the fuel injector system utilized in the preferred embodiment.
- FIG. 6 is a crossectional side view of the fuel injector system in the present invention.
- FIG. 7 is a side view of the fuel mixing chamber.
- FIG. 8 is a top view of the air intake valve to fuel mixing chamber.
- FIG. 9 is a comparison of the burning velocity of hydrogen with respect to other fuels.

#### DETAILED DESCRIPTION OF INVENTION TAKEN WITH DRAWINGS

Referring to FIG. 1 the complete overall gas mixing and fuel flow system is illustrated together for utilization in a combustion engine particularly an engine utilized in an automobile.

With specific reference to FIG. 1, the hydrogen source 10 is the hydrogen generator disclosed and described in my co-pending application, supra. The container 10 is an enclosure for a water bath 2. Immersed in the water 2 is an array of plates 3 as further described in my co-pending application, supra. Applied to plates 3 is a source of direct current potential via electrical inlet 27. The upper portion 7 of the container 10 is a hydrogen storage area maintaining a predetermined amount of pressure. In this way for start up there will be an immediate flow of hydrogen gas. To replenish the expended water the generator provides a continuous water source 1. Thereafter, the generator is operable as described in the aforesaid patent application.

The safety valve 28 is rupturable upon excessive gas build-up. Whereas the switch 26 is a gas pressure switch to maintain a predetermined gas pressure level about a regulated low-volume.

The generated hydrogen gas 4 is fed from the one-way check valve 16 via pipe 5 to a gas mixing chamber 20, wherein the hydrogen gas is inter-mixed with non-combustible gasses via pipe line 9 from a source hereinafter described.

In the event one way valve 75 should fail and there be a return spark that might ignite the hydrogen gas 4 in the storage area 7 of hydrogen generator 10, quenching assembly 76 will quench the spark and prevent such ignition.

With particular reference to FIG. 2 the hydrogen gas via pipe line 5 and non-combustible gasses via pipe line 9 are fed to a carburator (air-mixture) system 20 also having an ambient air intake 14.

The hydrogen gas 4 is fed via line 5 through nozzle 11 in a spray 16 in to the trap area 46 of the mixing chamber 20. Nozzle 11 has an opening smaller than the plate openings in the quenching assembly 37, thereby preventing flash back in the event of sparking. The non-volatile gasses are injected into mixing chamber 20 trap area 47 in a jet spray 17 via nozzle 13. Quenching assembly 39 is operable much in the same manner as quenching assembly 37.

The ambient air is, in the preferred arrangement, the source of oxygen necessary for the combustion of the

hydrogen gas. Further, as disclosed in the aforesaid co-pending application the non-volatile gasses are in fact the exhaust gasses in a closed loop system. It is to be understood that the oxygen and/or the non-combustible gasses can be from an independant source.

With continued reference to FIG. 2 the gas trap area 47 is a predetermined size. In that hydrogen is lighter than air, the hydrogen will rise and become entrapped in the are 47. The size of area 47 is sufficient to contain enough hydrogen gas for instant ignition upon start up of the combusiton engine.

It will be noted that the hydrogen gas is injected in the uppermost region of the trap area 47. Hydrogen rises at a much greater velocity than oxygen or non-combustible gasses; perhaps three times or greater. Therefore, if the hydrogen gas entered the trap area 47 (mixing area) at its lowermost region the hydrogen gas would rise so rapidly that the air could not mix with the oxygen. With the structure shown in FIG. 2 of the trap area 47, the hydrogen gas is forced downwardly into the air intake 15. That is, the hydrogen gas is forced downwardly into the upwardly forced air and readily mixed therewith.

The ratio of the ambient air (oxygen) 14 and the non-combustible gas via line 9 is a controlled ratio and determined by the particular engine. Once the proper combustion rate is determined by the adjustment of valve 95 for varying the amount of the non-combustible gas and the adjustment of valve 45 for varying the amount of the ambient air, the ratio is maintained.

In a system wherein the non-combustible gasses are the exhaust gasses of the engine in a closed loop-arrangement, and wherein the air intake is under the control of the engine, the flow velocity and hence the air/non-combustible mixture, is maintained by the acceleration of the engine.

The mixture of air with non-combustible gasses becomes the carrier for the hydrogen gas. That is, the hydrogen gas is superimposed on the air/non-combustible mixture. By varying the amount of hydrogen gas superimposed on the air/non-combustible mixture, the r.p.m. of the engine is controlled.

Reference is made to FIG. 3 illustrating precisely in a side view crossection the fine linear fuel flow control 53. The hydrogen gas 4 enters chamber 43 via gas inlet 41. The hydrogen gas passes from chamber 43. The hydrogen gas passes from chamber 43 to chamber 47 via port or opening 42. The amount of gas passing form chamber 43 to chamber 47 is controlled by controlling the port opening 42.

The port opening is controlled by the insertion there through the linearly tapered pin 73. The blunt end of pin 73 is fixed to rod 71. Rod 71 passed by supporting O-ring 75, through opening 81 in housing 30, to manual adjustment mechanism 83.

The spring 49 retains the rod 71 is a fixed position relative to the pin 73 and opening 42. Upon actuating the mechanism 83, the pin 73 will recede from the opening 42 there by increasing the amount of gas passing from chamber 43 to chamber 47.

The stops 67 and 69 maintain spring 49 in its stable position. The position of the pin 73 in a fixed position relative to opening 42 is adjusted via threaded nuts 63 and 67 on threaded rod 61. That is, the threaded adjustment controls the idle speed or permits the minimum amount of gas to pass from chamber 43 to chamber 47 for continuous operation of the combustion engine.

Referring now to FIG. 8 there is illustrated the air adjustment control for manipulating the amount of air passing into the mixing chamber 20. The closure 21 mounted on plate 18 has an opening 17 on end 11 thereof. Slideably mounted over said opening 17 is a plate control 42. The position of the plate relative to the

opening 17 is controlled by the position of the control rod 19 passing through a grommet 12 to control line. In event of malfunction that may cause combustion of gasses in mixing chamber 20, release valve 24 will rupture.

With reference now to FIG. 4, in the event hydrogen gas 4 should accumulate in the mixing chamber 20 to excessive pressure, an escape tube 36 connected to a port 34 on the automobile hood 32 permits the excess hydrogen gas to safely escape to the atmosphere. In the event of a malfunction that may cause combustion in the mixing chamber 20, the pressure relief valve 33 will rupture expelling hydrogen gas without combustion.

In the constructed arrangement of FIG. 1, there is illustrated a gas control system that may be retrofitted to an existing automobile internal combustion engine without changing or modifying automobile's design parameters or characteristics.

The flow of the hydrogen volatile gas is, of course, critical; therefore, there is incorporated in line 5 a gas flow valve 53 (FIG. 1) to adjust the hydrogen flow. Gas flow valve is described in detail with reference to FIG. 3.

The intake air 14 may be in a carburator arrangement with an intake adjustment 55 that adjusts the plate 42 opening and also more fully described with reference to FIG. 8.

To maintain constant pressure in hydrogen gas storage 7 in the on-off operation of the engine, the gas flow control valve is responsive to the electrical shut-off control 33. The constant pressure permits an abundant supply of gas on start up and during certain periods of running time in re-supply.

The switch 33 is in turn responsive to the vacuum control switch 60. During running of the engine vacuum will be built up which in turn leaves switch 33 open by contact with vacuum switch 60 through lead 60a. When the engine is not running the vacuum will decrease to zero and through switch 60 will cause electrical switch 33 to shut off cutting off the flow of hydrogen gas to the control valve 53.

As low-voltage direct current is applied to safety valve 28, solenoid 29 is activated. The solenoid applies a control voltage to the hydrogen generator exciter 3 via terminal 27 through pressure switch 26. As the electrical power activates electric solenoid 29, hydrogen gas is caused to pass through flow adjustment valve 16 and then outlet pipe 5 for utilization. The pressure differential hydrogen gas output to gas mixing chamber 20 is for example 30 lbs. to 15 lbs. Once hydrogen generator 10 reaches an optimum gas pressure level, pressure switch 26 shuts off electrical power to the hydrogen excitors. If the chamber pressure exceeds a predetermined level, the safety release valve 28 is activated disconnecting the electrical current and thereby shutting down the entire system for safety inspection.

With particular reference now to FIG. 6 there is illustrated the fuel injector system in a side crossectional view and to FIG. 5 in a top view. The structural apparatus incorporated in the preferred embodiment comprises housing 90 having air intakes 14a and 14e. The air passes through filter 91 around the components 14b and 14c and then to intake 14d of the mixing chamber 20. The hydrogen enters via line 5 via quenching plates 37 and into the mixing chamber 20. The non-volatile gasses pass via line 9 to the quenching plates 39 and into the mixing chamber 20.

FIG. 7 illustrates the mechanical arrangement of components comprising the overall structure of the mixing chamber 20 and shown independently in the other figures.

Returning to FIG. 1 there is illustrated the non-volatile gas line 9 passing through mixture pump 91 by engine pulley 93. Valve 95 controls the rate of flow.

Also driven by pulley 93 is pump 96 having line 85 connected to an oil resevoir 92 and valve 87 and finally to mixing chamber 20. As a practical matter, such as in a non-oil lubricated engine, lubricating fluid such as oil 81 is sprayed in the chamber 20, via oil supply line 85 for lubrication.

There has been several publications in the past year or so delving on the properties of Hydrogen gas, its potential use, generating systems, and safety. One such publication is "Selected Properties of Hydrogen" (Engineering Design Data) issued February 1981 by the National Bureau of Standards.

These publications are primarily concerned with the elaborate and costly processes for generating hydrogen. Equally so, they are concerned with the very limited use of hydrogen gas because of its extremely high burning velocities. This in turn reflects the danger in the practical use of hydrogen.

With reference to the graph of the Appendix A, it is seen that the burning velocities of alcohol, propane, methane, gasoline, natural gas, and diesel oil are in the range of minimum 35 to maximum 45. Further, the graph illustrates that the burning velocity of hydrogen gas is in the range of 265 minimum to 325 maximum. In simple terms in the order of 7.5 times the velocity of ordinary commercial fuels.

Because of the hydrogen gas unusually high burning velocity, hydrogen gas has been ruled out, by these prior investigators as a substitute fuel. Further, even if an engine could be designed to accommodate such high velocities, the danger of explosion would eliminate any thoughts of commercial use.

The present invention, as above described, has resolved the above-noted criterea for the use of hydrogen gas in a standard commercial engine. Primarily, the cost in the generation of hydrogen gas, as noted in the aforementioned co-pending patent applications, is most minimal. Water with no chemicals or metals is used. Also, as note in the aforementioned co-pending patent applications, is the reduction in the hydrogen gas velocity. These co-pending applications not only teach the reduction in velocity, but teach the control of the velocity of the hydrogen gas.

In the preferred embodiment, practical apparatus adapting the hydrogen generator to a combustion engine is described. The apparatus linearly controls the hydrogen gas flow to a mixing chamber mixing with a controlled amount of non-combustible gas oxygen, hence, the reduction in the hydrogen gas velocity. The reduction in the hydrogen gas velocity makes the use of hydrogen as safe as other fuels.

In more practical terms the ordinary internal combustion engine of any size or type of fuel, is retrofitted to be operable with only water as a fuel source. Hydrogen gas is generated from the water without the use of chemicals or metals and at a very low voltage. The burning velocity of the hydrogen gas has been reduced to that of conventional fuels. Finally, every component or step in the process has one or more safety valves or features thereby making the hydrogen gas system safer than that of conventional automobiles.

In the above description the terms non-volatile and non-combustile were used. It is to be understood they are intended to be the same; that is, simply, gas that will not burn.

Again, the term storage has been used, primarily with respect to the hydrogen storage area 7. It is not intended that the term "storage" be taken literally--in fact it is not storage, but a temporary holding area. With respect to area 7, this area retains a sufficient amount of hydrogen for immediate start-up.

Other terms, features, apparatus, and the such have been described with reference to a preferred embodiment. It is to be understood modifications and alternatives can be had without departing from the spirit and scope of the invention.

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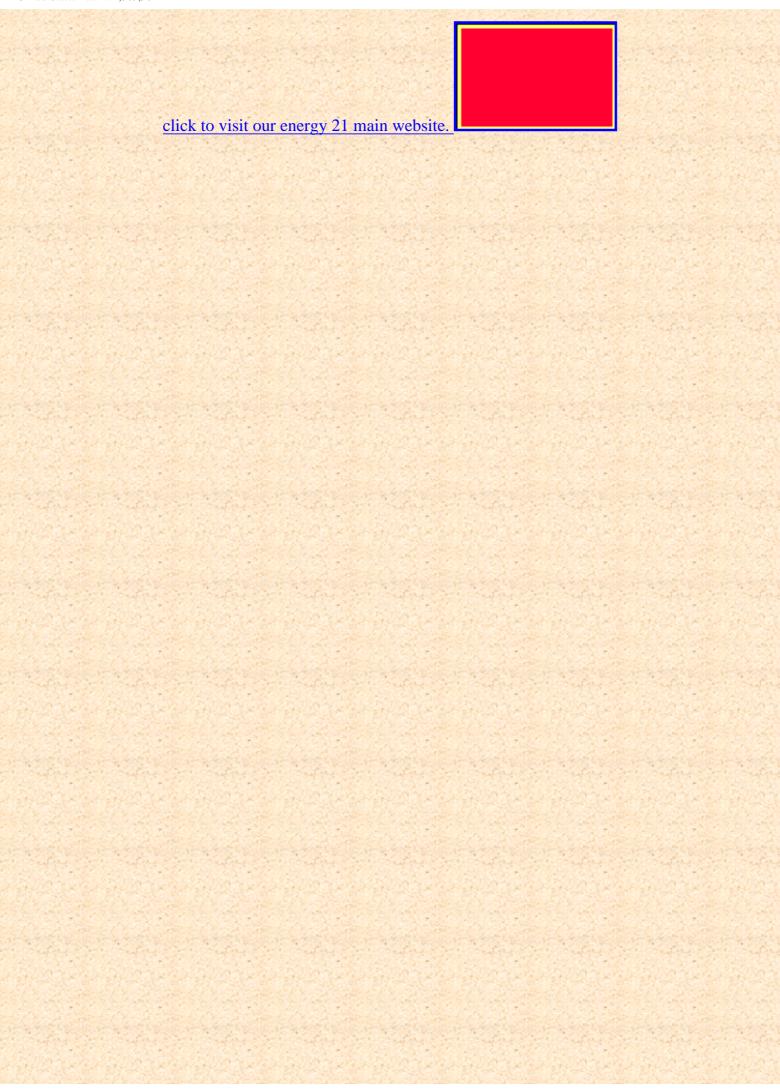
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# Hydrogen gas burner

#### Abstract

A hydrogen gas burner for the mixture of hydrogen gas with ambient air and non-combustible gasses. The mixture of gasses when ignited provides a flame of extremely high, but controlled intensity and temperature. The structure comprises a housing and a hydrogen gas inlet directed to a combustion chamber positioned within the housing. Ambient air intake ports are provided for adding ambient air to the combustion chamber for ignition of the hydrogen gas by an ignitor therein. At the other end of the housing there is positioned adjacent to the outlet of the burner (flame) a barrier/heating element. The heating element uniformly disperses the flame and in turn absorbs the heat. The opposite side to the flame, the heating element uniformly disperses the extremely hot air. A non-combustible gas trap adjacent to the heating element captures a small portion of the non-combustible gas (burned air). A return line from the trap returns the captured non-combustible gas in a controlled ratio to the burning chamber for mixture with the hydrogen gas and the ambient air.

#### Claims

#### I claim:

- 1. A hydrogen gas burner for utilization as a heat source comprising:
- a housing having a double open-end combustion chamber positioned therein,
- a source of hydrogen gas and a nozzle connected thereto for directing the hydrogen gas into one end of said combustion chamber,
- ambient air intake means in said housing positioned to direct ambient air into said combustion chamber,
- and a source of a non-combustible gas, return line means for returning said non-combustible gas to said combustion chamber for mixing with said hydrogen gas and said ambient air,
- an ignitor for igniting said mixture of gasses,
- a barrier positioned adjacent to other open-end of said combustion chamber,
- said ignited mixture of gasses superheating the air in said housing and directing the same to said barrier,
- said barrier further comprising a heat dissapating surface to disperse heated air to the utilization means.
- 2. The hydrogen gas burner of claim 1 wherein said source of non-combustible gas further comprises a hot air trap adjacent to the heat dissapating surface of said barrier and a return line from said trap to said combustion

chamber.

- 3. The hydrogen gas burner of claim 1 wherein said return line further comprises valve means for controlling the amount of non-combustible gas entering said combustion chamber.
- 4. The hydrogen gas burner of claim 1 wherein said ambient air intake means is positioned in said housing to provide ambient air to said combustion chamber together with said hydrogen gas.
- 5. The hydrogen gas burner of claim 1 wherein said ambient air intake means in said housing further comprises a valve means for controlling the amount of ambient air entering said combustion chamber.
- 6. The hydrogen gas burner of claim 1 wherein said source of hydrogen gas further comprises a valve means for controlling the amount of hydrogen gas introduced to said combustion chamber.
- 7. The hydrogen gas burner of claim 1 wherein said hydrogen gas, said ambient air, and said non-combustible gasses are controlled in amount to a predetermined ratio dependant upon the desired velocity and temperature of the ensuing flame.
- 8. The hydrogen gas burner of claim 1 wherein said nozzle has a port opening of a controlled size to provide a constant flame without blowout.
- 9. The hydrogen gas burner of claim 1 wherein said barrier comprising a heat saturating material with a heat dissapating surface.
- 10. The hydrogen gas burner of claim 9 wherein said heat absorbing/dissapating barrier comprises a ceramic material.
- 11. The hydrogen gas burner of claim 9 wherein said heat absorbing/dissapating barrier comprises a metallic mesh material.
- 12. The hydrogen gas burner of claim 1 wherein said opening in said combustion chamber further comprises flange means for directing said hydrogen gas and said ambient air thereto.
- 13. The hydrogen gas burner of claim 9 wherein said barrier retards unspent hydrogen gas atoms and thereafter ignites the same.

#### Description

#### **CROSS REFERENCE**

The hydrogen/oxygen generator utilized in the present invention is that disclosed and claimed in my copending patent application, Ser. No.: 302,807, filed: Sept. 16, 1981, for: HYDROGEN GENERATOR SYSTEM. In that process for separating hydrogen and oxygen atoms from water having impurities, the water is passed between two plates of similar non-oxidizing metal. No electrolyte is added to the water. The one plate has placed thereon a positive potential and the other a negative potential from a very low amperage direct-current power source. The sub-atomic action of the direct current voltage on the non-electrolytic water

causes the hydrogen and oxygen atoms to be separated--and similarly other gasses entrapped in the water such as nitrogen. The contaminents in the water that are not released are forced to disassociate themselves and may be collected or utilized and disposed of in a known manner.

The direct current acts as a static force on the water molecules; whereas the non-regulated rippling direct current acts as a dynamic force. Pulsating the direct current further enhances the release of the hydrogen and oxygen atoms from the water molecules.

In my co-pending patent application, Ser. No.: 262,744, filed: May 11, 1981, for: HYDROGEN AIRDATION PROCESSOR, there is disclosed and claimed the utilization of the hydrogen/oxygen gas generator. In that system, the burn rate of the hydrogen gas is controlled by the controlled addition of non-combustible gasses to the mixture of hydrogen and oxygen gasses.

#### PRIOR ART

The electrolysis process for generating hydrogen and oxygen gas is well known in the art. It is, of course, further understood with a proper mixture of oxygen gas, the hydrogen gas is combustible and under ideal conditions a flame, may be had. Reference is made to U.S. Pat. No.: 4,184,931. However, in that the burning velocity of hydrogen is 265-325 cm./sec. versus 37-45 cm./sec. of that of gasoline, the velocity of hydrogen is so great that the hydrogen ensuing from a nozzle will not under ordinary circumstances sustain a flame.

Therefore, to sustain a flame at a nozzle attached to a hydrogen generator the burning velocity of the hydrogen gas must be reduced.

It has been found that all water in its natural state whether it be tap water, well water, sea water, or fresh water is a saturate of ambient air. Further, in that ambient air contains a substantial amount of nitrogen, all natural water will have entrapped therein nitrogen. Again, the percentage of nitrogen entrapped in natural water has been determined to be a fixed percentage and very uniform at seventeen (17%) percent--irrespective of the source of the water or its impurities. Hence, a natural water gas analysis will show a seventeen percent of nitrogen relative to the hydrogen and the oxygen.

The nozzle connected to the collection chamber via an appropriate line, has a port opening of a controlled size and configuration, related to the size of the flame and the temperature and velocity of the burning gas mixture. To maintain the flame, that is to prevent blowout, additional nozzles are included when the overall flame size is to be increased.

#### SUMMARY OF INVENTION

The present invention is for a hydrogen gas burner and comprises a combustion chamber for the mixture of hydrogen gas, ambient air, and non-combustible gasses. The mixture of gasses is ignited and burns at a retarded velocity rate and temperature from that of hydrogen gas, but at a higher temperature rate than other gasses.

The extremely narrow hydrogen gas mixture flame of very high temperature is restricted from the utilization means by a heat absorbing barrier. The flame strikes the barrier which in turn disperses the flame and absorbs the heat therefrom and thereafter radiates the heat as extremely hot air into the utilization means.

Positioned on the opposite side of the heat radiator/barrier is a hot air trap. A small portion of the radiated

heat is captured and returned to the combustion chamber as non-combustible gasses. Valve means in the return line regulates the return of the non-combustible gas in a controlled amount to control the mixture.

The present invention is principally intended for use with the hydrogen generator of my co-pending patent application, supra; but it is not to be so limited and may be utilized with any other source of hydrogen gas.

#### **OBJECTS**

It is accordingly a principal object of the present application to provide a hydrogen gas burner that has a temperature controlled flame and a heat radiator/barrier.

Another object of the present invention is to provide a hydrogen gas burner that is capable of utilizing the heat from a confined high temperature flame.

Another object of the present invention is to provide a hydrogen gas burner that is retarded from that of hydrogen gas, but above that of other gasses.

Another object of the present invention is to provide a hydrogen gas burner that utilizes the exhaust air as non-combustible gas for mixture with the hydrogen gas.

Another object of the present invention is to provide a hydrogen gas burner that is simple but rugged and most importantly safe for all intended purposes.

Other objects and features of the present invention will become apparent from the following detailed description when taken in conjunction with the drawings in which:

#### BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is an overall crossectional view of the present invention in its most preferred embodiment.

FIG. 2 is a graphical illustration of the burning of various standard fuels with that of hydrogen velocities.

#### DETAILED DESCRIPTION OF INVENTION

With particular reference FIG. 1 there is illustrated in a schematic crossection the principals of the present invention.

The structure of the preferred embodiment comprises a housing 10, having an igniter 20 extending through the wall 11 thereof. A combustion chamber 60 positioned within the housing 10 has a first open end 62. A hydrogen gas 72 inlet 30 directs hydrogen gas via port 37 from a source 35 to the inlet 62 of the combustion chamber 68. Also directed to the same inlet 62, and assisted by flanges 64 and 66, is ambient air 70 entering through ports 13 in the housing 10.

Adjacent the opposite end of the combustion chamber 60 the gas mixture 75 is ignited by the ignitor 20 to produce flame 77.

The velocity of the flame 77 causes it to strike and penetrate the barrier/radiator 50. The barrier 50 is of a material, such as metallic mesh or ceramic material, to disperse therein the flame and in turn become

saturated with heat. The flame 77 is of a size sufficient to be dispersed throughout the barrier 50, but yet, not penetrate through the barrier 50.

Radiated from the surface 52 of the barrier 50 is superheated air 56 (gasses) to be passed on to a utilization device.

Adjacent to surface 52 of barrier/radiator 50 is a hot air trap 40 with closed loop line 45 returning non-combustible gas 44 to the combustion chamber 60. Control valve 42 is intermediate the line 45.

In operation of the preferred embodiment hydrogen gas, 72, emitted from the nozzle 37 is directed to the combustion chamber 60. The flanges 64 and 66 on the open end of housing 63 of the combustion chamber 60 enlarges the open end of 62. In the enlargement ambient air from the opening 13 in the housing 10 is also directed to the combustion chamber 60.

The ambient air and hydrogen traverses the opening 43 and further mixes with the non-combustible gas 44 from the closed loop line 45 with the hot air trap 40.

The mixture of hydrogen gas 72, ambient air 70, and non-combustible gas 44, is ignited by the ignitor 20 having electrical electrodes 21 and 23. Upon ignition flame 77 ensues.

The mixture is controlled with each of three gasses. That is, the line 32 from the hydrogen source 35 has a valve 38 therein for controlling the amount of hydrogen 72 emitted from the nozzle 37. The opening 13 has a plate adjustment 15 for controlling the amount of ambient air 60 directed to the combustion chamber 60, and the closed-loop line has valve 42, as aforesaid, for controlling the amount of non-combustible gasses in the mixture.

It can be appreciated that the temperature of the flame 77 and the velocity of the flame 77 is a function of the percentage of the various gasses in the mixture. In a practical embodiment, the flame 70 temperature and velocity was substantially retarded from that of a hydrogen flame per se; but yet, much greater than the temperature and velocity of the flame from the gasses utilized in a conventional heating system.

To maintain a sufficient pressure for combustion of the hydrogen gas mixture with a minimum of pressure (for safety) and to limit blowout, the nozzle 37 opening 39 is extremely small. As a consequence, if the hydrogen gas were burned directly from the nozzle 37, the flame would be finite in diameter. Further, its velocity would be so great it is questionable whether a flame could be sustained.

The mixing of ambient air and non-combustible gas does enlargen the flame size and does reduce its velocity. However, to maintain a flame higher in temperature and velocity than the conventional gasses, the size and temperature of the flame is controlled by the aforementioned mixture.

Therefore, to utilize the flame 77 in a present day utilization means, the flame is barred by the barrier 50. The barrier 50 is of a material that can absorb safely the intense flame 77 and thereafter radiate heat from its entire surface 52. The material 54 can be a ceramic, metallic mesh or other heat absorbing material known in the art. The radiated heat 56 is directed to the utilization means.

As aforesaid, the mixture of gasses that are burned include non-combustible gasses. As indicated in the above-noted co-pending patent applications, an excellent source of non-combustible gasses are exhaust gasses. In this embodiment, the trap 50 entraps the hot air 74 and returns the same, through valve 42, to the combustion

chamber 60 as non-combustible gas.

With reference to FIG. 2 there is illustrated the burning velocity of various standard fuels. It can be seen the common type of fuel burns at a velocity substantially less than hydrogen gas.

The ratio of hydrogen with non-combustible oxygen gasses is varied to obtain optimum burning velocity and temperature for the particular utilization. Once this is attained, the ratio, under normal conditions, will not be altered. Other uses having different fuel burn temperature and velocity will be adjusted in ratio of hydrogen/oxygen to non-combustible gasses in the same manner as exemplified above.

Further, perhaps due to the hydrogen gas velocity, there will occur unburnt gas at the flame 77 output. The barrier 50, because of its material makeup will retard the movement and entrap the unspent hydrogen gas. As the superheated air 77 is dispersed within the material 54, the unspent hydrogen gas is ignited and burns therein. In this way the barrier 50 performs somewhat in the nature of an after burner.

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## Start-up/shut-down for a hydrogen gas burner

#### Abstract

System for flame start-up/shut-down for a hydrogen gas mixture burner. An electrical probe igniter positioned adjacent the gas port outlet. On demand the igniter is actuated to heat and electrically heat a thermal switch. Responsive electronic controls actuate the appropriate valves and circuits for operational start-up. Upon the ignition of the generated hydrogen gas mixture, a second thermal probe is heated by the flame to deactivate the ignition and start-up circuits. After demand the second thermal probe cools and the circuit is restored for start-up again. A safety probe positioned in the flame is quiescent. In the event of demand time shut-down, the safety probe will activate the circuits for restart. If failure to start-up continues for a predetermined time, the safety probe circuit will effect permanent shut-down.

# Claims

#### I claim:

- 1. A start-up/shut/down circuit for activating and deactivating a non-ionic hydrogen generator burner system on demand, comprising:
- a thermostatic control demand circuit,
- a gas nozzle connected to the generated gas output of said hydrogen generator and a controlled size port in said nozzle for confining and controlling the hydrogen gas expelled therefrom,
- an igniter positioned in the projective path of said nozzle,
- an electrical heating element adjacent said igniter,
- a voltage source and means connected to said source for applying voltage to said heating element for heating said igniter upon demand as predetermined by said demand circuit,
- a heat sensing element, including heat responsive switching means, responsive to the temperature of said igniter electrical heating element,
- an electrical control circuit connected to said heat responsive switching means,
- a direct current voltage source and switching means for applying voltage from said voltage source to said hydrogen generator, said switch activated by said electrical control circuit upon said ignitor attaining a predetermined temperature, and

gas valve outlet, and pressure sensing means on said hydrogen generator,

said electrical control circuit, including means for actuating said outlet valve, to permit the generated gasses to be expelled from said nozzle upon said gasses generated by said hydrogen generator attaining a pretermined pressure,

said expelled gasses from said nozzle, upon contact with said heated igniter, being ignited into a continuous flame,

a second heat responsive sensory element positioned in the path of said ignited gasses including heat responsive switch means connected to said voltage source, disconnecting said voltage to said igniter electrical heating element upon said nozzle expelled gasses becoming ignited,

and

upon completion of demand, as predetermined by said demand circuit, said electrical control circuit disconnecting said direct current voltage to said hydrogen generator.

- 2. A start-up/shut-down circuit for use in a hydrogen generator gas burner system as set forth in claim 1 wherein said igniter is an electrical spark igniter, and wherein said heat sensing elements are thermo probes.
- 3. A start-up/shut-down circuit for use in a hydrogen generator gas burner system as set forth in claim 1 further comprising an override switch connected to said second heat responsive sensory element for actuating said override switch to terminate said voltage source to said heating element upon the absence of a flame.

#### Description

#### **CROSS REFERENCES**

In the non-electrolysis process disclosed and claimed in my co-pending patent application, Ser. No. 302,807, Filed: Sept. 16, 1981, For:HYDROGEN GENERATOR SYSTEM, for separating hydrogen and oxygen atoms from water, water is passed between two plates of similar non-oxidizing metal. The one plate has placed thereon a positive potential and the other a negative potential from a very low-direct-current power source. The sub-atomic action of the direct current voltage causes the hydrogen and oxygen atoms to be separated. The contaminants in the water are forced also to disassociate itself and may be collected or utilized and disposed of. This in turn lends the process to recombining the hydrogen and oxygen into pure water.

The direct current voltage applied to the plates is non-regulated and non-filtered. The direct current acts as a static force on the water molecules; whereas the rippling direct current voltage acts as a dynamic force. Pulsating the direct current further acts as a dynamic force and enhances considerably the splitting of the atoms from the water molecules. An increase in voltage potential further increases the hydrogen output. Certain plate arrangements and configurations with graphical illustration or relative efficiency are disclosed.

In my co-pending patent application, Ser. No. 422,495, Filed: Sept. 24, 1982, For: PERIODIC FLUSH SYSTEM FOR NON-ELECTROLYSIS HYDROGEN GENERATOR, there is disclosed control apparatus and electrical circuitry for periodically shutting down the hydrogen generator for flushing out the accumulated

contamianats. The shut-down is in a sequential step-by-step operation. After the flushing is complete, the hydrogen generator is started up and, again, in a sequential step-by-step operation. Although the functions are numerous, the most critical is the opening and closing of the gas valves, and the switching on and off of the electrical circuitry to the exciter elements.

#### BACKGROUND

Heating and air environmental systems of the prior art have included sensing systems for flame-out, power loss or the like. These systems do provide some form of shut-down upon occurrence of a malfunction.

However, the prior art systems are either of gas, oil, or electrical. Although a gas or oil furnace will utilize electrical circuitry for a blower, the energy, whether gas, oil, or electric, is supplied either by a utility or in bulk. None of the prior art systems generate the energy that is used in the heating or air control system. Accordingly, no monitoring systems for the generator systems are known in the prior art, that are applicable heating or air control systems.

#### **SUMMARY OF INVENTION**

The present invention in its preferred embodiment provides a monitoring system and a start-up/shut-down circuitry and apparatus for a hydrogen gas burner. The system is distinctive in that the hydrogen generator is a demand system; that is, hydrogen gas is generated only when the thermostat (or other gauge) dictates the energy is needed. Accordingly, the start-up is the start-up of the energy generating system and thereafter starting the igniter to ignite the hydrogen gas mixture. Further, although the prior systems start-up on demand; none have a need for periodic shut-down.

The present invention is a start-up/shut-down system for an energy generator and for the utilization of the energy generated. The function in addition to demand is periodic. Then, again, the same procedure is followed upon the occurrence of malfunction.

The apparatus comprises an igniter in the flame path that upon actuation heats a thermal probe that controls the electrical/electronic circuitry for opening and closing the various controls and switches. Another probe deactivates the ignition and start-up upon completing the function. A safety probe positioned in the flame path is time controlled to start-up in the occurrence of a flame-out, if failure occurs in the attempt to retract within a given period of time the entire system is shut-down.

#### **OBJECTS**

It is a principal object of the present invention to provide a monitoring and control system for start-up and shut-down of an energy generator system.

Another object of the present invention is to provide such a control system that is operable upon demand, periodically operable, and operable upon occurrence of a malfunction.

A further object of the invention is for a monitoring and control system that distinguishes between an accidental flame-out and a flame-out caused by malfunction of the system.

A further object of the invention is for a monitoring and control system that provides a restart function upon accidental flame-out.

Other objects and features of the present invention will become apparent from the following detailed description when taken in conjunction with the drawings in which:

#### **BRIEF DESCRIPTION OF DRAWINGS**

FIG. 1 schematically depicts a preferred embodiment of the invention of a hydrogen gas mixture burner incorporating the features of the invention.

FIG. 2 is a schematic block diagram of the preferred embodiment in a complete operational generator system.

#### DETAILED DESCRIPTION OF DRAWINGS

With reference to FIG. 1 there is a illustrated schematically the mechanical/electrical apparatus of the system of the preferred embodiment of the invention taken in conjunction with the hydrogen generator of my copending patent application, supra. In FIG. 2 the electrical circuitry and actuating valves and the like are depicted in a sequential schematic block type of arrangement.

Referring to FIG. 1, together with FIG. 2, the preferred embodiment of the present invention may now be described. The thermal probe switch 20, before start-up, is in a normally closed position. Upon the demand for energy, dictated by the thermostat 10 control, the relay 22 is closed, applying electrical power from source 25 to the electrical spark igniter 30 through the closed thermal probe 20. Upon the spark igniter 30 attaining the appropriate temperature, the radiant heat from coil 35 heats the thermal probe 40.

As the thermal probe 40 heats, the normally open switch 45 closes and in turn actuates the electrical control circuit 50. The control circuit 50 closes the circuit to apply electrical power to the exciters 60 in the non-electrolysis hydrogen generator 105.

In sequence, and upon attaining appropriate pressure from the gasses generated as indicated by pressure valve in the hydrogen generator 105, also illustrated in FIG. 2 in dotted line block, the gas outlet valve 70 is opened, permitting gas to be expelled through a nozzle assembly 80.

Upon the gas making contact with the heated electrical spark igniter 30, the hydrogen gas mixture, expelled from the controlled port opening in nozzle assembly 80 is ignited into a continuous extremely high temperature flame 90.

The thermal probe 95 immediately begins to heat and after attaining the predetermined temperature the fan assembly 75 is actuated by the closure of relay 85.

The flame 90 having been ignited and burning, causes the thermal probe 20 to become heated and thereby opening its relay 15. In turn, the voltage applied to the electrical spark igniter 30 is terminated by the open relay 15.

Upon the demand from the thermostat 10 being reached the relay 22 is opened thereby cutting off the voltage 25 to the thermal probe switch 20. Sequentially the electrical control circuit 50 opens the circuit providing voltage to the exciters 60; thereby shutting gas outlet valve 70 to terminate the flame 90. Thereafter the circuit is ready for start-up again upon demand from the thermostat 10, as aforesaid.

A safety probe 120 is also positioned in the flame 90. During operation of the system under demand from the

thermostat control 10, the probe 120 will remain heated. In this condition the attendant relay 130 is inoperative. If for some reason the flame 90 should be extinguished during the demand period the safety probe 120 will quickly cool and in sequence the attendant relay 130 will open. Relay 130 connected to relay 22 in the power circuit will act in place of the demand thermostat 10, that is, the relay 130 will override the demand thermostat 10. The circuits and functions will follow as above-described for start-up in the event the flame-out was accidental.

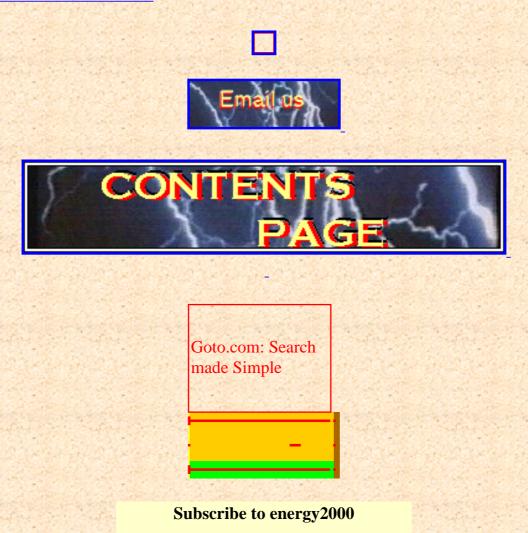
The safety control system further includes a timer circuit and thermostat 125 that will permit the probe 120 to attain its temperature within a given period of time. If the probe 120 does not attain its temperature the same start-up procedure will follow again, within a given period of time. The timer 125 is so set that unless the probe 120 attains the appropriate temperature within the given period of time the entire circuitry is shut down permanently. This denotes a major failure in the system and not a simple flame-out.

Finally, in the unlikely event of pressure build-up upon malfunction, there is provided a safety relief valve 140.

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Controlled process for the production of thermal energy from gases and apparatus useful therefore

#### Abstract

A method of and apparatus for obtaining the release of energy from a gas mixture including hydrogen and oxygen in which charged ions are stimulated to an activated state, and then passed through a resonant cavity, where successively increasing energy levels are achieved, and finally passed to an outlet orifice to produce thermal explosive energy.

#### Claims

#### What is claimed is:

- 1. A method of obtaining the release of energy from a gas mixture including hydrogen and oxygen consisting of:
- (A) providing a first gas mixture including at least a portion of hydrogen and oxygen gases;
- (B) subjecting the gas mixture to a pulsating, polar electric field whereby electrons of the gas atoms are distended in their orbital fields by reason of their subjection to electrical polar forces, at a frequency such that the pulsating electric field induces a resonance with respect to an electron of the gas atom;
- (C) cascading said gas atoms with respect to the pulsating electric field such that the energy level of the resonant electron is increased in cascading incremental steps;
- (D) ionizing said gas atoms;
- (E) subjecting the ionized gas atoms to electromagnetic wave energy having a predetermined frequency to induce a further election resonance in the ion, whereby the energy level of the electron is successively increased:
- (F) extracting further electrons from the resonating ions while such ions are in an increased energy state to destabilize the nuclear and electron configuration of said ions; and
- (G) subjecting the destabilized ions to thermal ignition.
- 2. An apparatus for obtaining the release of energy from a gas mixture including hydrogen and oxygen consisting of successively interconnected:
- (A) first means for providing a first gas mixture including at least a portion of hydrogen and oxygen gas;

- (B) second means for providing a pulsating, polar electric field to the gas mixture, whereby electrons of the gas atoms are distended in their orbital fields by reason of their subjection to electrical polar forces, at a frequency such that the pulsating electric field induces a resonance with respect to an electron of the gas atom; and the energy level of the resonant electron is increased in cascading, incremental steps;
- (C) third means for providing a further electric field to ionize said gas atoms;
- (D) an electromagnetic wave energy source for subjecting the ionized gas atoms to wave energy of a predetermined frequency to induce a further election resonance in the ion, whereby the energy level of the electron is further successively increased;
- (E) an electron sink for extracting electrons from the resonating ions while such ions are in an increased energy state to destabilize the nuclear and electron configuration of said ions;
- (F) fourth means for directing particle flow in a continuous manner through the electric fields, wave energy source and electron sink to a final orifice at which the destabilized ions are thermally ignited; and
- (G) a final orifice at which the mixture initially provided by the first means, after having passed through and been processed by the preceding means of the apparatus, is thermally ignited.

## Description

#### FIELD OF THE INVENTION

This invention relates to a method of and apparatus for obtaining the release of energy from a gas mixture including hydrogen and oxygen in which charged ions are stimulated to an actived state, and then passed through a resonant cavity, where successively increasing energy levels are achieved, and finally passed to an outlet orifice to produce thermal explosive energy.

#### BACKGROUND OF THE PRIOR ART

Processes have been proposed for many years in which controlled energy producing reactions of atomic particles are expected to occur under "cold" conditions. [See. e.q.. Rafelski, J. and Jones, S.E., "Cold Nuclear Fusion," Scientific American, July, 1987, page 84]. The process and apparatus described herein are considered variations to and improvements in processes by which energy is derived from excited atomic components in a controllable manner.

## **OBJECTS OF THE INVENTION**

It is an object of the invention to realize significant energy-yield from water atoms. Molecules of water are broken down into hydrogen and oxygen gases. Electrically charged gas ions of opposite electrical polarity are activated By Express Mail No. 26224690 on August 5, 1987 by electromagnetic wave energy and exposed to a high temperature thermal zone. Significant amounts of thermal energy with explosive force beyond the gas burning stage are released.

An explosive thermal energy under a controlled state is produced. The process and apparatus provide a heat energy source useful for power generation, aircraft, rocket engines, or space stations.

#### BRIEF DESCRIPTION OF THE DRAWINGS

- FIG. 1 illustrates a staged arrangement of apparatus useful in the process, beginning with a water inlet and culminating in the production of thermal explosive energy.
- FIG. 2A shows a cross-section of a circular gas resonant cavity used in the final stage assembly of FIG. 1.
- FIG. 2B shows an alternative final stage injection system useful in the apparatus of FIG. 1.
- FIG. 2C shows an optical thermal lens assembly for use either final stage of FIG. 2A or FIG. 2B.
- FIGS. 3A, 3B, 3C and 3D are illustrations depicting various theoretical bases for atomic phenomena expected to occur during operation of the invention herein.
- FIG. 4 is an electrical schematic of the voltage source for the gas resonant cavity.
- FIGS. 5A and 5B, respectively, show (A) an electron extractor grid used in the injector assemblies of FIG. 2A and FIG. 2B, and (B) the electronic control circuit for the extractor grid.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

The hydrogen fracturing process, follows the sequence of steps shown in the following Table I in which beginning with water molecules, the molecule is subjected to successively increasing electrical, wave energy and thermal forces. In the succession of forces, radomly oriented water molecules are aligned with respect to molecular polar orientation and are themselves polarized and "elongated" by the application of an electric potential to the extent that covalent bonding of the water molecule is so weakened that the atoms disassociate and the molecule breaks down into hydrogen and oxygen elemental components. The released atomic gases are next ionized and electrically charged in a vessel while being subjected to a further energy source that promotes inter-particle impact in the gas at an increased overall energy level. Finally, the atomic particles in the excited gas, having achieved successively higher energy levels, are subjected to a laser or electromagnetic wave energy source that produces atomic destabilization and the final release of thermal explosive energy. Engineering design parameters based on known theoretical principles of atomic physics determine the incremental levels of electrical and wave energy input required to produce resonance in each stage of the system. Instead of a dampening effect, a resonant energization of the molecule, atom or ion provides a compounding energy interaction resulting in the final energy release.

TABLE I

PROCESS STEPS LEADING TO IGNITION

RELATIVE STATE OF WATER MOLECULE AND/OR HYDROGEN/OXYGEN/OTHER ATOMS
RANDOM 1st Stage

ALIGNMENT

Water to Gas

POLARIZATION 2nd Stage

MOLECULAR ELONGATION Gas Ionization

ATOM LIBERATION 3rd Stage LIQUID TO GAS IONIZATION Priming

ELECTRICAL CHARGING EFFECT

Final Stage

PARTICLE IMPACT Ignition

ELECTROMAGNETIC WAVE, LASER OR

PHOTON INJECTION

ELECTRON EXTRACTION

ATOMIC DESTABILIZATION

THERMAL IGNITION

After the first stage in which water is broken down into its atomic components in a mixture of hydrogen, oxygen and formerly dissolved entrapped gasses, the gas atoms become elongated during electron removal as the atoms are ionized. Laser, or light wave energy of a predetermined frequency is injected into a containment vessel in a gas ionization process. The light energy absorbed by voltage stimulated gas nuclei causes destabilization of gas ions still further. The absorbed laser energy causes the gas nuclei to increase in energy state, which, in turn, causes electron deflection to a higher orbital shell.

The electrically charged and laser primed combustible gas ions from a gas resonant cavity may be directed into an optical thermal lens assembly for triggering. Before entry into the optimal thermal lens, however, electrons are stripped from the ions and the atom is destabilized. The destabilized gas ions which are electrically and mass unbalanced atoms having highly energized nuclei are pressurized during spark ignition. The unbalanced, destablized atomic components thermally interact; the energized and unstable hydrogen gas nuclei collide with highly energized and unstable oxygen gas nuclei, causing and producing thermal explosive energy beyond the gas burning stage. The ambient air gas components in the initial mixture aid the thermal explosive process under a controlled state.

In the process, the point of optimum energy-yield is reached when the electron deficient oxygen atoms (having less than a normal number of electrons) lock onto and capture a hydrogen atom electron prior to or during thermal combustion of the hydrogen/oxygen mixture. Atomic decay results in the release of energy.

In a general outline of the method, a first gas mixture including at least a portion of hydrogen and oxygen gases is provided. The gas mixture is subjected to a pulsating, polar electric field whereby electrons of the gas atoms are distended in their orbital fields by reason of their subjection to electrical polar forces. The polar pulsating frequency applied is such that the pulsating electric field induces a resonance with respect to an election of the gas atom. A cascade effect results and the energy level of specific resonating electron is increased in cascading, incremental steps.

Next, the gas atoms are ionized and subjected to electro-magnetic wave energy having a predetermined frequency to induce a further election resonance in the ion, whereby the energy level of the election is successively increased. Electrons are extracted from the resonating ions while such ions are in an increased energy state to destabilize the nuclear electron configuration of said ions; and the gas mixture of destabilized ions is thermally ignited.

In the apparatus shown in FIG. 1, water is introduced at inlet 1 into a first stage water fracturing module 2 in

which water molecules are broken down into hydrogen, oxygen and released entrapped gas components by an electrical disassociation process and apparatus such as shown in my co-pending application Ser. No. 835,564, filed March 3, 1986, which is incorporated herein by reference. The released atomic gases and other gas components formerly entrapped as dissolved gases in water may be introduced to a successive stage 3 or other number of like resonant cavities, which are arranged in either a series or parallel combined array. The successive energization of the gas atoms provides a cascading effect, successively increasing the voltage stimulation level of the released gasses as they sequentially pass through cavities 2, 3, etc. In a final stage, an injector system 4, of a configuration of the type shown in FIGS. 2A or 2B, receives energized atomic and gas particles where the particles are subjected to further energy input, electrical excitation and thermal stimulation, whereby thermal explosive energy results 5, which may be directed thru a lens assembly of the type shown in FIG. 2C to provide a controlled thermal energy output.

Electromagnetic wave activated and electrically charged gas ions of hydrogen and oxygen (of opposite polarity) are expelled from the cascaded cells 2, 3, etc. The effect of cascading successively increases the voltage stimulation level of the released gases, which then are directed to the final injector assembly 4. In the injector assembly, gas ions are stimulated to a yet higher energy level. The gases are continually exposed to a pulsating laser or other electromagnetic wave energy source together with a high intensity oscillating voltage field that occurs within the cell between electrodes or conductive plates of opposite electrical polarity. A preferred construction material for the plates is a stainless steel T-304 which is non-chemically reactive with water, hydrogen, or oxygen. An electrically conductive material which is inert in the fluid environment is a desirable material of construction for the electrical field producing plates, through which field the gas stream of activated particles passes. Gas ions of opposite electrical charges reach and maintain a critical energy level state. The gas ions are oppositely electrically charged and subjected to oscillating voltage fields of opposite polarity and are also subjected to a pulsating electromagnetic wave energy source. Immediately after reaching critical energy, the excited gas ions are exposed to a high temperature thermal zone in the injection cell, 4, that causes the excited gas ions to undergo gas combustion. The gas ignition triggers atomic decay and releases thermal energy, 5, with explosive force.

Once triggered, the thermal explosive energy output is controllable by the attenuation of operational parameters. With reference to FIG. 4A, for example, once the frequency of resonance is identified, by varying applied pulse voltage to the initial water fuel cell assemblies, 2, 3, the ultimate explosive energy output is likewise varied. By varying the pulse shape and/or amplitude or pulse train sequence of the electromagnetic wave energy source, final output is varied. Attenuation of the voltage field frequency in the form of OFF and ON pulses likewise affects output of the staged apparatus. Each control mechanism can be used separately, grouped in sections, or systematically arranged in a sequential manner.

The overall apparatus thus includes means for providing a first gas mixture consisting of at least a portion of hydrogen and oxygen gas. The gases may be obtained by disassociation of the water molecule. An electrical circuit of the type shown in FIG. 4 provides a pulsating, polar electric field to the gas mixture as illustrated in FIG. 3A, whereby electrons of the gas atoms are distended in their orbital fields by reason of their subjection to electrical polar forces, changing from the state conceptually illustrated by FIG. 3B to that of FIG. 3C, at a frequency such that the pulsating electric field induces a resonance with respect to electrons of the gas atoms. The energy level of the resonant electrons is thereby increased in cascading, incremental steps. A further electric field to ionize said gas atoms is applied and an electromagnetic wave energy source for subjecting the ionized gas atoms to wave energy of a predetermined frequency to induce a further electron resonance in the ion, whereby the energy level of the election is successively increased is an additional element of the apparatus as shown in FIG. 3D.

An electron sink, which may be in the form of the grid element shown in FIG. 5A, extracts further electrons

from the resonating ions while such ions are in an increased energy state and destabilizes the nuclear electron configuration of the ions. The "extraction" of electrons by the sink means is coordinated with the pulsating electrical field of the resonant cavity produced by the circuit of FIG. 4, by means of an interconnected synchronization circuit, such as shown in FIG. 5B. A nozzle, 10 in FIG. 2B, or thermal lens assembly, FIG. 2C, provides the directing means in which the destabilized ions are finally thermally ignited.

As previously noted, to reach and trigger the ultimate atomic decay of the fuel cell gases at the final stage, sequential steps are taken. First, water molecules are split into component atomic elements (hydrogen and oxygen gases) by a voltage stimulation process called the electrical polarization process which also releases dissolved gases entrapped in the water (See my co-pending application for letters patent, Ser. No. 835, 564, supra). In the injector assembly, a laser produced light wave or other form of coherent electromagnetic wave energy capable of stimulating a resonance within the atomic components is absorbed by the mixture of gases (hydrogen/oxygen/ambient air gases) released by the polarization process. At this point, as shown in FIG. 3B, the individual atoms are subjected to an electric field to begin an ionization process.

The laser or electromagnetic wave energy is absorbed and causes gas atoms to lose electrons and form positively charged gas ions. The energized hydrogen atoms which, as ionized, are positively charged, now accept electrons liberated from the heavier gases and attract other negatively charged gas ions as conceptually illustrated in FIG. 3C. Positively and negatively charged gas ions are re-exposed to further pulsating energy sources to maintain random distribution of ionized atomic gas particles.

The gas ions within the wave energy chamber are subjected to an oscillating high intensity voltage field in a chamber 11 in FIGS. 2A and 2B formed within electrodes 12 and 13 in FIGS. 2A and 2B of opposite electrical polarity to produce a resonant cavity. The gas ions reach a critical energy state at a resonant state.

At this point, within the chamber, additional electrons are attracted to said positive electrode; whereas, positively charged ions or atomic nuclei are attracted to the negative electrode. The positive and negative attraction forces are co-ordinate and operate on said gas ions simultaneously; the attraction forces are nonreversible. The gas ions experience atomic component deflection approaching the point of electron separation. At this point electrons are extracted from the chamber by a grid system such as shown in FIG. 5A. The extracted electrons are consumed and prevented from re-entering the chamber by a circut such as shown in FIG. 5B. The elongated gas ions are subjected to a thermal heat zone to cause gas ignition, releasing thermal energy with explosive force. During ionic gas combustion, highly energized and stimulated atoms and atom nuclei collide and explode during thermal excitation. The hydrogen fracturing process occurring sustains and maintains a thermal zone, at a temperature in excess of normal hydrogen/oxygen combustion temperature, to wit, in excess of 2500.degree. F. To cause and maintain atomic elongation depicted in FIG. 3C before gas ignition, a voltage intensifier circuit such as shown in FIG. 4 is utilized as a current restricting voltage source to provide the excitation voltage applied to the resonant cavity. At the same time the interconnected eletron extractor circuit, FIG. 5B, prevents the reintroduction of electrons back into the system. Depending on calculated design parameters, a predetermined voltage and frequency range may be designed for any particular application or physical configuration of the apparatus.

In the operation of the assembly, the pulse train source for the gas resonant cavity shown at 2 and 3 in FIG. 1 may be derived from a circuit such as shown in FIG. 4. It is necessary in the final electron extraction that the frequency with which electrons are removed from the system by sequenced and synchronized with the pulsing of the gas resonant cavity In the circuit of FIG. 5B, the coordination or synchronization of the circuit with the circuit of FIG. 4 may be achieved by interconnecting point "A" of the gate circuit of FIG. 5B to coordinate point "A" of the pulsing circuit of FIG. 4.

Together the hydrogen injector assembly 4 and the resonant cavity assemblies 2, 3 form a gas injector fuel cell which is compact, light in weight and design variable. For example, the hydrogen injector system is suited for automobiles and jet engines. Industrial applications require larger systems. For rocket engine applications, the hydrogen gas injector system is positioned at the top of each resonant cavity arranged in a parallel cluster array. If resonant cavities are sequentially combined in a parallel/series array, the hydrogen injection assembly is positioned after the exits of said resonant cavities are combined.

From the outline of physical phenomena associated with the process described in Table 1, the theoretical basis of the invention considers the respective states of molecules, gases and ions derived from liquid water. Before voltage stimulation, water molecules are randomly dispersed throughout water within a container. When a unipolar voltage pulse train such as shown in FIG. 3A (53a xxx 53n) is applied, an increasing voltage potential is induced in the molecules, gases and/or ions in a linear, step-like charging effect. The electrical field of the particles within a chamber including the electrical field plates increases from a low energy state (A) to a high energy state (J) in a step manner following each pulse-train as illustrated in FIG. 3A. The increasing voltage potential is always positive in direct relationship to negative ground potential during each pulse. The voltage polarity on the plates which create the voltage fields remains constant. Positive and negative voltage "zones" are thus formed simultaneously.

In the first stage of the process described in Table 1, because the water molecule naturally exhibits opposite electrical fields in a relatively polar configuration (the two hydrogen atoms are positively electrically charged relative to the negative electrically charged oxgen atom), the voltage pulse causes initially randomly oriented water molecules in the liquid state to spin and orient themselves with reference to positive and negative poles of the voltage fields applied. The positive electrically charged hydrogen atoms of said water molecule are attracted to a negative voltage field; while, at the same time, the negative electrically charged oxygen atoms of the same water molecule an attracted to a positive voltage field. Even a slight potential difference applied to the inert, conductive plates of a containment chamber will initiate polar atomic orientation within the water molecule based on polarity differences.

When the potential difference applied causes the orientated water molecules to align themselves between the conductive plates, pulsing causes the voltage field intensity to be increased in accordance with FIG. 3A. As further molecular alignment occurs, molecular movement is hindered. Because the positively charged hydrogen atoms of said aligned molecules are attracted in a direction opposite to the negatively charged oxygen atoms, a polar charge alignment or distribution occurs within the molecules between said voltage zones, as shown in FIG. 3B. And as the energy level of the atoms subjected to resonant pulsing increases, the stationary water molecules become elongated as shown in FIG. 3C. Electrically charged nuclei and electrons are attracted toward opposite electrically charged voltage zones--disrupting the mass equilibium of the water molecule.

In the first stage, as the water molecule is further exposed to a potential difference, the electrical force of attraction of the atoms within the molecule to the electrodes of the chamber also increases in intensity. As a result, the covalent bonding between said atoms which forms the molecule is weakened and ultimately terminated. The negatively charged electron is attracted toward the positively charged hydrogen atoms, while at the same time, the negatively charged oxygen atoms repel electrons.

Once the applied resonant energy caused by pulsation of the electrical field in the cavities reaches a threshold level, the disassociated water molecules, now in the form of liberated hydrogen, oxygen, and ambient air gases begin to ionize and lose or gain electrons during the final stage in the injector assembly. Atom destablization occurs and the electrical and mass equilibrium of the atoms is disrupted. Again, the positive field produced within the chamber or cavity that encompasses the gas stream attracts negatively charged ions

while the positively charged ions (and/or hydrogen nuclei) are attracted to the negative field. Atom stabilization does not occur because the pulsating voltage applied is repetitive without polarity change. A potential of approximately several thousand volts triggers the ionization state.

As the ionized particles accumulate within said chamber, the electrical charging effect is again an incremental stepping effect that produces an accumlative increased potential while, at the same time, resonance occurs. The components of the atom begin to "vibrate" at a resonant frequency such that an atomic instability is created. As shown in FIG. 3D, a high energy level is achieved, which then collapses resulting in the release of thermal explosive energy. Particle impact occurs when liberated ions in a gas are subjected to further voltage. A longitudinal cross section of a gas resonant cavity is shown in FIG. 2A. To promote gas ionization, electromagnetic wave energy such as a laser or photon energy source of a predetermined wave length and pulse-intensity is directed to and absorbed by the ions forming said gas. In the device of FIG. 2A, semiconductor optical lasers 20a-20p, 20xxx surround the gas flow path. In the device of FIG. 2B, photon energy 20 is injected into a separate absorption chamber 21. The incremental stimulation of nuclei to a more highly energized state by electromagnetic wave energy causes electron deflection to a higher orbital state. The Pulse rate as well as intensity of the electromagnetic wave source is varied to match the absorption rate of ionized particles to produce the stepped incremental increase in energy. A single laser coupled by means of fiber optic light guides is an alternative to the plurality of lasers shown in FIG. 2B. Continued exposure of the gas ions to different forms of wave energy during voltage stimulation maintains individual atoms in a destabilized state and prevents atomic stabilization.

The highly energized gas ions are thermally ignited when said combustible gas ions pass from injector 4 and enter into and pass through a nozzle, 10 in FIG. 2B, or an optical thermal lens assembly such as shown in FIG. 2C. In FIG. 2C, the combustible gas ions are expelled through and beyond a quenching circuit, 30, and reflected by lenses, 31 and 32, back and forth through a thermal heat zone, 33, prior to atomic breakdown beyond exiting through a final port, 34. A quenching circuit is a restricted orifice through which the particle stream passes such that flashback does not occur. (See my application Ser. No. 835, 564, supra.) The deflection shield or lens, 31, superheats beyond 3,000.degree. F. and the combustible gas ions passing through said exiting-ports are regulated to allow a gas pressure to form inside said thermal zone. The energy yield is controlled by varying the applied voltage, or Pulse-train since said thermal-lens assembly is self-adjusting to the flow-rate of said ionized and primed gases. The combustible ionic gas mixture is composed of hydrogen, oxygen, and ambient air gases. The hydrogen gas provides the thermal explosive force, the oxygen atoms aid the gas thermal ignition, and the ambient air gases retard the gas thermal ignition process to a controllable state. As the combustible gas mixture is exposed to a voltage pulse train, the stepped increasing voltage potential causes said moving gas atoms to become ionized (losing or gaining electrons) and changes the electrical and mass equilibrium of said atoms. Gases that do not undergo the gas ionization process may accept the liberated electrons (electron entrapment) when exposed to light or photon stimulation. The electron extractor grid circuit, FIGS. 5A and 5B, is applied to the assembly of FIG. 2A or FIG. 2B, and restricts electron replacement. The extractor grid, 56, is applied adjacent to electric field producing members, 44 and 45, within the resonant cavity. The gas ions incrementally reach a critical-state which occurs after a high energy resonant state. At this point the atoms no longer tolerate the missing electrons, the unbalanced electrical field, and the energy stored in the nucleus. Immediate collapse of the system occurs and energy is released as the atoms decay into thermal explosive energy.

The repetitive application of a voltage pulse train (A through J of FIG. 3A) incrementally achieves the critical state of said gas ions. As the gas atoms or ions (la xxx ln) shown in FIG. 3C become elongated during electron removal, electromagnetic wave energy of a predetermined frequency and intensity is injected. The wave energy absorbed by the stimulated gas nuclei and electrons causes further destabilization of the ionic gas. The absorbed energy from all sources causes the gas nuclei to increase in energy state, and induces the

ejection of electrons from the nuclei.

To further stimulate the electron entrapment process beyond the atomic level (capturing the liberated electrons during the hydrogen fracturing process) the electron extractor grid (as shown in FIG. 5A) is placed in spaced relationship to the gas resonant cavity structure shown in FIG. 2A. The electron extractor grid is attached to an electrical circuit (such as shown in FIG. 5B) that allows electrons to flow to an electrical load, 55, when a positive electrical potential is placed on the opposite side of said electrical load. The electrical load may be a typical power consuming device such as a light bulb or resistive heat producing device. As the positive electrical potential is switched on or pulse-applied, the negative charged electrons liberated in the gas resonant cavity are drawn away and enter into resistive load where they are consumed and released as heat or light energy. The consuming electrical circuit can be directly connected to the gas resonant cavity positive electrical voltage zone. The incoming positive wave form applied to resonant cavity voltage zone through a blocking diode is synchronized with the pulse train applied to the gas resonant cavity by the circuit of FIG. 4 via alternate gate circuit. As one pulse train is gated "ON," the other pulse train is switched "OFF." A blocking diode directs the electron flow to said electrical load while resistive wire prevents voltage leakage during pulse train "ON" time.

The electron extraction process is maintained during gas flow-rate change by varying the trigger pulse rate in relationship to applied voltage. The electron extraction process also prevents spark-ignition of the combustible gases traveling through the gas resonant cavity because electron build-up and potential sparking is prevented.

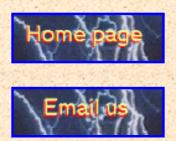
In an optical thermal lens assembly or thrust-nozzle, such as shown in FIG. 2C, destablized gas ions (electrically and mass unbalanced gas atoms having highly energized nuclei) can be pressurized during sparkignition. During thermal interaction, the highly energized and unstable hydrogen gas nuclei collide with the highly energized and unstable oxygen gas nuclei and produce thermal explosive energy beyond the gas burning stage. Other ambient air gases and ions not otherwise consumed limit the thermal explosive process.

Variations of the process and apparatus may be evident to those skilled in the art.

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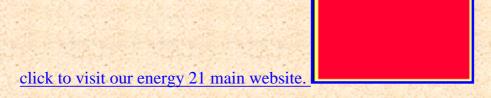


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January 2, 1991

#### MEYER. ASC

PLEASE PASS THIS AROUND TO EVERYONE WHO WOULD HAVE EVEN THE SLIGHTEST INTEREST IN THIS SUBJECT. ANYONE WHO DOES AUTO REPAIR. AUTO UPGRADES, ENGINEERING, GARAGE TINKERING WILL FIND THIS AND OTHER INFO TO COME VERY INTERESTING !

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#### Page 1

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You know the OIL companies (greedy !) will fight like DOGS to keep us from using this technology! DON'T LET THIS HAPPEN! MAKE THIS INFORMATION PUBLIC KNOWLEDGE!!! GET IT OUT THERE! DON'T EXPECT SOMEONE ELSE TO DO IT FOR YOU!

You can see the following article in full and a color picture of the device by visiting your local library and picking up this magazine.

Reprinted in part from an article in "ELECTRONICS WORLD + WIRELESS WORLD" January 1991:

Eye-witness accounts suggest that US inventor Stanley Meyer has developed an electric cell which will split ordinary tap water into hydrogen and oxygen with far less energy than that required by a normal electrolytic cell.

In a demonstration made before Professor Michael Laughton, Dean of Engineering at Queen Mary College, London, Admiral Sir Anthony Griffin, a former controller of the British Navy, and Dr Keith Hindley, a UK research chemist. Meyer's cell, developed at the inventor's home in Grove City, Ohio, produced far more hydrogen/oxygen mixture than could have been expected by simple electrolysis.

Where normal water electrolysis requires the passage of current measured in amps, Meyer's cell achieves the same effect in milliamps. Furthermore ordinary tap water requires the addition of an electrolyte such as sulphuric acid to aid current conduction; Meyer's cell functions at greatest efficiency with pure water.

According to the witnesses, the most startling aspect of the Meyer cell was that it remained cold, even after hours of gas production.

Meyer's experiments, which he seems to be able to perform to order, have earned him a series of US patents granted under Section 101. The granting of a patent under this section is dependent on a successful demonstration of the invention to a Patent Review Board.

Meyer's cell seems to have many of the attributes of an electrolytic cell except that it functions at high voltage, low current rather than the other way around. Construction is unremarkable. The electrodes - referred to as "excitors" by Meyer- are made from parallel plates of stainless steel formed in either flat or concentric topography. Gas production seems to vary as the inverse of the distance between them; the patents suggest a spacing of 1.5mm produces satisfactory results.

The real differences occur in the power supply to the cell. Meyer uses an external inductance which appears to resonate with the capacitance of the cell - pure water apparently possesses a dielectric constant of about 5 - to produce a parallel resonant circuit. This is excited by a high power pulse generator which, together with the cell capacitance and a rectifier diode, forms a charge pump circuit. High frequency pulses build a rising staircase

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DC potential across the electrodes of the cell until a point is reached where the water breaks down and a momentary high current flows. A current measuring circuit in the supply detects this breakdown and removes the pulse drive for a few cycles allowing the water to "recover'.

Research chemist Keith Hindley offers this description of a Meyer cell demonstration: "After a day of presentations, the Griffin committee witnessed a number of important demonstration of the WFC (water fuel cell as named by the inventor).

A witness team of independent UK scientifc observers testified that US inventor, Stanley Meyer, successfully decomposed ordinary tap water into constituent elements through a combination of high, pulsed voltage using an average current measured only in miliamps. Reported gas evolution was enough to sustain a hydrogen / oxygen flame which instantly melted steel.

In contrast with normal high current electrolysis, the witnesses report the lack of any heating within the cell. Meyer declines to release details which would allow scientists to duplicate and evaluate his "waterfuel cell". However, he has supplied enough detail to the US Patents Office to persuade them that he can substantiate his 'power-from-water' claims.

One demonstration cell was fitted with two parallel plate "excitors". Using tap water to fill the cell, the plates generated

gas at very low current levels- no greater than a tenth of an amp on the ammeter, and claimed to be milliamps by Meyer - and this gas production increased steadily as the plates were moved closer together and decreased as they were separated. The DC voltage appeared to be pulsed at tens of thousands of volts.

A second cell carried nine stainless steel double tube cell units and generated much more gas. A sequence of photographs was taken showing gas production at milliamp levels. When the voltage was turned up to its peak value, the gas then poured off at a very impressive level.

"We did notice that the water at the top of the cell slowly became discolored with a pale cream and dark brown precipitate, almost certainly the effects of the chlorine in the heavily chlorinated tap water on the stainless steel tubes used as "excitors".

He was demonstrating hydrogen gas production at milliamp and kilovolt levels.

"The most remarkable observation is that the WFC and all its metal pipework remained quite cold to the touch, even after more than twenty minutes of operation. The splitting mechanism clearly evolves little heat in sharp contrast to electrolysis where the electrolyte warms up quickly."

"The results appear to suggest efficient and controllable gas production that responds rapidly to demand and yet is safe in operation. We clearly saw how increasing and decreasing the voltage is used to control gas production. We saw how gas generation ceased and then began again instantly as the voltage driving circuit was switched off and then on again."

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"After hours of discussion between ourselves, we concluded that Steve Meyer did appear to have discovered an entirely new method for splitting water which showed few of the characteristics of classical electrolysis. Confirmation that his devices actually do work come from his collection of granted US patents on various parts of the WFC system. Since they were granted under Section 101 by the US Patent Office, the hardware involved in the patents has been examined experimentally by US Patent Office experts and their seconded experts and all the claims have been established."

"The basic WFC was subjected to three years of testing. This raises

the granted patents to the level of independent, critical, scientific and engineering confirmation that the devices actually perform as claimed."

The practical demonstration of the Meyer cell appears substantially more convincing than the para-scientific jargon which has been used to explain it. The inventor himself talks about a distortion and polarization of the water molecule resulting in the H:OH bonding tearing itself apart under the electrostatic potential gradient, of a resonance within the molecule which amplifies the effect.

Apart from the copious hydrogen/oxygen gas evolution and the minimal temperature rise within the cell, witnesses also report that water within the cell disappears rapidly, presumably into its component parts and as an aerosol from the myriad of tiny bubbles breaking the surface of the cell.

Meyer claims to have run a converted VW on hydrogen/oxygen mixture for the last four years using a chain of six cylindrical cells. He also claims that photon stimulation of the reactor space by optical fibre piped laser light increases gas production.

The inventor is a protegee' of the Advanced Energy Institute.

Meyer Patents: (up to Sep, 1991)

4936961 - Method for the production of a fuel gas (get this)

4826581 - Controlled.. production of thermal energy from gases

4798661 - Gas generator voltage control circuit (get this)

4613304 - Gas electrical hydrogen generator (get this)

There are others of his, which do not typically apply to his "generator":

4613779 - Power isolation device

4465455 - Startup and shutdown for a hydrogen burner

4421474 - Hydrogen gas burner

4389981 - Hydrogen gas injector

4275950 - Light Lens

4265224 - Solar storage system

3970070 - Solar heating system

There are several ways to obtain these patents, but the easiest one gets them sent directly to your door.

The Patent office will send you each patent for \$1.50 each, post paid! If you get the above 4 patents, thats \$6!

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That's all there is to it! You really need all four because bits and peices of details are spread over all four patents! Please don't let this get buried! PASS THIS INFO OUT!!!

Copies of the Patents will be scanned and made into GIF files when they are available. Further information is comming so keep your eyes peeled but don't let that stop you from passing out this info !!!

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January 2, 1991

MEYER2.ASC

METHOD FOR THE PRODUCTION OF A FUEL GAS (US Pat # 4,936,961)

#### Related Application:

This is a continuation-in -part of my co-pending application Ser. No. 081,859, filed 8/5/87, now U.S. Pat. No. 4,826, 581.

#### Field of Invention:

This invention relates to a method of and apparatus for obtaining the release of a fuel gas mixture including hydrogen and oxygen from water.

#### BACKGROUND OF THE PRIOR ART

Numerous processes have been proposed for separating a water molecule into its elemental hydrogen and oxygen components. Electrolysis is one such process. Other processes are described in the United States patents such as 4,344,831; 4,184,931; 4,023,545; 3,980, 053; and Patent Corporation Treaty application No. PCT/US80/1362, Published 30 April, 1981.

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#### OBJECTS OF THE INVENTION

It is an object of the invention to provide a fuel cell and a process in which molecules of water are broken down into hydrogen and oxygen gases, and other formerly dissolved within the water is produced. As used herein the term "fuel cell" refers to a single unit of the invention comprising a water capacitor cell, as hereinafter explained, that produces the fuel gas in accordance with the method of the invention.

#### Brief Description of the Drawings

- FIG. 1 illustrates a circuit useful in the process.
- FIG. 2 shows a perspective of a "water capacitor" element used in the fuel cell circuit.
- FIGS. 3A through 3F are illustrations depicting the theoretical bases for the phenomena encountered during operation of the invention herein.

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#### Description of the Preferred Embodiment:

In brief, the invention is a method of obtaining the release of a gas mixture including hydrogen on oxygen and other dissolved gases formerly entrapped in water, from water consisting of:

- (A) providing a capacitor, in which the water is included as a dielectric liquid between capacitor plates, in a resonate charging choke circuit that includes an inductance in series with the capacitor;
- (B) subjecting the capacitor to a pulsating, unipolar electric voltage field in which the polarity does no pass beyond an arbitrary ground, whereby the water molecules within the capacitor are subjected to a charge of the same polarity and the water molecules are distended by their subjection to electrical polar forces;
- (C) Further subjecting in said capacitor to said pulsating electric field to achieve a pulse frequency such that the Pulsating electric field induces a resonance within the water molecule;
- (D) continuing the application of the pulsating frequency to the capacitor cell after resonance occurs so that the energy level within the molecule is increased in cascading incremental steps in proportion to the number of pulses;
- (E) maintaining the charge of said capacitor during the application of the pulsing field, whereby the co-valent electrical bonding of the hydrogen and oxygen atoms within said molecules is destabilized such that the force of the electrical field applied, as the force is effective within the molecule, exceeds the bonding force of the molecule, and hydrogen and oxygen atoms are liberated from the molecule as elemental gases; and
- (F) collecting said hydrogen and oxygen gases, and any other gases that were formerly dissolved within the water, and discharging the collected gases as a fuel gas mixture.

The process follows the sequence of steps shown in the following Table 1 in which water molecules are subjected to increasing electrical forces. In an ambient state, randomly oriented water molecules are aligned with respect to a molecule polar orientation.

They are next, themselves polarized and "elongated" by the application of an electrical potential to the extent that covalent bonding of the water molecule is so weakened that the atoms dissociate and the molecule breaks down into hydrogen and oxygen elemental components.

Engineering design parameters based on known theoretical principles of electrical circuits determine the incremental levels of electrical and wave energy input required to produce resonance in

the system whereby the fuel gas comprised of a mixture of hydrogen, oxygen, and other gases such as air test were formerly dissolved within the water, is produced.

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Process Steps:

The sequence of the relative state of the water molecule and/or hydrogen/oxygen/other atoms:

- A. (ambient state) random
- B. Alignment of polar fields
- C. Polarization of molecule
- D. Molecular elongation
- E. Atom liberation by breakdown of covalent bond
- F. Release of gases

In the process, the point of optimum gas release is reached at a circuit resonance. Water in the fuel cell is subjected to a

pulsating, polar electric field produced by the electrical circuit whereby the water molecules are distended by reason of their subjection to electrical polar forces of the capacitor plates.

The polar pulsating frequency applied is such that the pulsating electric field induces a resonance in the molecule. A cascade effect occurs and the overall energy level of specific water molecules is increased in cascading, incremental steps.

The hydrogen and oxygen atomic gases, and other gas components formerly entrapped as dissolved gases in water, are released when the resonant energy exceeds the co-valent bonding force of the water molecule. A preferred construction material for the capacitor plates is stainless steel T-304 which is non-chemical reactive with water, hydrogen, or oxygen.

An electrically conductive material which is inert in the fluid environment is a desirable material of construction for the electrical field plates of the "water capacitor" employed in the circuit.

Once triggered, the gas output is controllable by the attenuation of

operational parameters. Thus, once the frequency of resonance is identified, by varying the applied pulse voltage to the water fuel cell assembly, gas output is varied.

By varying the pulse shape and/or amplitude or pulse train sequence of the initial pulsing wave source, final gas output is varied. Attenuation of the voltage field frequency in the form of OFF and ON pulses likewise affects output.

The overall apparatus thus includes an electrical circuit in which a water capacitor having a known dielectric property is an element. The fuel gases are obtained from the water by the disassociation of the water molecule. The water molecules are split into component atomic elements (hydrogen and oxygen gases) by a voltage stimulation process called the electrical polarization process which also releases dissolved gases entrapped in the water.

From the outline of physical phenomena associated with the process described in Table 1, the theoretical basis of the invention

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considers the respective states of molecules and gases and ions derived from liquid water. Before voltage stimulation, water molecules are randomly dispersed throughout water in a container.

When a unipolar voltage pulse train such as shown in FIGS. 3B through 3F is applied to positive and negative capacitor plates, an increasing voltage potential is induced in the molecules in a linear, step like charging effect.

The electrical field of the particles within a volume of water including the electrical field plates increases from a low energy state to a high energy state successively is a step manner following each pulse-train as illustrated figuratively in the depictions of FIG. 3A through 3F.

The increasing voltage potential is always positive in direct relationship to negative ground potential during each pulse. The voltage polarity on the plates which create the voltage fields remains constant although the voltage charge increases. Positive and negative voltage "zones" are thus formed simultaneously in the electrical field of the capacitor plates.

In the first stage of the process described in Table 1, because the water molecule naturally exhibits opposite electrical fields in a

relatively polar configuration (the two hydrogen atoms are positively electrically charged relative to the negative electrically charged oxygen atom), the voltage pulse causes initially randomly oriented water molecules in the liquid state to spin and orient themselves with reference to positive and negative poles of the voltage fields applied.

The positive electrically charged hydrogen atoms of said water molecule are attracted to a negative voltage field; while, at the same time, the negative electrically charged oxygen atoms of the same water molecule are attracted to a positive voltage field.

Even a slight potential difference applied to inert, conductive plates of a containment chamber which forms a capacitor will initiate polar atomic orientation within the water molecule based on polarity differences.

When the potential difference applied causes the orientated water molecules to align themselves between the conductive plates, pulsing causes the voltage field intensity to be increased in accordance with FIG. 3B. As further molecule alignment occurs, molecular movement is hindered.

Because the positively charged hydrogen atoms of said aligned molecules are attracted in a direction opposite to the negatively charged oxygen atoms, a polar charge alignment or distribution occurs within the molecules between said voltage zones, as shown in FIG. 3B. And as the energy level of the atoms subjected to resonant pulsing increases, the stationary water molecules become elongated as shown in FIGS. 3C and 3D. Electrically charged nuclei and electrons are attracted toward opposite electrically charged equilibrium of the water molecule.

As the water molecule is further exposed to an increasing potential difference resulting from the step charging of the capacitor, the

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electrical force of attraction of the atoms within the molecule to the capacitor plates of the chamber also increase in strength. As a result, the co-valent bonding between which form the molecule is weakened - and ultimately terminated. The negatively charged electron is attracted toward the positively charged hydrogen atoms, while at the same time, the negatively charged oxygen atoms repel electrons.

In a more specific explanation of the "sub-atomic" action the occurs

in the water fuel cell, it is known that natural water is a liquid which has a dielectric constant of 78.54 at 20 degrees C. and 1 atm pressure. [Handbook of Chemistry and Physics, 68th ed., CRC Press(Boca Raton, Florida (1987-88)), Section E-50. H20(water)].

When a volume of water is isolated and electrically conductive plates, that are chemically inert in water and are separated by a distance, are immersed in water, a capacitor is formed, having a capacitance determined by the surface area of the plates, the distance of their separation and the dielectric constant of water.

When water molecules are exposed to voltage at a restricted current, water takes on an electrical charge. By the laws of electrical attraction, molecules align according to positive and negative polarity fields of the molecule and the alignment field. The plates of the capacitor constitute such as alignment field when a voltage is applied.

When a charge is applied to a capacitor, the electrical charge of the capacitor equals the applied voltage charge; in a water capacitor, the dielectric property of water resists the flow of amps in the circuit, and the water molecule itself, because it has polarity fields formed by the relationship of hydrogen and oxygen in the co-valent bond, and intrinsic dielectric property, becomes part of the electrical circuit, analogues to a "mircocapacitor" within the capacitor defined by the plates.

In the Example of a fuel cell circuit of FIG. 1, a water capacitor is included. The step-up coil is formed on a conventional torroidal core formed of a compressed ferromagnetic powered material that will not itself become permanently magnetized, such as the trademarked "Ferramic 06# "Permag" powder as described in Siemens Ferrites Catalog, CG-2000-002-121, (Cleveland, Ohio) No. F626-1205". The core is 1.50 inch in diameter and 0.25 inch in thickness. A primary coil of 200 turns of 24 gauge copper wire is provided and coil of 600 turns of 36 gauge wire comprises the secondary winding.

In the circuit of FIG 1, the diode is a 1N1198 diode which acts as a blocking diode and an electric switch that allows voltage flow in one direction only. Thus, the capacitor is never subjected to a pulse of reverse polarity.

The primary coil of the torroid is subject to a 50% duty cycle pulse. The torroidal pulsing coil provides a voltage step-up from the pulse generator in excess of five times, although the relative amount of step-up is determined by pre-selected criteria for a particular application. As the stepped-up pulse enters first inductor (formed from 100 turns of 24 gauge wire 1 inch in diameter), an electromagnetic field is formed around the inductor, voltage is switched off when the pulse ends, and the field collapses

and produces another pulse of the same polarity; i.e., another positive pulse is formed where the 50% duty cycle was terminated. Thus, a double pulse frequency is produced; however, in pulse train of unipolar pulses, there is a brief time when pulses are not present.

By being so subjected to electrical pulses in the circuit of FIG. 1, water confined in the volume that includes the capacitor plates takes on an electrical charge that is increased by a step charging phenomenon occurring in the water capacitor. Voltage continually increases (to about 1000 volts and more) and the water molecules starts to elongate.

The pulse train is then switched off; the voltage across the water capacitor drops to the amount of the charge that the water molecules have taken on i.e. voltage is maintained across the charged capacitor. The pulse train is the reapplied.

Because a voltage potential applied to a capacitor can perform work, the higher the voltage the higher the voltage potential, the more work us performed by a given capacitor. In an optimum capacitor that is wholly non-conductive, zero (0) current flow will occur across the capacitor.

Thus, in view of an idealized capacitor circuit, the object of the water capacitor circuit is to prevent electron flow through the circuit, i.e. such as occurs by electron flow or leakage through a resistive element that produces heat.

Electrical leakage in the water will occur, however, because of some residual conductivity and impurities or ions that may be otherwise present in the water. Thus, the water capacitor is preferably chemically inert. An electrolyte is not added to the water.

In the isolated water bath, the water molecule takes on charge, and the charge increases. The object of the process is to switch off the co-valent bonding of the water molecule and interrupt the sub-atomic force, i.e. the electrical force or electromagnetic force, that binds the hydrogen and oxygen atoms to form a molecule so that the hydrogen and oxygen separate.

Because an electron will only occupy a certain electron shell (shells are well known) the voltage applied to the capacitor affects the electrical forces inherent in the co-valent bond. As a result of

the charge applied by the plates, the applied force becomes greater than the force of the co-valent bonds between the atom of the water molecule; and the water molecule becomes elongated. When this happens, the time share ratio of the electron shells is modified.

In the process, electrons are extracted from the water bath; electrons are not consumed nor are electrons introduced into the water bath by the circuit as electrons are conventionally introduced in as electrolysis process. There may nevertheless occur a leakage current through the water.

Those hydrogen atoms missing electrons become neutralized; atoms are liberated from the water. The charged atoms and electrons are attracted to the opposite polarity voltage zones created between the capacitor plates. The electrons formerly shared by atoms in the

Page 6

water co-valent bond are reallocated such that neutral elemental gases are liberated.

In the process, the electrical resonance may be reached at all levels of voltage potential. The overall circuit is characterized as a "resonant charging choke" circuit which is an inductor in series with a capacitor that produces a resonant circuit. [SAMS Modern Dictionary of Electronics, Rudolf Garff, copy right 1984, Howard W. Sams & Co. (Indianapolis, Ind.), page 859.]

Such a resonant charging choke is on each side of the capacitor. In the circuit, the diode acts as a switch that allows the magnetic field produced in the inductor to collapse, thereby doubling the pulse frequency and preventing the capacitor from discharging. In this manner a continuous voltage is produced across the capacitor plates in the water bath; and the capacitor does not discharge. The water molecules are thus subjected to a continuously charged field until the breakdown of the co-valent bond occurs.

As noted initially, the capacitance depends on the dielectric properties of the water and the size and separation of the conductive elements forming the water capacitor.

#### EXAMPLE 1

In an example of the circuit of FIG. 1 (in which other circuit

element specifications are provided above), two concentric cylinders 4 inches long formed the water capacitor of the fuel cell in the volume of water. The outside cylinder was .75 inch in outside diameter; the inner cylinder was 0.5 inch in outside diameter.

Spacing from the outside of the inner cylinder to the inner surface of the outside cylinder was 0.0625 inch. Resonance in the circuit was achieved at a 26 volt applied pulse to the primary coil of the torroid at OKHz, and the water molecules disassociated into elemental hydrogen and oxygen and the gas released from the fuel cell comprised a mixture of hydrogen, oxygen from the water molecule, and gases formerly dissolved in the water such as the atmospheric gases or oxygen, nitrogen, and argon.

In achieving resonance in any circuit, as the pulse frequency is adjusted, the flow of amps is minimized and the voltage is maximized to a peak. Calculation of the resonance frequency of an overall circuit is determined by known means; different cavities have a different frequency of resonance dependant on parameters of the water dielectric, plate size, configuration and distance, circuit inductors, and the like. Control of the production of fuel gas is determined by variation of the period of time between a train of pulses, pulse amplitude and capacitor plate size and configuration, with corresponding value adjustments to other circuit components.

The wiper arm on the second conductor tunes the circuit and accommodates to contaminants in water so that the charge is always applied to the capacitor. The voltage applied determines the rate of breakdown of the molecule into its atomic components. As water in the cell is consumed, it is replaced by any appropriate means or control system.

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Variations of the process and apparatus may be evident to those skilled in the art.

### What is claimed is:

- 1. A method of obtaining the release of a gas mixture including hydrogen and oxygen and other dissolved gases formerly entrapped in water, from water, consisting of:
  - (A) providing a capacitor in which water is included as a dielectric between capacitor plates, in a resonant

- charging choke circuit that includes an inductance in series with the capacitor;
- (B) subjecting the capacitor to a pulsating, uinpolar electric charging voltage in which the polarity does not pass beyond an arbitrary ground, whereby the water molecules within the capacitor plates;
- (C) further subjecting the water in said capacitor to a pulsating electric field resulting from the subjection of the capacitor to the charging voltage such that the pulsating electric field induces a resonance within the water molecules;
- (D) continuing the application of the pulsating charging voltage to the capacitor after the resonance occurs so that the energy level within the molecules is increased in cascading incremental steps in proportion to the number of pulses;
- (E) maintaining the charge of said capacitor during the application of the pulsating charge voltage, whereby the co-valent electrical bonding of the hydrogen and oxygen atoms within said molecules is destabilized, such that the force of the electrical field applied to the molecules exceeds the bonding force within the molecules, and the hydrogen and oxygen atoms are liberated from the molecules as elemental gases.
- 2. The method of claim 1 including the further steps of collecting said liberated gases and any other gases that were formerly dissolved within the water and discharging said collected gases as a fuel gas mixture.

\*\*\* END OF PATENT TEXT \*\*\*

#### Note:

1N1198 Diode is also a NTE 5995 or a ECG 5994. It is a 40A 600 PIV Diode (the 40A is over kill and may not be needed).

Stainless Steel "T304" is a type of weldable Stainless, but other types should work the same. "T304" is just the more common type of Stainless tubing available.

The outer tube figures out to be 3/4" 16 gauge (.060 "wall") tube (a common size) cut to 4 inch length.

Page 8

The inner tube figure out to be 1/2" 18 gauge (.049 "wall", this is a common size for this tube, but the actual gauge cannot be figured from this patent documentation, but this size should work) cut to 4 inch length.

You should also attach the two leads to the Stainless, using Stainless solid rod (1/6 dia would do) and USE LEAD FREE SOLDER! (you may want the purified water that is returned to drink some day).

You also need to figure out a way to keep the two tubes separated from each other. This could be done with small pieces of plastic. They cannot block the flow of water into/out of the tubes.

It was not indicated if the inner tube is full of water or not. The guess here is that it is full of water, and this doesn't effect the device at all.

The Patent doesn't say but I would think that insulating the leads with some type of tubing up to the tubes would be electrically correct (and probably wouldn't hurt).

The pulse frequency was not printed, it is estimated from the size of the coils and transformer that the frequency doesn't exceed 50 Mhz. Don't depend on this being fact, it's just a educated guess.

The circuit to do this is not shown, just empty boxes. It's time to get out your SCOPE and try things!

Don't forget to share your results with others! GREED is why this type of thing never gets out into the world to do some GOOD.

If you want to make some money, make something PRACTICAL that WORKS and that PEOPLE can use in their every day lives, then sell it!

Holding onto information like this only hurts ALL OF US !!

Return to Stanley Meyer main link page

Goto.com: Search made Simple

# **Poly Solar Hot Water For \$100**



Owen Paynter, of Katanning in southern Western Australia, is a part-time inventor, who has developed a brilliant solar hot water booster: cheap, long-lasting poly pipe connected to a normal electric or gas hot water service. Owen had previously owned a normal roof mounted tank! solar panel system and found the cost of keeping the water hot in the colder months too high, as was the water loss in the hot months as water poured through the relief valve on very hot days. When he built another home a few years on, he went to an electric storage hot water service (HWS). Poly pipe is non-corroding and cheap, so here is

#### how he did it.

### by Owen Paynter

Katanning, WA.

Two years ago I looked at a piece of high-pressure poly pipe sitting in the shed, left over from the 200 metre roll used to connect the home to the mains water meter when I built in 1994 - five acres requires a home be situated as centrally as possible for peace and quiet and hence a longer run for power, phone and water.

I remembered how hot the water supply to the home had become before I buried the supply poly. It was lying on the ground after connection for a few weeks due to a wait for the energy to dig the trench - yes, by hand, I may brag. I was fitter in those days: building five acres into a residence, and planting hundreds of trees and establishing gardens, kids' play area etc.

I thought of how great it would be if I could connect poly up to the HWS and save on power by using the sun's free heat.

#### How Owen did it

On my Rheem 50 litre electric storage HWS, I removed the cold water inlet and the pressure relief valve from the heater and then I fitted brass 'T' fittings to allow the water to circulate from the cold lower part of the storage tank into the poly pipe and then back into the tank up higher. The pressure relief was re-fitted into the top 'T' fitting.

I laid the poly on the north-facing lawn area at the rear of the home, because this is where the HWS is (close to the kitchen sink and bathroom). The lower cold connection

has an elbow to allow the poly to be run at the correct angle as my HWS is mounted 1.2 metres above ground level on a platform screwed to the outside wall.

I used a stainless hose clamp on each poly connector because they are plastic threaded. The hose clamps keep the plastic from flanging out. Before I fitted the clamps I suffered small water leaks at the joins that even double thread tape wouldn't stop for very long.

### **List of fittings**

To connect my Rheem 50 litre system to poly pipe I used the following:

- 3 x 3/4 inch x 1/2 inch brass connectors male.
- 2 x 1/2 inch brass "T's" female.
- lx 1/2 inch x 3/4 inch brass 90% elbow female.

- 1 x 1/2 inch brass joiner male.
- 2 x 3/4 inch brass caps.
- 2 x 3/4 inch female x 25 mm HP poly connectors.
- 40 metres of 25 mm OD high pressure poly pipe
- 2 x stainless 55 mm hose clamps.
- 2 x rolls thread tape.

## Tools required

Multigrip pliers (large)

Hacksaw

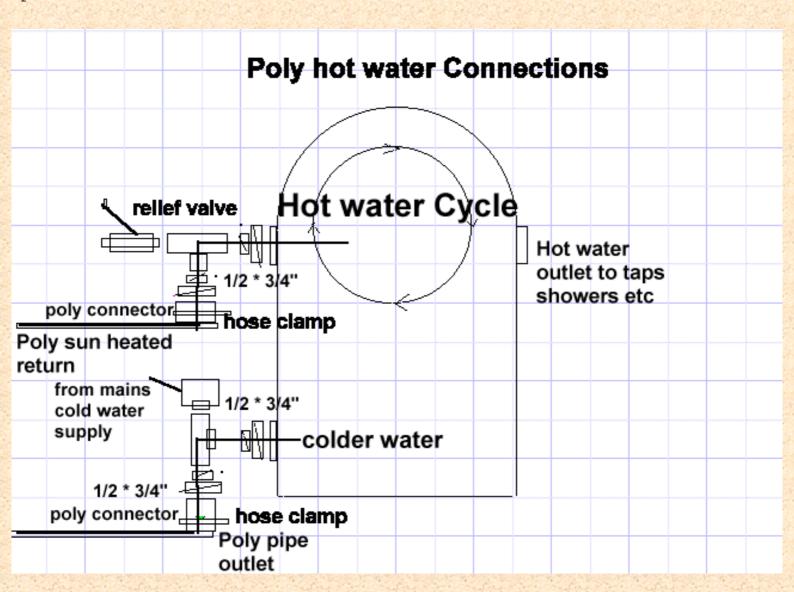
- 12 inch shifting spanner
- 10 inch shifting spanner

Plain medium size screwdriver.



### Position of the poly

For the poly to work, the yard must have an area to lay the 40 or more metres of poly pipe and most importantly this area should be facing northerly of the home and not be shaded too much by sheds or trees. (Although I imagine I could run the pipe on the south and still get sun most of the day.) I was fortunate before building, in that I understood basic passive design solar principles affecting a home. I planted deciduous grape vines with trellises and stone fruit trees, and the good thing with the poly is that it can easily be shifted around to obtain optimum sun.



#### Circulation of water

The poly has to be slightly lower than the HWS, then the hot water rises to the higher hot water connection that is much higher on the tank. The cold water in the tank bottom automatically drops and circulates Out of the cold poly connection. Heat rises and cold drops. No pump is needed.

Even if the water in the tank is all cold and the circulating water goes the opposite, it will only do so until the water in the top section of the HWS reaches a warm temperature, then the cold water at the lower part of the tank will reverse the flow so that the heated water goes into the hot (or top) connection.

### Reverse cycle

I disconnect the poly from the heater during the winter, as I find that the water is cooled too much by the poly sitting out in the cold and frost and it is cloudy a lot. Even on sunny winter days the water never got past warm. If I leave it connected past mid autumn, my power costs skyrocket.

It is easy to disconnect it. I simply unscrew the two poly connectors and fit 3/4 inch threaded brass caps over the outlets. I roll the poly up and cover each end with tape to stop dirt or insects getting inside and store it in the shed until early September. I remember the huge winter power bills years ago, when I had the roof-mounted solar system and I imagine if I could have disconnected the solar panels somehow I would have had vastly more reasonable bills. It is cold up on the roof on frosty and cold nights in winter.

### Savings

In the southern part of Australia where I am, I save well over \$30.00 per month on my power bill for the seven warmer months that the poly is connected, giving a yearly energy saving of at least \$210.00. I have a switch installed in the kitchen connected to my HWS that lights up red when operating and I only switch it on when needed.

I save 3.6 kwh when I use my poly solar booster. Because I turn the electric HWS on for an average of three hours a day in winter, and only one day in 20 in the warm months, I save: 3.6 kwh X 3 hours = 10.8 kwh X 200 days) which equals a saving of 2,160 kwh.

On 12 December last year I needed an early morning shower at 4:00 am. I only turned on the electric booster for 15 minutes because the water was still warm from the 'poly boosting' the day before. This was the only time so far that summer I had needed the electric boosting. I think my summer poly solar boosting equates to about 5 per cent electricity and 95 per cent sunshine.

On cloudy days, it might be hot enough to shower, but to wash up the dishes I can use the kettle or hit the switch on the electric HWS for 15 minutes. Fifteen minutes to boost it is a cost of just under 1 kwh, but the 1600 watt kettle will use about three minutes of power or just 0.08 kwh. I go for the kettle usually - unless a lot of plates need washing!

#### Poly solar kits

It is fairly simple to set up the poly pipe to connect to your heater if you are well versed with basic plumbing, and love working things out for yourself and have time to spare. It is like anything though, and if you are not plumbing inclined, or perhaps live a distance from readily available plumbing supplies or are pressed for time, I sell the poly solar installation kit Australia wide. It includes complete instructions with tips and suggestions on layout of the poly, brass elbows, fittings, plugs (for winter disconnection), brass pressure relief 'T' extender and tank connector, adapters and pipe connections and thread tapes - all you need obtain is the poly pipe.

If you are on mains water you must use 25 mm outside diameter HP poly pipe. If you are on tank lower pressure water supply, you can use normal rural poly of 3/4 inch (19 mm) inside diameter.

### Ordering the kit

You can send \$100.00 per kit (including GST and freight) to Owen Paynter, RMB 505 Katanning, WA, 6317, and include details of your HWS brand, size and type (gas or electric) and also state whether you require the mains pressure or low pressure kit. Please allow 14 days for delivery. E-mail 
cpaynterowen@hotmail.com>~ or phone or fax (08) 98211135.



Owen Also has book he is about to publish as well you may care contact him at the following email address

#### Owen Paynter

The article originally appeared in the

March - May 2001 - EARTH GARDEN and is reproduced here with permission of author Owen Paynter who supplied me with the photographs as well.





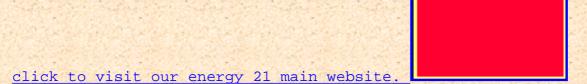
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# The McGuire Electric Car for The World

A directory for this page:

Data on my small Prototype.

Who needs this car?

Description of the 150hp 12 volt DC magnet motor.

A quick note to electrical engineers visiting the site.

These Animations Demonstrate the Parts and Working of the Motor.

Common Problems With Conventional Cars.

Safety Comparison Between My Car and Other Electric Vehicles.

How Much Does My Motor Cost?

How Do You Recharge the Batteries?

Primary Issue Right Now.

How Do You Convert a Car To Run On Electricity?

Here Are Important Design Considerations.

I Need Some Engineering Assistance.

Funding of Prototype.

Other Research of Pure Magnet Motors.

# **Progress of Models and Prototypes.**

I have built a small opertional model. It uses 8 ceramic magnets 0.5" thick (x) 1" width (x) 2" length. They are glued around the periphery of a 7" grinding disc (makes a good flywheel). Eight 3/8 bolts (coil cores) are positioned head first under and along the radial center lines of the ceramic magnets at a radius of 3.9375". That makes a 7.875" diameter. These bolts are wound with a total of 2 lbs. or 23 gage magnetic wire in sufficient thickness so as to allow 12 volts to produce enough magnetism to counter the magnets' attraction to the bolt heads. 633.7 ft./lb. so two pounds has 1267.4 feet and each coil has 158.425 feet of wire. They are wound through a bolt shank length of 58mm or 2.28"

Motor specs used/derived in/through calculations:

```
HORSEPOWER =
                                                   .042 hp
                                WATTS CONSUMED =
                                                      9 watts (circuit
energized 50% of time)
                                WATTS PRODUCED =
                                                     26 watts
                                    EFFICIENCY =
                                                    347 %
                                                     12 volts
                                       VOLTAGE =
                                    RESISTANCE =
                                                      8 ohms
                                       CURRENT =
                                                    1.5 amps
                                                    300 rpm
                                           RPM =
```

per revolution)

TORQUE = .737 ft/lb (eight pulses

ARM LENGTH = .328 feet ARM FORCE = 2.247 lb.

### Here's how I arrived at these conclusions

#### RESISTANCE

The resistance was measured with an ohm meter to be 8 ohms

#### VOLTAGE

I'm using a 12 volt battery

#### CURRENT

Voltage = Resistance x Current therefore current is 1.5 amps

#### TORQUE

Torque is measured in foot/pounds. The radius of my motor is .328 feet and a force of

**2.247 lbs** is needed to move the rotor when no power is supplied to the motor. The

magnets have "settled" on top of the cores. .328'  $\times$  2.247 lb = .737 ft/lbs of torque.

#### RPM

The rotational velocity was measured at 300 rpm

#### WATTS CONSUMED

The formula Watts = Voltage x Current determines the motor uses 18 watts. However the motor

is energized only 50% (or less) each revolution therefore it really consumes only **9 watts** 

#### HORSEPOWER

The formula for determining horsepower is  $\,$  Horsepower = Torque x RPM  $\,$  x .0001904 therefore

 $.737 \times 300 \times .0001904 = .042 \text{ hp}$ 

#### WATTS PRODUCED

1 horsepower = 745.712 watts therefore the watts produced is 31.3 watts

#### **EFFICIENCY**

Watts produced divided by watts consumed gives efficiency. Therefore 31.3/9 = 347%

The following are other equations and measurements used which give more

```
detail.
```

1020 ml of water is needed as a weight to turn the rotor past the magnets.

1.020 liter = 0.26945544 gallons 1 gal water = 8.3378 lbs.

2.247 lbs. is needed at 3.938" rad to turn the motor.

3.938" / 12" = 0.328' arm

2.247 lbs. x 0.328' = 0.737 ft/lbs. of torque

observed rpm is 300 rpm

HORSEPOWER = TORQUE (x) RPM (x) .0001904

.042 hp =  $.737 \times 300 \times .0001904$ 

1000 watts = 1.341 horsepower

745.712 watts = 1 hp

745.712 watts 31.3 watts

1 hp .042 hp

### 26 watts is produced

resistance of circuit is 8 ohms

12volts = 80hms x 1.5amps

18watts is consumed = 1.5amps x 12volts

0.737 ft/lbs. of torque

180 rpm

0.0253 hp

18.836 watts is produced

0.737 ft/lbs. of torque

250 rpm

0.035 hp

26 watts is produced

18 watts is consumed but the circuit is only energized 50% of the time per revolution so really only 9 watts is consumed.

26 / 9 = **290% efficiency** 

1 g = .035 oz. 1 kg = 2.2 lbs. 1 kilowatt = 1.341 horsepower

### Who needs this car?

I need this car. You or someone you know might too. Because of it's utter simplicity it is very reliable and easy to work on anywhere in the developing world. Your interest is worth its weight in gold. Keep in touch and visit the site frequently to keep current on the development of this car.

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# Description of 150 hp motor.

The LaFonte Research Group Magnetic Equilibrium 12 Volt dc Pulsed Magnet Motoris the heart and soul of the McGuire Electric Car.

#### **CALCULATING HORSEPOWER**

Electric vehicles are notorious for poor performance. Not so with mine. I fully expect to have 150hp to 300hp 12 volt dc motors which can easily fit in any existing car, truck, 4wd or SUV.

The two forces which contribute to the horsepower rating of any engine are TORQUE and RPM (revolutions per minute). You can find a detailed explanation of this formula at <a href="How Stuff Works.com">How Stuff Works.com</a>

HORSEPOWER = TORQUE(x) RPM(x) .0001904

One little neodymium magnet 1" x 1.25" x .25" can lift 85 lbs. The large magnets to be used in my motor can lift hundreds of pounds each. For 150hp I need magnets which can produce at least 112 pounds of force each, and this at an easy to reach 500 rpm. My large magnets easily meet this specification. There are 16 magnets in the rotor (8 on each side) and there are eight magnetic attraction power pulses every revolution.v If my magnets were exactly 112 pounds powerful the horsepower per rpm is as follows:

0500 rpm = 150 hp 1000 rpm = 300 hp 2000 rpm = 600 hp 3000 rpm = 900 hp For now I need to reach full power at 500 rpm in my calculations because I don't know yet how many rpms this motor will turn. As you can see this motor is very powerful. I have received emails from people who need at least 150 hp in their four wheel drive vehicles. This requirement is easily achieved and surpassed. I predict the actual horsepower of my motor to be double of the figures shown above.

Several interested electrical engineers have written without first studying the motor as described on this website and have written skeptical emails to me saying it's impossible to have a powerful motor for a car using only 12 volts. This is NOT a 12 volt DC electric motor. It is true that without the 12 volts DC power it won't run. However the 12 volts DC current supplied to the electromagnets in the stator is NOT strong enough to repel the permanent magnets in the rotor. If you turned the power on and left it on continually the motor will NOT run. It will develop ZERO hp. You could open the motor's cover and grab the rotor with your hand and spin it freely.

Can 12 volts supply enough magnetism in the electromagnets to neutralize the permanent magnets' "grip" on the iron cores of the coils? Yes. There are numerous 12 volt DC electromagnets on the market today which will lift hundreds of pounds each. This motor does NOT require power anywhere near that strong. McMaster-Carr has an excellent website from their catalog where you can see a listing of these electromagnets and read their specifications. Here is the graphic from that catalog page:

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# A quick note to electrical engineers visiting the site.

- \* A quick note to electrical engineers visiting the site. You can't apply traditional engineering formulas to this motor. It is not an electric motor. The driving force is not electrical in origin. The current flow in this motor does not repel the permanent magnets. The electromagnet coils only produce enough magnetism to neutralize the magnet's attraction to the iron cores of the coils. The forces involved here are:
- 1. Magnetic attraction of permanent magnets to the iron cores of the coils.
- 2. 12 volt current flow through coils to neutralize the magnetic attraction of the permanent magnets.
- 3. Back EMF generated by the passage of the magnets past the coils. A diode prevents current flow before the magnets reache the coils.

Several interested electrical engineers have written without first studying the motor as described on this website and have written skeptical emails to me saying it's impossible to have a powerful motor for a car using only 12 volts. This is NOT a 12 volt DC electric motor. It is true that without the 12 volts DC power it won't run. However the 12 volts DC current supplied to the electromagnets in the stator is NOT strong enough to repel the permanent magnets in the rotor. If you turned the power on and left it on continually the motor will NOT run. It will develop ZERO hp. You could open the motor's cover and grab the rotor with your hand and spin it freely.

Can 12 volts supply enough magnetism in the electromagnets to neutralize the permanent magnets' "grip" on the iron cores of the coils? Yes. There are numerous 12 volt DC electromagnets on the market today which will lift hundreds of pounds each. This motor does NOT require power anywhere near that strong. McMaster-Carr has an excellent website from their catalog where you can see a listing of these electromagnets and read their specifications.

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### These Animations Demonstrate the Parts and Working of the Motor.

All animations have been hyperlinked so this website will load faster. Please click on each one to see them in aciton.

Keep your eye on one blue magnet and watch it go all the way around the circle. mcmotorcallaway.gif

### Five Animated Graphics That Show the Basic Layout of Motor

Here you can see the left fixed plate receiving its 8 coils into the bolt holes. leftplateandcoilsanimated.gif

Here you can see the aluminum rotor receiving its 16 magnets into its recessed holding areas. rotorandmagnetsanimated.gif

Here you can see the right fixed plate receiving the 8 coils it holds. rightcoilsandplateanimated.gif

Now All Three Units Come Together to Make the Magnet Motor. Clearances between the cores of the coils and

the neodymium permanent magnet are no more than .040" wholeunitanimated.gif

Here's how the axle is mounted on the rotor and fits through the end plates. Left side shown. axlebearingemamotor.gif

This graphic shows the "commutator" which is really a bridge between the two brushes. It's a solid chunk of copper turned on a lathe and then has grooves cut out for plastic nonconductive filler material.

mcmotorrotorcommutator.gif

The LaFonte Research Group is developing an optical commutator which eliminates moving parts and enhances reliability and ease of maintenance. I'll keep you posted on that.

This "easier to view" graphic illustrates the electrical system of The LaFonte Research Group Magnetic Equilibrium 12 Volt dc Pulsed Magnet Motor. mcmotornolafontesaver.gif

When the motor is turned off all magnets fixate in front of the cores of the coils and stops the engine. To start the engine the coils are energized and the rotor is set in motion by a small starter rotor of coils and magnets. The starter coils energize repelling the magnets as seen in this animation. When the starter is no longer needed another circuit makes it a generator. These coils do not have iron cores. When red the current is flowing, when yellow no current is flowing. startergenerator.gif

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#### Common Conventional Car Problems.

But first... Here are some common car problems. How many times have these happened to you?

- Engine won't start.
- Leaky or clogged radiator.
- Leaky radiator hoses.
- Failed water pump.
- Broken water pump belt.
- Bad starter.
- Ignition failure, plugs, coil, computer etc...
- Oil pump failure.
- Carburetor problem.

- Fuel injection problem.
- Computer sensors gone bad.
- Run out of gas.
- Bad oil consumption.
- Engine pollutes excessively.
- Engine is worn out.
- Auto mechanic takes advantage of you.
- Internal engine failure.
- Car problems when it's freeeeezing!

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# Safety Comparison Between My Car and Other Electric Vehicles.

Typical electric car conversion kits use complicated high voltage dc or ac motors, regulators, controllers, etc.... Take a look at some examples. These are good electric vehicle systems and well proven technology but I believe my concept will appeal to you as well, even better.

http://members.aol.com/wascalbun/bob/ev.html

http://www.haritech.com/wabbit.html

http://www.geocities.com/RainForest/Vines/5565/

http://www.calweb.com/~tonyc/envirotech.html

http://eaaev.org/eaafaq.html

My electric car is simpler, safer and more affordable than anything I have seen on the market. It works in all cars/trucks/SUVs. The electric motor is a 12 volt dc electromagnetic pulsed magnet motor. The only parts subject to wear are the sealed precision ball bearings.

Extremely strong Neodymium rare earth magnets provide the power as they are attracted to the "magnet

attracting" soft iron cores. The electromagnet coils are only strong enough to produce a "neutralizing" same pole repulsion force which effectively "breaks" the magnetic attraction between the rotor magnets and the stator soft iron cores. 12 volts is safe. Next time you open your hood put one finger on the positive terminal of the battery and another finger on the negative terminal. Nothing happens. 12 volts is perfectly safe for humans, and I guess dogs and cats.

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### **How Much Does This Motor Cost?**

I'm working on that now. Components include:

Aluminum or Composite Stator Frame. \$400 Estimated Soft Iron Electromagnet Cores and \$2800 Estimated Magnetic Wire Coils. \$10 / lb.
Aluminum Rotor. \$200 Estimated \$100 Est

Obviously, the motor is the most expensive part of the McGuire Electric Car. I'm shopping the internet for the best prices on all of these components.

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# The McGuire Electric Car uses a Self-Sustaining Battery Charger

The batteries are recharged WITHOUT the need for gasoline generators, wind generators or plug-in battery chargers. All power needed to recharge the battery is onboard the car. It's not free energy or "something for nothing" but it is high tech engineering made cheap and practical. You can read all about them at Eagle Research.

# Here are several battery charger devices from

# **Eagle Research.**

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# **Primary Focus Right Now.**

My focus is on the design and engineering of The LaFonte Research Group Magnetic Equilibrium 12 Volt DC Pulsed Magnet Motor specifically for my need. I am soliciting assistance from interested parties including vehicle operators and reputable magnet and electromagnet manufacturers in the USA.

I do need <u>financial assistance</u> as well as engineering assistance. I have had several engineers email me with information. Thanks guys. **If you are poor and/or of limited means God does not want you to send me any money! Your continued interest is worth its weight in gold.** Keep in touch and visit the site frequently to keep current on the development of this car.

I need the help of others to make this vehicle a reality to those who need it most.

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gas tank and mounting appratus

# How Do You Convert a Car To Run On Electricity?

The McGuire Electric Car is really my motor placed in any automobile. Items to remove from the car to convert it are (this is an ongoing list as readers provide input):

tank fuel pump, fuel gauge sender and wiring filler cap engine fuel pump engine fuel return system emissions control canisters and hoses intake system and manifold carburetor fuel injection coil, distributor, plugs and all wires radiator and hoses cooling fan thermostat computer sensors oil pressure sender engine temperature sender motor and mounts and brackets exhaust manifold, catalytic converters, muffler and pipes

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# Here Are Important Design Considerations.

# **Design Considerations.**

12 volt system using three deep cycle marine batteries.

Aluminum Rotor Diameter = 25"

Commutator = any machine shop can fabricate.

Housing material aluminum or composite.

Industrial large precision ball bearings.

Accelerator is a simple rheostat

(the thing you turn for your ceiling fan).

Alternator, power steering pump, air conditioning etc.

belt driven off rotor shaft.

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## I need some engineering assistance.

The following drawings are my best guesstimations for engineers to look at regarding the design of the permanent neodymium magnets and electromagnet coil cores. I'm seeking engineering assistance from experienced magnetics engineers.

# **Current Engineering Questions**

- 1. Gauss rating of magnet.
- 2. Tension and shear force on core.
- 3. Material for Core of Coils.
- 4. Wire size and number of turns for coil.
- 5. Back EMF produced by magnets passage.
- 6. Other Losses.
- 7. Current needed at 12 volts to neutralize magnet's attraction to core.

# **Rotor Neodymium Permanent Magnets and Core for Electromagnet**

deltacadneoandcoil.jpg

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If you are in Houston you are invited to come by and visit with me. We can visit the machine shop where I plan to have the various parts fabricated.

### METHOD OF FUNDING THE PROJECT

For those wishing to contribute financially to the project I am accepting pledges at this time. Send me your pledge amount and it will be recorded here along with your email address or any other identifying name you desire. When the engineering is finished and its time to fabricate the motor I'll let everyone know.

### Scott McGuire electriccar homepage

Scott McGuire;11735 South Glen #1802 Houston, TX 77099 1-933-8387 Email Scott McGuire

I am also doing research into the area of pure magnet motors. These motors depend on the interaction of permanenet magnets for their power. No external power is needed. No gasoline, electricity, wind, etc...





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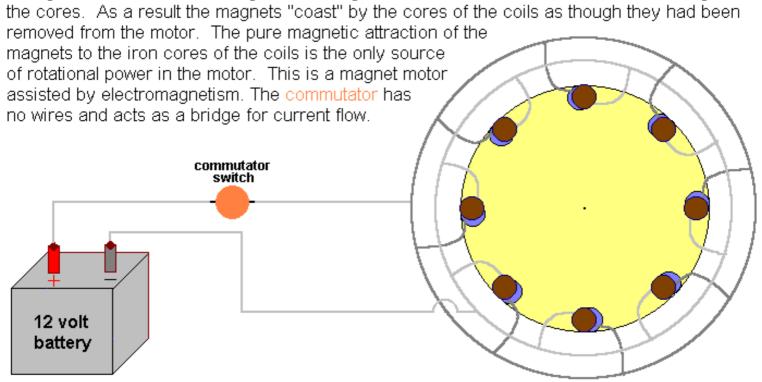
Encyclopedia of free energy now on CD click for more information

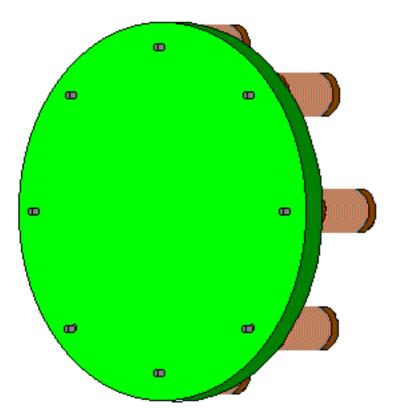


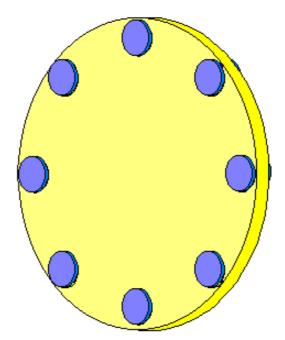
click to visit our energy 21 main website.

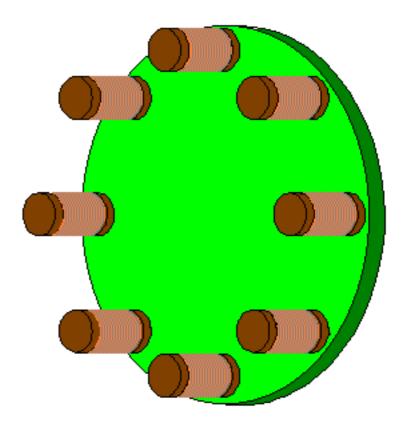
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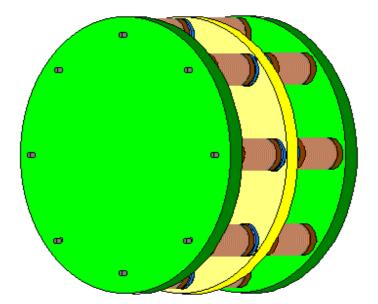
The magnets in blue are being attracted to the iron cores of the coils when no current is flowing through the circuit. When the magnets align with the cores of the coils current is supplied in just enough amount to create enough electromagnetism to neutralize the attraction of the magnets to the cores. As a result the magnets "coast" by the cores of the coils as though they had been

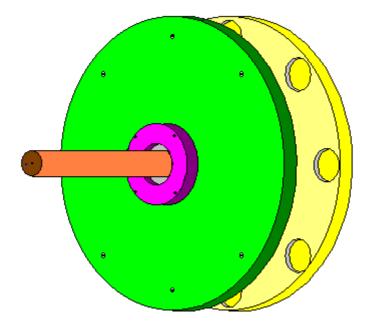


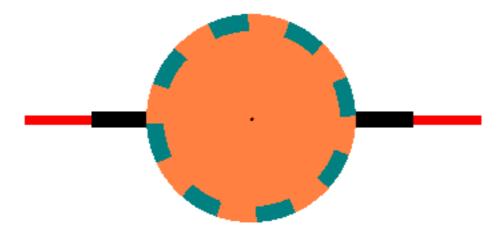


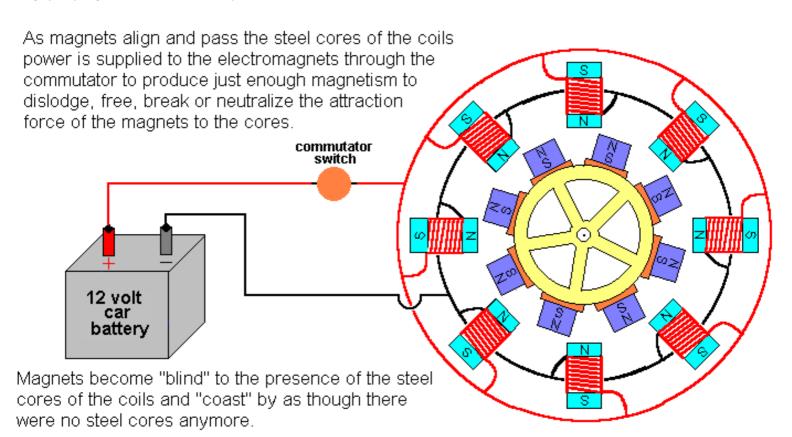












# A homemade water pumping wind turbine

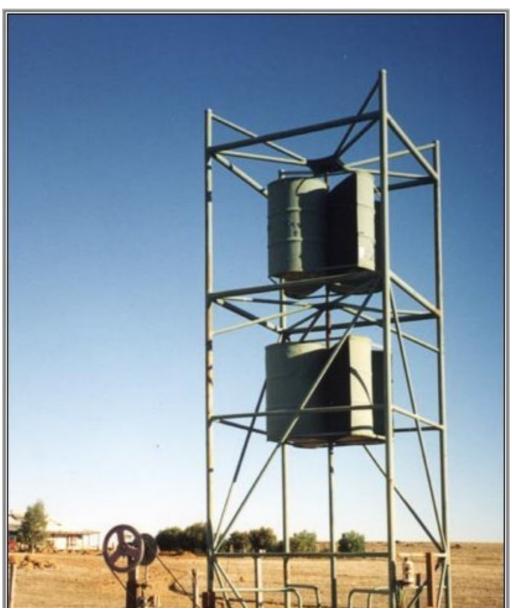
Peter Williams of Roleystone, Western Australia, features his home built Savonius rotor powered water pump

Here is the story in his words

A few years ago, a friend and I were musing over building our own windmill.

Eventually we concentrated on the Savonius rotor turbine.

We decided to build one so we rounded up four empty 44 gallon (200 litre) drums and cut them all in half lengthwise.





This gave us eight halves, which to the casual observer must have looked like eight home-made barbeques being constructed.

We needed to make the frame and an advertisement for cheap steel found us picking up some 40mm and 50mm tubing (exhaust pipe material).

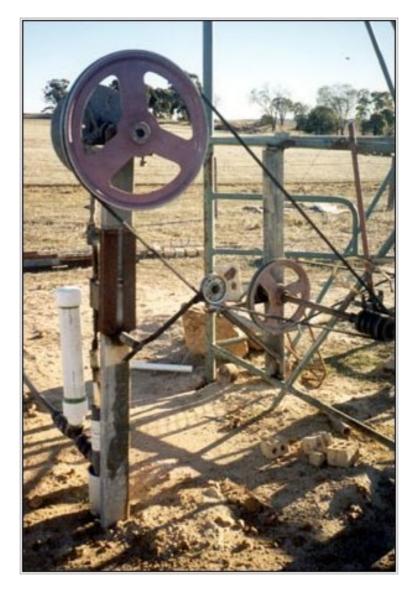
We constructed a tower using the 50mm pipe for the uprights, with the 40mm pipe used for bracing. The finished tower was a little over six metres in height. The next stage was to assemble the rotor. The half-drums were welded to a solid 50mm length of steel for the shaft. We attached two sets of four drums for extra power, as can be seen in the photos.

We still have space for another set of drums, but believe we do not need it for the moment. Self-centering bearings were used to locate the finished rotor to the cross bracing on the tower. Flat strap (about 20mm wide) was used to join the drums top and bottom for strength and stability to prevent them twisting in high winds.

I had a lot of fun working out the pulleys. The rotor spins vertically and I had to convert this motion to a horizontal axle to drive the pump. I fixed this by simply twisting one of the belts through 90 degrees and as they were long enough, this was not a problem.

The rotor is connected to the axle via a dog clutch which is operated by a lever. In high winds the windmill still spins but you can disengage the clutch to protect the pump. The bore pump is a ball-type poly pump. We used a ball joint from an old Ford Falcon attached to a metal disc (off center to give it a cranking motion) to drive the pump.

The disc is attached to one end of a shaft which is driven by an 18 inch diameter pulley at the other end. This pulley is driven via a second belt from the dog clutch shaft. This arrangement is mounted on 50 x 100mm RHS (metal tubing).



This setup can seen in the photos. This machine was a lot of fun. I never tire at watching it work and it is a great conversation piece. It has also become a bit of a landmark in our area and as a result our property is called 'Humdrum Towers. Closeup of the pulley and poly pump. The whole arrangement is quite simple and uses off-the-shelf bits.

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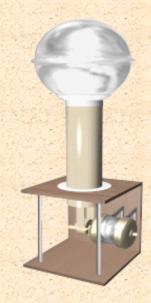
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# How To Build A Vandegraff Generator

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#### **Using Your Vandegraff Unit**

#### **Entire Parts List:**

- 2 @ 80mm dia(o/d) PVC flanges
- 2 @ 270mm x 75 mm stainless steel bowls
- 1 @ 600mm x 80mm dia(o/d) PVC pipe tube
- 1 @ 2m natural rubber chair webbing
- 3 @ 300mm x 300mm x 20mm compressed wood or ply timber
- 2 @ 25mm x wooden dowel
- 1 @ PVA wood Glue
- 30 @ 2.5 mm x 12mm screws
- 1 @ tube contact cement (Glue)
- 4 @ pop rivets
- 2 @ sealed roller bearings
- 1 @ nylon66 material (50mm dia x 60mm)
- 1 @ nylon food cutting board.
- 2 @ 30mm x 70mm metal tin strips
- 1 @ 25mm x 25 mm shim steel
- 1 @ 30mm x 120 mm tin strip
- 1 @ 100mm x 6mm booker rod
- 1 @ 4 or 6mm steel shaft cut to length
- 4 @ 6mm nuts & washers

## **Sphere/Condenser Construction**

#### **Parts List:**

2 x stainless steel bowls

1 x 80mm flange

The sphere used on the top on the vandegraff can be constructed from two stainless steel food bowls. The bowls I used are 270mm dia x 75min deep from the outer most rim. (see figure y1) The bowls *do not* need to be fixed together with any screws or fixing glue. The best method is to stickytape the rims together with a complete circle of insulation tape around the entire rim. You will need to remove the top bowl at periodic intervals during construction, so don't use up all the insulation tape at this stage of the construction. Use temporary strips of 50mm long insulation tape on 4 locations around the rim, which will hold the top bowl into position while doing tests an adjustments..

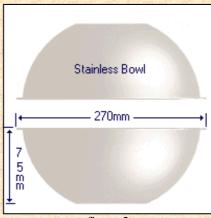


figure 2

Do not scratch or dent the bowls in any way. The more shiny and clean the bowls are the better they are at holding the high voltage charge on the surface. We want to hold as much charge as we can on the surface. Any sharp points or scratches will give a jump off point for the HV (high voltage).

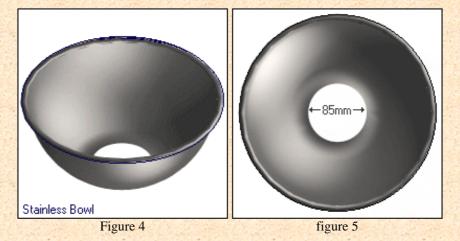


figure 3

The bowls used in the construction of this vandegraff unit are not the preferred items to use. The rims of the bowls provide a narrow edge from where the high voltage can jump off. The voltage will begin to breakdown (jump off) when the voltage starts to exceeds above 50kV. If you can obtain a perfectly round sphere that would be your best option. Most people are unable to obtain a perfect sphere so two stainless steel bowls will work well enough. You may like to have a search for a metal constructed world globe or atlas. The same world globes you use to study with at school. Currently most of the spheres

used in these world globes are now made from plastic, so they cannot be used in our VG project. If you happen to chance on an old globe made of metal you might be lucky enough in that the sphere may have a thread that joins the two hemispheres together. This would be an ideal purchase. Look in old antique or 2nd hand stores an markets for these items. If you happen to obtain a metal fabricated world globe you will need to remove the print or paint from the outside. You need to polish the globe to a shiny smooth finish to get maximum storage of HV potential from the Vandegraff unit. There are companies around that manufacture the perfect threaded spheres for vandegraff machines. You may be lucky to find a company that doesn't charge an arm or leg for such a purchase. For your first test bench prototype two stainless steel bowls will work perfectly. I am sure you will have loads of fun with this two bowl VG design in any case...

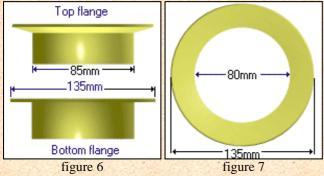
#### **Cutting The Bowl Centre Tube Hole**



#### **Marking & Cutting**

You will need to cut a hole in the bottom of one of the stainless bowls. This hole is where the 80 mm(o/d) PVC main centre tube an one of the flanges will be fixed. Use a steel scriber an the outer most 80 mm(o/d) circumference of one of the PVC flanges as a template. Centre the flange on the bottom of the bowl an scribe around the outside of the circumference of the flange. The final hole size should be around 85 mm dia.(see figure 6) This will leave 2.5mm either side of the 80 mm PVC pipe to be inserted. You will not see the extra gap as the top 80 mm flange will be formed into shape to fit the both the main centre PVC pipe and the hole. You can use any method to cut out the hole. I would use a metal shop lathe or a metal hole saw. You may use which ever method you feel will work. Make sure you file a clean smooth burr free edge on the final hole cut. This will keep any HV loss to a minimum. Be sure that the outer 85 mm(o/d) straight section of the PVC flange can be inserted into the hole with ease. Do not be concerned about the final alignment or the rest position of the top flange at this stage. You will use this hole size when heating and forming the flange into the curved shape. See below.

#### **Forming The Flange Curved Shape**



Because the bottom of the stainless steel bowls have a curved dome bottom you will need to form *only one* of the PVC flanges into the curved shape of the bowl. (See top flange in figure 6.) You will need to use a heat gun or flame to heat the PVC flange until the plastic is soft an pliable. Only heat the outer most 135mm rim of the PVC as we don't

want to push the 85mm pipe diameter out of shape.(see figure 7) Use caution that you do not over heat the material to where it starts to burn the outer PVC layer. When you feel the flange 135mm rim is soft enough to form, quickly place the heated flange into the bottom bowl with the hole cut out. Using the second stainless steel bowl; place the top bowl inside the bottom bowl then press an hold the two bowls together firmly for around a minute. This will form the heated flange into the perfect curved shape of the bowl. Be sure you placed the heated flange from the top down into the bottom bowl and not from the bottom up direction, else you can not sandwich it between the bowls or be able to form the heated flange to shape. You must insert the heated flange (85mm section first) into the bottom bowl with the hole previously cut out else this will not work. So cut the hole in the bottom bowl first. Hint: Use an offcut waste piece of 80mm PVC pipe to hold the flange while heating the 135mm rim. This will also prevent the 85mm section from deforming during the heating process.

#### **Fixing The Curved Flange To The Bottom Bowl**

Once the flange has cooled, fix the flange to the bottom of the bowl with silicon/glue and 4 pop rivets. Be sure the flange is centre most around the hole. Use the same 80mm PVC pipe waste offcut over the flange to get the flange centred over the hole in the bowl. The flange is placed on the bottom curve of the bowl from the bottom up. (see figure 3) Do not place the flange down through the hole as you did when forming the curved shape. The PVC flange must cover over any sharp metal edges that where left when cutting the hole in the bottom bowl. The flange will insulate any bad metal edges so that HV loss is reduced. After you have drilled and pop riveted the flanged onto the bottom bowl you can cover the pop rivets with a thin seal of silicon or insulation tape. This will help limit high voltage jetting out from the pop rivets.

**Remember:** avoid all sharp edges and points on the sphere construction. Smooth an shinny is the objective.

## **Cutting & Forming The Centre Tube**

#### **Parts List:**

- 1 @ 600mm x 80 mm PVC tube
- 1 @ 80mm PVC flange
- 1 @ tube PVC glue
- 4 @ pop rivets
- 1 @ tube of silicon sealant.
- 2 @ 25mm x 25 mm shim steel
- 1 @ 30mm x 120 mm tin strip

You may purchase the PVC pipe in 80mm or 90mm dia tubing. I used 80mm dia PVC for the construction of this VG unit. You may prefer to use the 90mm pipe. If you choose to use 90mm PVC pipe then be sure that you get the 90mm flanges an other material to suite the larger diameter pipe. Cut a piece of the 80mm PVC tube to a length of 600mm. This will be the *main centre tube* of the vandegraff unit. The belt will run up the centre of this tube to the top roller. Cutting and forming the top of the centre tube is as per figure 8 and 9.

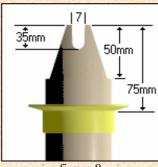


figure 8

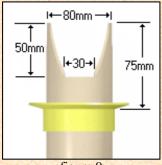


figure 9

You can use a handsaw, jigsaw or small grinder to cut and shape the top of the main tube. You may like to make the 35mm cut of figure 8 down to a length of 50mm if you wish. This 35mm cut allows you to adjust the belt to the correct tension. The more adjustment you can give the belt the better. You may find that your belt may need this extra adjustment. The other 30 x 50mm cut down the tube can be done in only one side of the tube if you prefer. It is not necessary to cut out this 50mm section from both sides of the tube. The 30 mm

wide x 50mm deep cut is where the top static comb/electrode will come through to interact with the top roller. (see figure 9,10) You can drill an pop rivet the static comb onto the bottom bowl when the bottom bowl and curved flange are glued into position on the centre tube. The curved flange of the bottom bowl should have already been glued and pop riveted to the bottom bowl. If you have not done this then do it before you glue the flange and bowl into position on the centre tube. The bowl/curved flange assembly will be glued 75mm down from the top of the tube.(see figure 9) You will need to leave the glue



figure 10

dry on bowl/curved flange/centre tube assembly before you do any more with it. Once you have this assembly in place you will have an assembly that looks something like figure 10. The bottom flange and centre tube need to be moved up or down to find the best position. The bottom flange should not be glued into position until you have completed the motor mounting section. The final position of the centre tube and

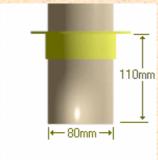


figure 11

bottom flange depends on your motor size and mounting location. You will need to have cut the hole in the top of the wood frame before you can mount the bottom flange. Once you have mounted the motor and the bottom roller is aligned centre most under the centre tube you will be able to slide the centre tube up an apply the PVC glue then move the tube back down to the final resting place. So only temporarily place the bottom flange onto the centre tube at this stage.

#### Top Electrode/Comb



figure 12

Once you have glued the bottom bowl/flange assembly onto the centre tube you can then pop rivet the top electrode comb into position. The comb can be made from any thin or sharp pointed metal. You can use a single needle or multiple points as in figure 12. I use thin (0.1) high tensile shim steel. You can buy shim steel in packs of various thickness from your local bearing supplies. Use the sharpest edge shim steel you can get. Cut a piece of shim steel 25mm wide x 25mm long. Cut one end of the shim steel strip into multiple sharp points with a pair of tin snips.

The more points you can cut into the shim steel the better. (See figure 12) You can then pop rivet the pointed shim steel onto the end of a piece of tin 30mm x 120mm long. Bend the tin strip into an 'S' shape so you can pop rivet the end of the tin down onto the bowl. You will have to manually bend the tin in an out as you adjust the electrode points optimum distance away from the belt. Important: Try to get the top comb/electrode points as close to the belt as you possibly can. This will give you the best voltage potential possible. Be watchful that you do not allow the points of the comb/electrode to touch the belt at any time. This will blunt the points and cut into the belt. The belt will flex outwards from the rollers as the motor runs to full speed. So watch that the points of comb/electrode do not touch the belt when the motor is running full speed. You will have to do adjustments to the comb/electrode to make allowances for full motor speed.

#### **Roller Construction**

#### **Parts List:**

- 1 @ Nylon food cutting board
- 1 @ 50mm dia Nylon66 round formed
- 2 @ 18mm x 6mm sealed bearings
- 1 @ 100mm x 6mm booker rod
- 1 @ 4 or 6mm steel shaft cut to length
- 4 @ 6mm nuts

#### Constructing Simple Rollers.

You have a choice as to the roller fixing method you wish to use:

- Simple direct shaft rollers, (see figure 13 and 14)
- Ball bearing shaft rollers. (see figure 15 and 16)

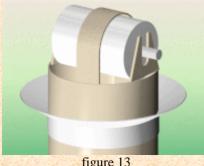


figure 13

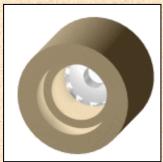
If you chose the simple direct shaft rollers of figure 13 and 14 then you can make the rollers in a variety of ways. One way is to drill/lath a hole down the length of the nylon roller and push a longer length of steel rod firmly into the hole. Alternatively you could push a sized outer sleeve into the roller and fit a smaller threaded rod to have a more secure fixing method. (see figure 17) The roller choices are numerous. The advantages of making simple test rollers this way is

that you can test which nylon is working the way you would like. Once you have stable test results you could then opt for the better method of adding ball bearings into the rollers to ensure a long continuous life to your machine. (see figure 15 and 16) There are many various, tried and tested methods with roller materials and their construction. There is no absolute right or wrong method of construction. Feel free to add your own tried an tested methods in place of this.



figure 14

#### Constructing Rollers With Sealed Bearings.



This is my own preferred method of constructing the top roller(s). You will need access to a shop lath or machine to do the lathe work. If you have no access to these machines then you can use a hand drill machine as the nylon material is very soft and easy to machine. The outer diameter of the rollers can be any diameter you wish. You should not make the bottom roller a small diameter, else you will see the high voltage jump off the roller an short out onto the shaft of the motor. The bigger the roller diameter the less likely the HV will short out.

figure 15

As a preference I like to keep my rollers to a diameter of around 40-50mm.(see figure 17 & 18) If you are just starting out you might like to do the same until you have mastered all the variables. I prefer not to have the top and bottom roller the same diameter. I believe this helps the voltage potential's. If the top roller is smaller than the bottom roller diameter then the top roller will be travelling at a greater rotation. I believe this greater rotational speed produces better friction on the belt which produces greater HV potential on the sphere condenser.

Important: You will need to use two different substance of nylon materials on the top an bottom rollers. The top roller needs to be made of a different density of nylon to the bottom roller. If you use the same material/substance on the top roller and bottom roller, then you will find problems with low or no HV potential's. If you must use the same nylon substance on the top an bottom rollers then you will need to sleeve over the bottom roller with a rubber or nylon sleeve of a different substance. It is the difference of these two nylon or rubber



figure 16

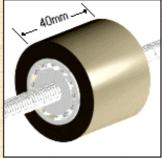


figure 17

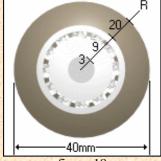


figure 18

substances which allows the VG to develop greater differential potential's. Only through your own experimentation can you prove which are the best combination of materials. As a hint, try to avoid black coloured rubber, plastics or nylons. The black colour could be carbon or iron. These substances conduct electricity. This conduction property is very undesirable and can cause untold frustration. --Avoid black materials in your search for better results. You can use a metal sleeve over a roller if the centre of the roller is insulated

away from any conduction. I have had moderate success using a hardwood lower roller with a metal sleeve around the circumference of the wood. You may play with all the variables to find the best results. I have been informed that teflon can also produce some good results. You may also like to try skate board wheels and/or sleeve over them.

#### Personal choices for roller materials:

- *Top roller*: Food grade nylon cutting board is a good material for the top roller. This nylon is cheap and readily available from supermarkets and hardware stores. Glue two or more small pieces together to get wider rollers.
- **Bottom roller**: The best material for the lower roller is nylon66 with a natural rubber photocopier feed tyre sleeved an glued over the nylon insulator. You may try different natural rubber compounds if you wish.

The above nylon choices will produce a negative potential on the vandegraff condenser sphere. Swap the materials top to bottom if you wish to produce a positive potential on the sphere condenser.

# Positive or Negative Potential's (Checking The Polarity)

If you find that you would like a specific polarity potential from your vandegraff generator then you will have to experiment with the top and bottom roller materials. Firstly you will need to know how to check the voltage polarity potential of the vandegraff unit. Using a multi-meter from a safe distance, place positive(+) probe of the multimeter directly on to the static comb or motor mount earth of the vandegraff unit. From a distance, say 500mm away, point the negative(-) probe in the air towards the VG sphere condenser. DO NOT touch the negative multi-meter probe directly on to the metal sphere while the VG machine is running. The voltage developed on the VG may be in excess of 400kV. Sparks can jump through the air some 300mm-400mm in distance from the VG sphere condenser. The vandegraff generator only utilises micro amperage of current, the 400kV potential sparks will not harm you to any great degree, but there will be enough potential to probably destroy your multi-meter. If you still have no reading of the polarity then slowly move the negative lead in the air toward the VG sphere. If you start to get a stable reading and the meter reads as a normal reading, then you have confirmed that you have a negative potential on the VG sphere. If your multimeter reading is showing a negative reading then you have a positive potential on the VG sphere. Be watchful that you have the flying leads of the multi-meter in the correct locations of the multi-meter. The reading you get from the multi-meter may be in milli-volts. You will never be able to read the true voltage reading from the vandegraff generator unless you own a special EHT meter or EHT probe. You can make an EHT probe by connecting 10 or more 10mega-ohm resistors in series. This will give you a slightly more accurate reading but will not be truly accurate. A rule-of-thumb for high voltage transmission through dry air is around 20,000 volts per 25mm(1") air gap.

Example rule-of-thumb: Hold one end of a plastic ruler in the air while touching the other end directly onto vandegraff sphere. Move your finger down the ruler until a spark jumps to your finger. If the sparks are jumping over a 250mm air gap, then you can roughly calculate you have a high voltage potential of 200kV. This depends on the moisture content in the air. The drier the day the better the build up of charge on the VG sphere.

Once you know how to check the polarity potential on the vandegraff; all you need do is swap the top & bottom rollers over. That is move the top nylon roller down to the bottom roller, and move the bottom nylon roller up to the top. You will now have reversed the polarity potential of your vandegraff. If the VG was first a negative potential then it will be a positive potential (or visa versa) when you swap the rollers from top to bottom. I prefer a negative potential vandegraff as there are some small health benefits from using negative ions, plus other interesting conditions when you treat plastics and nylons with HV potential's. These interesting conditions are principles based on how to make diodes and other semi conductor devices. I will leave this semi conductor topic for another web page article.... Yes your vandegraff generator can become more than an interesting toy. It has the potential to be a useful work tool or valued test bench device.

#### **Belt Construction**

#### **Parts List:**

- 2 meters of natural 2 ply rubber upholstery webbing, non-stretch.
- 1 x small tube of contact cement
- 1 x sanding block an 80 grit sand paper

#### **Rubber Belt Splice**

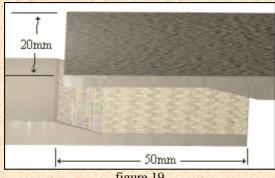


figure 19

The vandegraff belt is manufactured from a 1400mm piece of non-stretch type rubber upholstery chair webbing. Note: the rubber must be the natural beige colour an of the correct non-stretch type. Do not use the elastic stretch type or black coloured webbing as this may not build a static charge. Or if the belt stretches to much it may not stay fix to the rollers during operation. The non-stretch webbing used in

this design comes in large length rolls by 50mm wide. Ask at the shop where you purchased the rubber webbing to cut at least 2 meters off the larger roll to ensure you have enough length. Remember, a belt 650mm long will need about 1.4 meters of webbing. This 1.4 meter length includes the two 50mm splice joins at either end of the belt. (see figure 19) Do not be afraid to order too much. The webbing is 50mm wide, once the rubber is trimmed down there will be enough webbing to make two complete vandegraff belts each at 20mm wide.

#### **Trimming The Rubber**

We will not be using the entire width of the belt so it needs to be trimmed down its entire length. Using a long metal straight edge, clamp the rubber webbing an straight edge to a firm flat bench top or length for wood. Using a sharp knife or blade, cut a 20mm wide strip down the entire length of the webbing. This will leave you with a belt 20mm wide by 2 meters long. Before you cut the belt to its final 1.4 meter length, it is a good idea to put the belt into the correct position on the vandegraff frame and roller mounts to see that you have the correct length to cover the distance around both the upper and lower rollers. If you are confident the belt is long enough then cut the belt to its final length. Do not forget to allow extra length on the belt for the 50mm splice joins. The rubber webbing is made 2 plies thick, separate 50mm of the ply from each end of the belt (see figure 19). It is important that you trim the two unused splice tabs from the correct side of the 50mm splice. Be sure the belt is layed out correctly and that there is no twists in the belt. You must remove one 50mm splice tab from the top of one end of the belt, an the other 50mm splice tab from the bottom of the opposite end of the belt (see figure 19). If you get these cut off tabs wrong the belt will not glue together correctly. Be sure to leave the string fibre layer inside the original ply on at least one of the 50mm tabs. If you don't the belt will stretch at the join and may break. Now using an 80 grit sand paper an a wood sanding block, sandpaper a taper at the end 50mm location of the splice tab cut and the main part of the belt. (see figure 19) This taper will allow a stronger lump free join in the belt. Its important to get no lump in the join so the belt will run around the rollers with out vibration to the vandegraff unit. The belt can run at a good speed so you want to get this splice correct.

#### **Splicing The Belt Ends Together**

You should be ready to glue the ends of the belt together. Add liberal amounts of contact cement to both ends of the 50mm splice tabs. Wait for a period where the contact cement feels tacky an almost dry to touch on both tabs. Slightly stretch the 50mm tabs of the belt and place the ends together to contact each other at the glue. When placing the ends together allow about 2mm of overlap from each end of the tabs. You will sand this 2mm lump off 24 hours after the glue dries. Make sure you have no twists in the belt when you place the joins of the belt together. Before the glue dries clamp the glued join between two lumps of wood firmly in a vice or clamp. Important: do not over tighten the vice or clamp else the pressure will squash the glue and rubber permanently out of position. Allow the glued join of the belt at least 24 hours to dry between the clamp before you attempt to do any thing further with it. After the glue has dried, sand paper the 2mm over lap lump off each end of the join until no lump is felt on either side. If your join has moved sideways in the clamp simply trim off any excess rubber sticking out from either side of the belt. Your belt should now be ready for use on your Vandegraff generator. Take particular note of which way the join splice end overlap travels when you place the belt on the generator. You do not want the sand papered join of the belt hitting the rollers foremost before the rest of the join. You must have the natural section of the belt travel over the rollers first before the sand papered join contacts the rollers. This will prevent the very ends of the join from coming loose at high speed. Be sure of the belts correct orientation and direction of travel around the rollers.

#### **Wooden Frame Construction**

#### Parts List:

- 2 @ 300mm x 300mm wood panel board
- 1 @ 260mm x 300mm wood panel board
- 2 @ 25mm x 40mm x 300mm wood battens
- 2 @ 25mm dia x 260mm wooden dowel
- 1 @ 80mm PVC flange
- 1 @ tube PVA wood glue
- 12 @ 30mm x 3mm screws
- 4 @ 7mm x 30mm coach screws

#### **Wooden Frame Assembly**

Assembly of the wood frame for the vandegraff generator is as per figures 20,21 and 22. The main dimension of the wooden frame is configured on a 300mm cube shape. If you have purchased the wood ply or panel board in one large sheet you will need to cut 3 individual 300mm x 300mm square panels from the main board. 1 of these board will have a further 40mm removed from one end. This panel will then become the back panel where you will mount the motor. To save on time and money I decided to build the wood frame with only three sides. As you can see from figure 21. The frame has a top panel a bottom

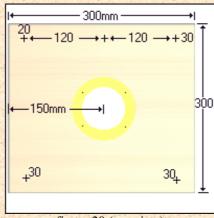
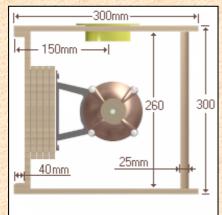


figure 20 (top view)

panel an a back panel. There are two 25mm dia round dowel uprights that support the very front of the wooden frame. Building the frame this way allows for different motor sizes and choices. It also allows for maximum access around the motor and bottom roller assembly where adjustments and changes can be made. You may also enclose this wooden frame further with acrylic or perspex plastic for a more cosmetic look and feel



Cutting the hole in the top panel is much the same as cutting the hole in the bottom stainless bowl. Using a pencil, mark a cross from diagonal to diagonal across the top panel board, this will give you the absolute centre of the board. Using the bottom 80 mm(i/d) PVC flange, align the flange over the centre mark of the top panel, scribe a pencil mark around the outside circumference of the flange. This circular mark should be about 150mm from any edge. You can cut this hole with a hand jigsaw or large holesaw in a drill machine. The final hole should be 85mm in dia. Be sure the flange fits neatly into the hole. Do not be too

figure 21 (right view)

worried about the hole being ragged or over size. The 135mm rim of the flange will cover over any mistakes made. You do not need to fix the 80mm PVC flange into position at this stage. Leave this flange until last where we will also glue it to the main centre tube. This will then fix the centre tube into its final position.

#### Mark and Drill The Panel Screw Locations.

Remove the above PVC flange and secure the top and bottom wood panels together with a clamp or vice. Make sure all edges are flush to each other. Mark out the fixing screw location from the top view of figure 20. Use a 2mm drill bit, drill right through both the top and bottom panels at the same time. This will allow a more accurate alignment of the 25mm dowel uprights and the 40mm x 25mm wood strengthening battens to be fixed to the back panel. Once drilling is complete you can remove the clamp from panels and separate them.

#### Fixing The Battens To The Panels.

Cut the 2 @ 40mm x 25mm x 300mm battens to length.Do not confuse the battens with the round dowel uprights. Align the two battens to the top and bottom panels inside surface face, flush with the edge where you drilled 3 screws holes. Apply PVA wood glue to the 40mm underside of the aligned batten. Hold the batten secure with a clamp while fixing the batten from the top down through the 3 drilled holes. Fix the batten to the underside of the top panel with 3 fixing screws. Fix the batten to the topside of the bottom panel with 3 fixing screws. (see figure 21) Be sure you have the panels and drilled holes orientated an aligned the correct way before you glue and fix the two battens.

#### **Assembling The Panels**

If you have not cut the back panel to size then, resize the back wood panel to 300mm x 260mm. by removing 40mm from one edge. Leave the back panel lying flat on the bench top. Be sure you have the 300mm edge align to the 300mm edge of the top and bottom panel. Stand the top and bottom panels up at right angles to the bench. Be sure that the fixed battens on the top and bottom panels are sitting down on the bench. Lift the back panel up and slip the top an bottom panel 25mm batten edge under the back panel. The back panel is now siting up off the bench and on the 25mm x 40mm wide battens. Using the

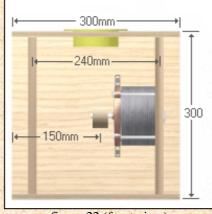


figure 22 (front view)

top panel apply glue to the 25mm edge of the batten. Hold the top panel-batten and the back panel into position with two clamps. Drill 3 holes @ 2mm dia along the inside top edge of the back and top panel into the batten. Be careful not to drill into the original screws coming from the other side of the top panel-batten. Fit 3 fixing screws into the drilled holes. This will fix the back panel and top panel together. Repeat the steps for the back and bottom panel. Ie. Glue, clamp, drill and fix the back panel to the bottom panel and batten using the same procedure as the top panel. (see figure 21)

#### Fitting The Uprights & Flange

The final part of the wooden frame is to fit is the 2 @ 260mm x 25mm dia wooden dowel uprights. Cut both of the dowels to length. You should have already drilled the two holes to fit the dowel uprights into the panels.(see figure 20) These two holes are 30mm in from the front corners of the frame. Apply PVA wood glue to the very ends of each of the dowel uprights. Using a fixing screw down from the top panel and up from the bottom panel fix the uprights

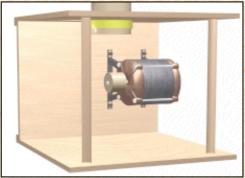


figure 23

permanently into their final position. Flip the box into the upright position with the flange hole toward the top. You are now ready to fix the bottom 80mm PVC flange into the hole of the top panel. Place the PVC flange down into the hole and fix the flange into position with 4 fixing screws.(see figure 24). Once you have complete the last piece of the wooden frame you should have an assembly that looks something like figure 23. I chose to place the batten supports to the



figure 24

outside of the frame in my design. This allowed better freedom and movement when mounting the electrical motor. The battens could pose an obstacle to the motor mount when fitting or adjusting the motor position. You may chose to place the battens towards the inside of the frame, that is quite okay as it shouldn't make a lot of difference.

## **Motor Mounting & Bottom Electrode**

#### Parts list:

1 @ electrical motor 12 - 240 volt.

Vandegraff Box view

Depending on the motor you chose you can have from a 12V ac/dc all the way up to mains powered 240Vac motor to run on your vandegraff generator. The motor you choose is your choice and won't make a lot of difference to the operations of the machine. I used a variable 240Vac motor from an old vacuum cleaner. The motor chosen was a series wound motor, an is far too fast for the VG machine. This motor will blow the belt and rollers apart if

figure 25

it where left to run out to full speed. If you get a series would motor be sure to limit the maximum speed of the motor. Caution: if you are not sure about wiring a mains powered motor then have some one with electrical experience help you wire the motor from the mains. There is no set mounting instructions or key dimensions for mounting the motor. Just try to centre the bottom roller over the mid point of the main centre tube. View down through the top of the tube to be certain you have the bottom roller centre most under the tube. You may have to build a special mounting frame or add packing under the motor to get the required distance from the back panel to the roller centre position. You may also move the actual wooden back panel location in further toward the centre to better mount the motor. I have mounted my motor from on the back panel because this allows for more adjustment to the belt. If I break the belt I can join it again and move the motor up to accommodate the loss in belt length. You may decide to mount the motor down on the bottom panel. That is quite ok, but you will have to add packing under the motor to get the belt tension correct. The top roller will only adjust to a set length. So you will need to move the motor to get any additional adjustment to the belt tension. Once you have your motor mounted, your vandegraff unit may look something like figure 25.

#### **Bottom Comb/Electrode**

The bottom comb/electrode construction is very similar to the top electrode. Once again construct the comb/electrode from 25mm x 25mm x 0.1 shim steel. Cut sharp points into the shim steel. Pop rivet the shim steel electrode onto a 30mm x 60mm piece of tin. You can then pop rivet this piece of tin an electrode onto the main motor or motor mount. (see figure 26) You can then manually bend the tin in an out to allow for close proximity adjustments and fine tuning to the belt electrode distance. Only trial and error can get this adjustment to the best position. Remember the closer you get the comb/electrode to the belt, the

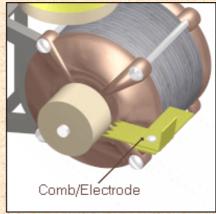


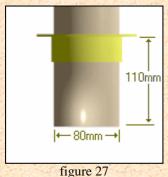
figure 26

better the possible potential available to the sphere condenser. I chose to mount the comb/ electrode directly onto the motor. By doing this you eliminate the need to supply an earth or ground wire to the electrode. If you choose to mount the electrode from the bottom of the wooden frame then you will need to add a wire to supply the ground potential to the electrode. You can terminate this ground wire back onto the motor if you so choose.

## Fitting The Belt, Gluing The Centre Tube.

#### **Parts List:**

1 @ 1.4m x 20mm Belt 1 @ Tin PVC glue



Once you have the motor mounted you are ready to fit the belt, and glue the centre tube to the bottom flange. This is the final stage. Place the belt onto the Top roller and secure the roller into position. Place the sphere-centre tube assembly down into the bottom flange of the wooden frame. Now fit the belt around the bottom roller of the motor. Be sure get this tube positioned square with the belt an the rollers. If you turn the tube to far one way or the other the belt will fall off the rollers. Manually hold the tube up with both hands so the

tension is on the belt and both rollers. View down from the top of the centre tube to see you have the belt running straight an square on the rollers without twists or bends. Have some one turn the motor by hand so you can turn the tube to get the belt running square with the top and bottom roller. Do not worry about the top roller to much, as this can be adjusted by raising or lowering either side of the roller. Just allow yourself plenty of adjustment on the top roller. When you have the belt running square with the rollers you can mark a pencil mark around the flange and the centre tube. At the intersection of the flange and centre tube place a pencil mark around the circumference of the tube for the correct vertical position(tube height). Place a pencil mark vertical on the tube and flange for the correct horizontal position. Place a pencil mark at the bottom side of the flange and tube so you know how much glue to apply to the tube. Remove the belt off the bottom roller and slide the tube upwards to where you can see the bottom pencil mark. Apply PVC glue to the centre tube between the upper and lower pencil marks. Slide the centre tube back down into position and refit the belt onto the bottom roller. Align both the horizontal and vertical pencils marks. Hold the centre tube in this positions for about a minute or until the glue becomes firm. Be sure you get the tube into the original position aligned with your pencil marks. PVC glue dries very quickly so be sure about your settings. The final position of your centre tube may be similar to the dimensions of figure

#### **Adjustments And Fine Tuning**

Once you have the vandegraff generator assembled you will need to make running adjustments and fine tuning. You may need to raise and lower either side of the top roller so the belt positions itself centre most on the roller. You may need to raise or lower either side of the motor slightly to get the belt to position itself centre on the bottom roller. You may need to adjust the top and bottom comb/electrodes to find the optimum distance away from the belt while the vandegraff is running. These adjustments are straight forward but might require a little perseverance. Get the belt running correctly first before you adjust the top and bottom comb/electrodes.

You may like to rub the inside surface of the belt with methylated spirits and a light sand paper to remove any contaminates that where put there during assembly. Turn the VG machine on and carefully rub a slightly damp methylated rag on the inside of the belt and rollers. Touch the inside of the belt with light sand paper to rough the surface and cause rubber dust on the belt to produce friction on the rollers. <u>Do not</u> touch the rollers with sand paper. This should only need to be done once in the life of the vandegraff generator. Keep dirty oily fingers off the VG belt. Do not wipe the rubber dust off the inside of belt, leave it there while the belt is new.

Clean the sphere/condenser with methylated spirits and a clean rag. Tape the bowls together with a complete strip of insulation tape around the circumference of the two bowls. One and a half circles of insulation tape will be suffice.

## **Using Your Vandegraff Unit**

#### You can do many thing with your vandegraff unit...

#### Fun for kids of all ages.

- Roll up thin pieces of plumbers thread tape into long snakes . Place the snakes onto the vandegraff an turn it on. See who's snake launches itself off the VG first.
- Get every one to hold hands in circle to see how far you can transmit a spark to some one on the end.
- Touch the VG and point your finger at someone to give them a spark. Ware insulated shoes then go over and touch some one to give them a spark.
- At night time get some one to hold a fluorescent light tube at a distance. Point your finger at the VG to cause a spark which will cause the fluoro-tube to flash quite brightly over the distance. Amazing, with no wire connections at all.
- Understand lightning and Tornadoes. In the darkness, place the fluoro-tube length ways above the VG and watch micro vortices (tornadoes) of plasma dance up and down the VG sphere and the tube. Watch as the top vortex on the fluoro-tube corresponds to the bottom vortex on the sphere. Watch as these vortices meet in mid air, a spark will jump to exchange a charge the way lighting does. You can now understand how tornadoes can form from the same magnetic/ electrical differences.
- Pulse sparks from the VG onto the electrical contacts of the fluorescent tube. Watch the tube light the room brilliantly. Amazing, all with no wires attached.
- Put a string through the centre of an aluminium can. Suspend the can at the rim of the sphere-bowl on the VG. Watch the can swing back and forth of its own accord. The swing can get quite large.
- Get a round metal door knob and run an earth wire to ground or the VG motor mount. Place the door knob near the VG to attract large sparks onto the knob.
- In a pitch dark room, place the fingers of both hands near the generator and watch a plasma fire stream from your fingers like a witch or warlock movie scene. The distance of plasma fire can get quite large from the VG.
- Place nylon or plastic strips onto the vandegraff unit to permanently charge the plastic with extra electrons. This is the basis of electronic semi-conductor control gates for use with integrated circuits (IC's), diodes and transistors.
- Place combinations of metals, charged nylon and magnets together an make a device that gives off
  permanent electrical pulses. Place these devices together to produce a useable self running type of
  electrical generator.



Enjoy.....

G.D.Mutch [B.I.T]

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#### Disclaimer:

The above information is offered as experimental information only. The user constructor accepts all responsibly with the use or inability to use the above information and or machinery listed in the above page. The user constructor should take every precaution with building an using the above high voltage machine. Persons with any health or medical conditions should not come too near the vandegraff generator machine while it is in operation. Use every available precaution should you have any doubt.

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Some additionasl information from Clark Boyd

Hello again. I see that you are seeking even higher voltages from your Van DeGraaf machine. I have another suggestion that will help with the normal leakage that will limit your upper voltage.

The PVC pipe absorbs moisture, so if you bake it (in a cardboard/metal box with small light bulbs for a week or so, about 150 deg F) then coat it right away with polyurethane.

Be careful of the fire hazard of the light in the box, I put the light in a tin can and not touching anything. Be sure to coat the tube inside and out.

Another way to compensate for the leakage that will occur is to increase the charge transfered per rotation of the belt.

Instead of generating the charge with the belt/roller contact, inject the charge onto the belt. Use a high voltage DC source like a air ionizer or static dust precipator or make your own.

The higher the voltage the better. 5000 VDC will work, but you will start to get a strong ionic wind above 15KV.

Connect the hivoltage supply to a comb mesh that is positioned with the points of the mess very close to the lower roller.

The charge will be injected onto the belt at a much higher rate than could ever be generated by a small roller at normal speeds. Clark Boyd





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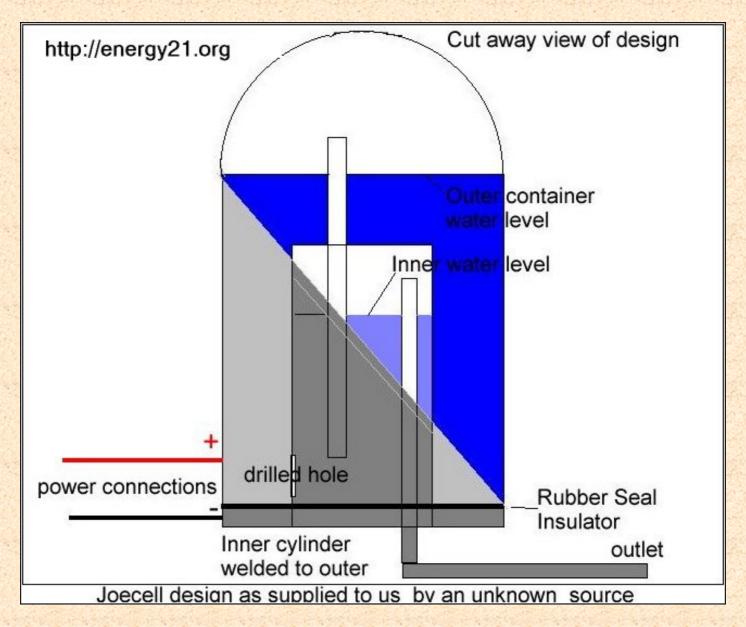
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## A Joe cell modification

## supplied to energy21 by an unknown source



#### A word of warning

If you fill a closed container with an explosive gas mixture, as an example one (1) part oxygen and two (2) parts hydrogen you will have set the stage for accidental explosion.

Hydrogen and oxygen can and will explode with violent effect.

To know of this, and to teach this, and not carefully warn all parties is to ignore your place as scientific ethical investigator.

A few weeks ago now, an unnamed source supplied me with the following diagram of what is said to be a Joecell mark 5 version.

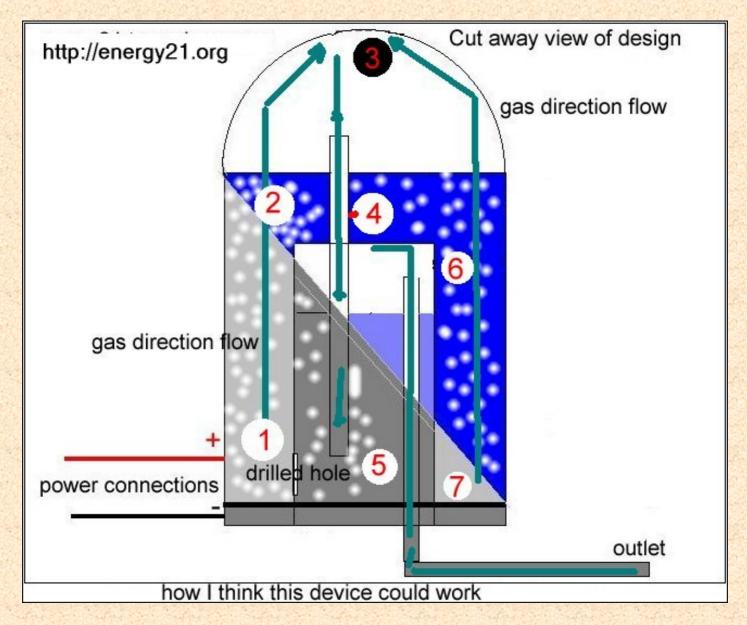
I have not seen or handled the actual device and so my knowledge is somewhat limited, but I have made the following assumptions from this diagram reproduced on this web page.

You may find out more if you try some experiments yourself.

My contact says that claims were made, that it was said to produce gold and other metals (something by the way I find hard to believe).

Another source believes that it is a Joe device, but is used only as a flame arrestor, something I personally believe could be done.

It would not need the power, but would need a hydrogen/oxy gas inlet ,and if so, I suspect that this gas gas inlet would be on the outer cylinder (as per the third diagram below) and situated somewhere below the outer container water level.



This alleged Joecell mark 5 seems to be one larger metal cylinder into which another closed cylinder has been welded to the bottom portion of the outer enclosure.

A rubber seal or insulation is provided at bottom of unit as per diagram, to allow a negative power connection and a positive power connection to be used to power this unit and not be shorted out through the metal surfaces.

From the diagram recieved the outer container has a positive electrical connection and the bottom portion and the inner metal cylinder is a negative electrical connection.

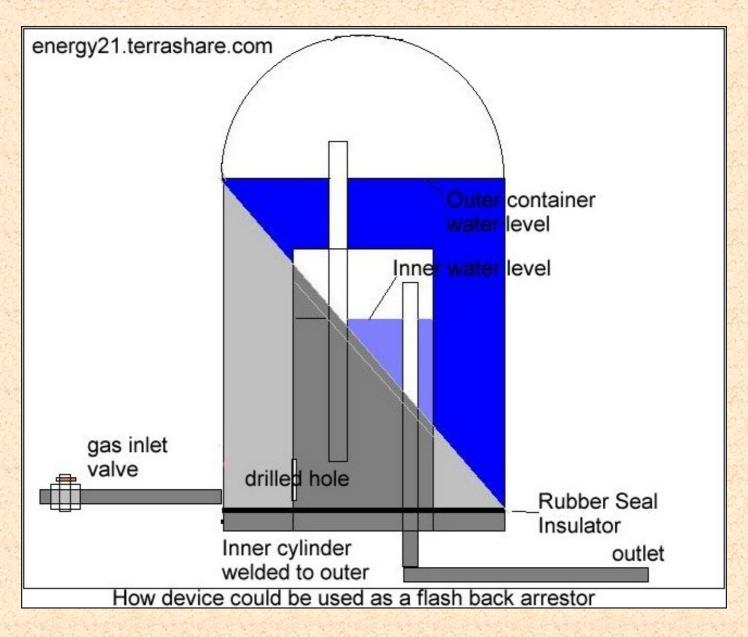
How it works or at least how I think it would (1) Gas is produced my means of electrolysis when a battery is connected to the positive and negative plate terminals.

(2) Gas flows through water to the top area of the outer containment vessel at position (3) After the unit has been running for a period the gas pressure would build up and force the water below (4) below the inlet pipe by forcing excess water to flow through outlet section.

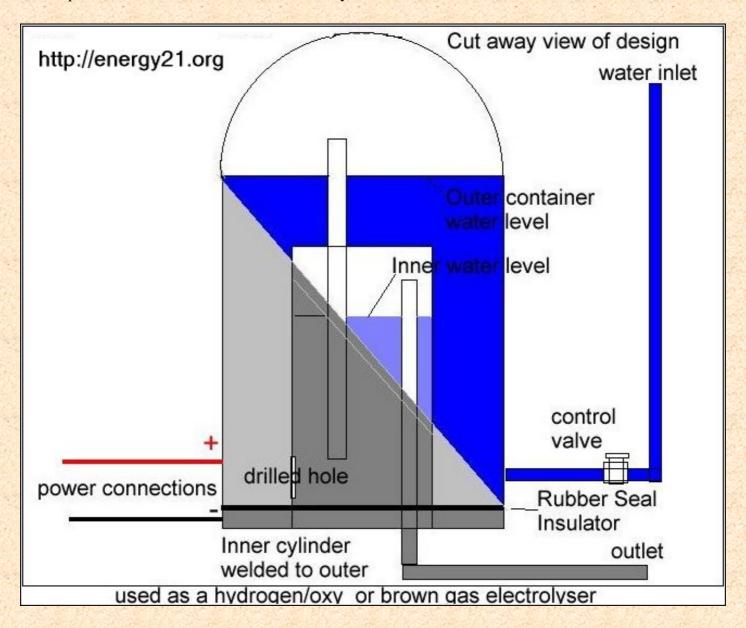
Gas under pressure is then forced through this pipe until it exits and bubbles out at position (5) where again it flows to top of second inner vessel at position (6).

Gas again begins up to build up pressure and then forces the remaining water in the outlet pipe and then allows the resulting gas to flow out through the outlet.

It would seems to me that when gas pressure is exhausted then water would again fill this pipe section and not allow a flame flash back.



This the set up I assume would be used if the device is only used as a flame flash back arrestor.



This is the set up if the device is indeed used as a hydrogen/oxygen generator.

Please note the original joe cell was said to have not need addition water input after it began operation, and so my assumption as to how this device as to a water inlet would be incorrect.

If indeed this is the case then top diagram would be totally correct in layout and the 3 following diagrams totally wrong.

#### This info from a Joe cell constructor

Hi Geoff Thanks for the info . the design as outlined is discussed in the second video and joe blow talks about the flash arrestor design using the centre tube water in isolation to snuff any flash back.

Can I make a few points I'm constructing one of these as we speak and i feel it is a case of due diligence to isolate gas production from any potential source of ignition the cell as described will do this.

And do'nt forget we are not going for pressure, only vacuum will be acting on the cell, and removing only production gases (what else can it take?) but under scrutiny i feel any device that has the potential to harm should incorporate some standard or standardized safety feature.

The other point is My Construction. I still use the bolt wedged in the centre tube idea but i have drilled it and welded the inner production tube to it so it acts as my neg electrode and my gas outlet.

Remember any pressure or vacuum will act on all surfaces equally. I'm not making a gas torch just a J cell I use multi tubes these radiate the organe the water accumulates and I feel the small DC current sets this up and the vacuum pulls it plus some gas into the motor and if all things going as dreamed my petrol bills should start going down.

Oh yes I have a welded base and a removable top on this thing and a bolt plug on the top to add water and to stay with my due diligence I will put a 1-2 psi valve on top and vent it.

Thanks again

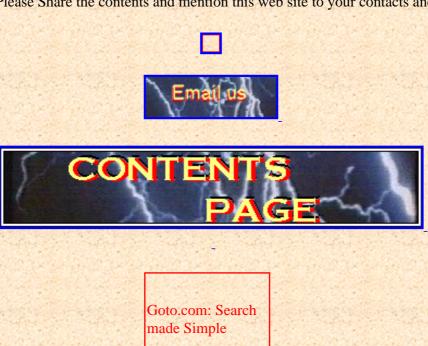
Rowley

more on making a Joecell

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Have Fun and be care full

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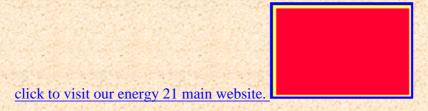
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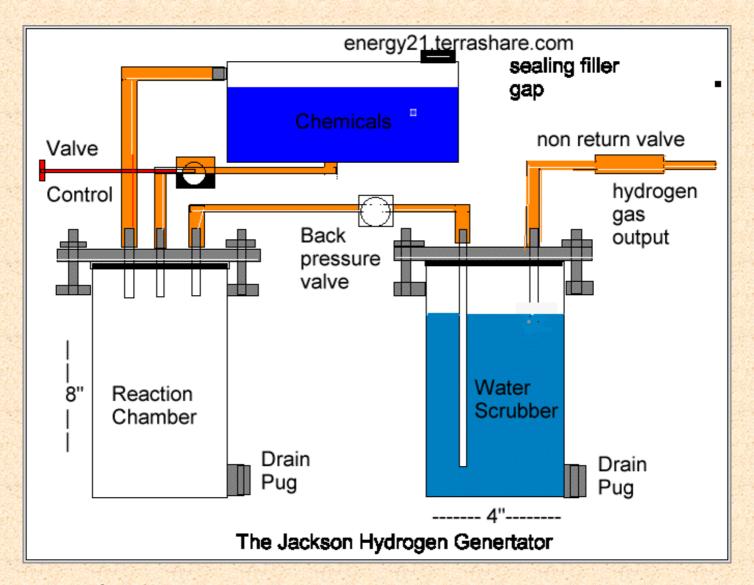
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#### The Jackson Chemical Hydrogen Generator

Although I have called this device the Jackson Generator, I do not take credit for the chemical reaction that this system uses to generate hydrogen I can claim the apparatus and the way in which I have applied it.

The reaction chamber is made of steel tube with at least 4mm wall thickness and the whole unit is of welded construction, Stainless steel would be better but quite expensive, I have used mild steel all round as it was just experimental and I wanted to build units different sizes which I am trying to run a vehicle with.

When assembled the chamber is opened and aluminium foil which can be bought at the local store, is torn into around 4" pieces and screwed up into a loose compact ball each ball is thrown into the chamber until the chamber is at least one third to one half full, then the top is sealed tightly as there will be lots of pressure generated.

Next the chemical chamber is partially filled (1/4) with a mixture of water and sodium hydroxide, I used a bake bean can and 2 cans of water to about 1 cubic inch of powdered sodium hydroxide, or around 14 to 1 I think from memory either way you can experiment with the mixture the more hydroxide the more violent, hotter and quicker the reaction that will take place,

naturally you will get more gas faster over a shorter time if you increase it, I haven't seen a kipp generator in action but I suspect from descriptions I have read this generator will give it a run for its money

Next fill the scrubber about 1/4 full of clean water, and its better if you also use an extra second water scrubber in line, a full one this time the idea being to scrub, cool and clean the hydrogen gas, the first scrubber will probably absorb any overflow from the chamber and fill up to around half full, with dirty black water.

When the reaction takes place It will run very hot so be prepared to use it in a place where the reaction chamber can get extremely hot and not melt anything.!

You must use a one way valve in the this system as ignition of the gas may turn this whole thing into a bomb, don't leave it out!

Hydrogen is very volatile!

There is some added protection if you have a second scrubber as the water will help prevent any flame getting back into the chamber but you still need the one way valve just in case.

I used a non-return valve from a wrecked Mitsubishi sigma the valve was in the vacuum line which ran to the power brake booster.

I take no responsibility for any harm you may come to if you experiment with this device, I only put it forward as an idea for a device which I have built to generate hydrogen gas in large amounts, thus am only sharing the idea I will not nor cannot take responsibility for anyone else, if you choose to build this device you are on your own! it is not for fools and the onus is on you.

Having said that when all is ready pour the solution into the chemical tank making sure it is sealed tightly for when the pressure builds it will equalise the tank and help push the solution into the chamber, the reaction is very fast and depending on the mixture will probably run for about 1 to 2 hours and produce large volumes of gas enough to blow up balloons and let them fly etc

You can leave off the back pressure valve, it was something I used to increase the pressure in the reaction chamber but found it not needed.

So open the chemical control valve and way it goes, slow at first then quickly lots of gas, the chamber will run almost red hot, then afterwards you will have to wait for it all to cool, clean out the silver gunk in the chamber

flush it with clean water, put in more alfoil change the scrubber water and you are ready for another experiment.

If you have experimented with electrolysis and seen the mediocre stream of bubbles which probably wouldn't even run a lawnmower, you will be impressed by the amount of gas produced in this device, I have put a plug with a 3mm hole in the end of the supply hose after the one way valve and lit it, it burnt for about 1/2 an hour with a flame about 3" long.

One of the best ways to observe the output is to put the outlet hose into a plastic bucket of water.

Rubber 3/8 automotive vacuum hose, (yes it came off the same Mitsubishi sigma) I have found will stand up to the heat as it is strengthened with some sort of woven canvas and very strong, unless you have some Teflon tubing?, plastic beverage tube is okay from the output of the first scrubber although it will sometimes get soft use Hose clamps all round due to the pressure

ATTENTION if you experiment with this device at your own risk then please make sure you use it

in a well ventilated place such as outdoors, not inside a normal modern room with the amount of gas you may be overcome, plus the explosive nature of all that gas accumulating indoors one spark and BOOM!

With the increasing cost of fuels ,I believe we should all be working towards becoming independent of the oil companies who seem to be profiteering, falsely elevating the cost of petrol and lately the gas prices have risen enormously, fully sanctioned by the government of the day it seems, especially in Australia where at present the fuel excise going to the government is almost 50% of the price of fuel, this despite the cries of the people.

The above description of a device that I have been working on which I hope can

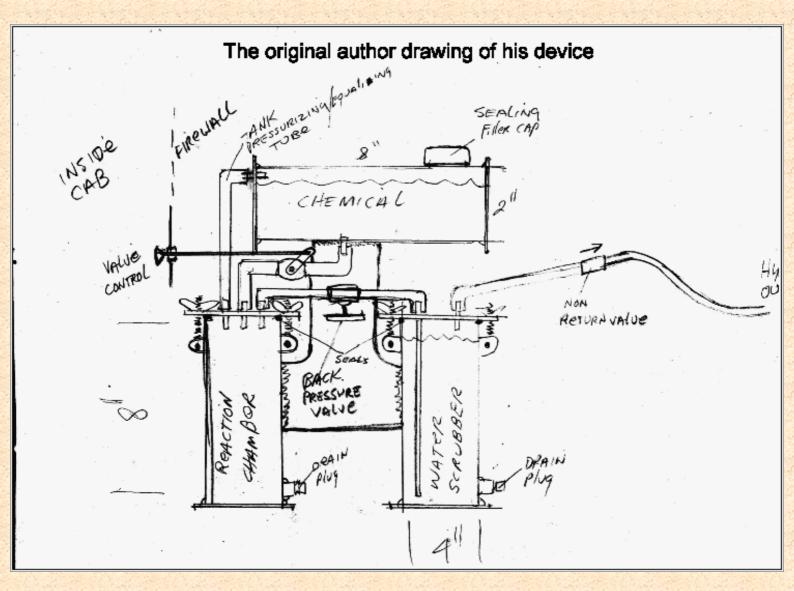
and will be applied many different way's there are many forms of aluminium and

the chemicals are very cheaply obtained.

I would be very glad to hear any tried and workable ideas you might have of other ways to apply this system, so I may try them myself.

Apologies for my technical drawing prowess as I am no tech drawer

#### D Jackson



Doug Jackson Author and inventor of this device

Web editor note.

I am a little concerned the author has used mild steel in construction of his chambers as over a period of time I believe the sodium hydroxide may also react and break down this metal as well as the foil he is using.

The author mentions he would have like to have used stainless and I feel this may have been a better alternative.

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Be warned hydrogen gas is dangerous to play with and could be lethal in the wrong situation

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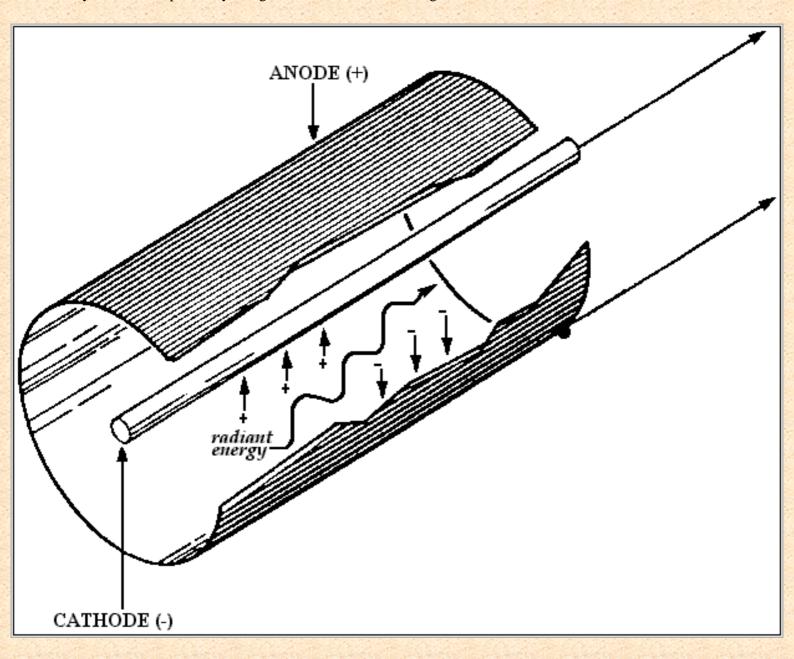


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**SECTION 6** 

# **Principles of the Glo-regulator**

The glow discharge regulator uniquely amplifies pulsating high-voltage and converts it into a steady stream of electrical energy. It has an axial, negatively charged cathode wire that extends the length of the cylinder. The anode is made out of an aluminum cylinder that is positively charged. Its cathode is a thin tungsten wire.



Glo-regulator - Figure 6

In the diagram shown here negatively charged air ions are formed at the negatively charged center cathode wire. Positively air ions are formed at the positive anode cylinder.

When a surge of electrons flow through a glow regulator they are added to the negative ions that sit on the cathode. They are now attracted to the positive anode cylinder and a few milliseconds later the positive ions are attracted to the negatively charged center cathode wire. This characteristic has the effect of suppressing any **inductive kick back** from the loads that are feed through this component. Inductive kick back results in wasteful heat losses.

A number of negative ions recombine with the positive ions. This generates an intense burst of free electrons. Moray called this process "dissociation." The "sea electron" model supports this effect.

The electrons that are added to the cathode ions will add amperage to the output circuit to which it is connected. Henceforth, the equation  $\mathbf{E} \times \mathbf{V} = \mathbf{P}$  is used in this system. Where, "E" represents electrons (amperage), "V" voltage (ionic difference) and "P" is the power generated.

I am fully convinced that my Glo-regulator is a refined version of Edwin Grays' conversion tube described in his US Patents No. 4,595,975 and No. 4,661,747. **Chauncey J. Britten** also describes a similar component in his US Patent No. 1,826,727. Mr. Britten's component appears to be a prior variation of my recent Glo-regulator design. Britten's regulator was said to have lit up his home in 1930 according to a local newspaper article of that time period. Russian scientist **Alexander Chernetski** experimented with what appears to have been a type of Glo-regulator. It is said that he got up to five times more energy out of his device than what he put into it. Plans were made to commercialize the invention but like the Moray, Gray and Britten devices it never made it to a commercial product.

The Glo-regulator is not to be confused with a current rectifier. The Glo-regulator prevents ions from flowing back to the power source. It is an 'energy dam' for the lack of a better description. Both negative and positive ions can flow through this component.

If the Glo-regulator is supplied with alternating negative and positively charged ions there is a flow of alternate charges going in one direction rather than a charge blocking effect. This is why Moray stated that "the valves are not rectifiers in the sense that they operate as radio valves in changing AC or HF to DC. Glo-regulators have an actual valve action in stopping the 'flow' of energy in one direction. Its function may be thought of as an oscillatory action similar to the waves of the sea, without rectification, from returning to the outer circuit." 209, The Sea of Energy, 5th edition. This rather cryptic language now makes sense having a Glo-regulator valve in hand.

By means of the Glo-regulator new and wonderful electrical effects can be obtained. With the type of current that it produces electromagnets can be strongly energized. This means that electric motors can be made to run with efficiencies that have been unheard of until now. Communication systems using this current could obsolete present day radio transmission. Electrical power transmission and its generation could also receive a fresh new start. The possibilities are mind boggling. It would be an honor to be able to offer humankind this technology. It is my goal to build and bring devices to market that will operate on this new type of electricity that Tesla and Moray called "radiant energy." It was this form of energy in its unrefined form that was generated by Tesla's Magnifying Transmitter, also known as his DC transformer by his lab assistants up in Quebec Canada.

Tesla's last ten years of his life, 1933 - 1943, contrary to popular belief, were his most productive years in his private laboratory located on Canadian soil. This was communicated to me through his last known living assistant, Arthur Mathews, before passed away in 1986. He also revealed to me that special primary batteries with replaceable zinc electrodes powered Tesla's electric car. This car also had a "fluid transmission" and could travel at 90 miles per hour. The electric motor could run on the batteries for three hundred miles before you had to pull over to attend to the batteries and then you were on your way for another three hundred miles. There were enough spare parts in the trunk to run this car for one year! The performance of this vehicle seems to be impossible. However, the characteristics of a unidirectional electrical current consisting of short duration high-energy spikes will permit many seemingly impossible innovations.

#### **SECTION 7**

## **Edwin Gray's Energy System**

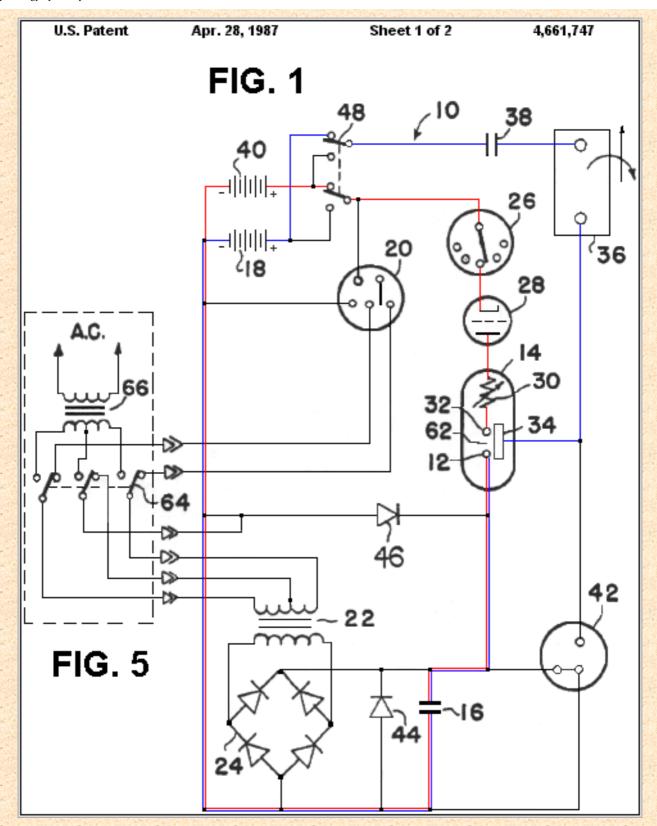
Thomas H. Moray invented a specialized high efficiency 6,000-hertz power supply. It turns out that Edwin Gray's device also produced this same exact frequency. Certain electrical equipment such as solid state radio, television and light bulbs will operate on this 6,000-hertz electrical current.

The overall efficiency of the Gray device is extremely high. From one of his company press releases we are told that it will power loads four times longer in comparison to a standard DC to AC inverter power supply. This particular press statement indicates that he was planning to market a device that outputted a 6Khz frequency, as compared to the standard 60Hz frequency coming from the public utility power grid.

Both the Moray and Gray energy systems harness a very old source of energy in very unique ways. They are the solution to our power needs using an inexpensive renewable energy. The advantages over other systems are many. The World is indeed moving at a suicidal pace, we need this technology more than ever. It will light lights, run motors and electrical appliances.

Getting back to the Gray device. It is a fact that when you put a high potential current across two opposite elements, ionization will occur between them. The high voltage elements 12 & 34 develop a pre-discharge plasma glow between them. This is a given unless the elements were to exist within an extreme vacuum environment. The Gray conversion tube acts no differently. When a glow pre-discharge is present the tube is switched in the on mode and current flows. Without this ionization between the cylinder and rod in the conversion tube no current will flow through the load.

Discharge occurs across the spark gap 62 once this capacitor reaches the breakdown voltage of the gap. Once the arc is broken it begins to recharge the cycle repeats and the cycle repeats so long as the batteries remain charged. The current path flows along the red wire shown in Figure - 7. Ionization drops in the conversion tube 14. The load current is halted. When this discharge takes place the anode 12 is heated. Most of you are acquainted with the fact that the space between a hot filament emits electrons and a cold electrode by which these electrons are attracted is unilaterally conductive. Current can flow only from the hot filament to the cold electrode. It is known that when an electron moves through a magnetic field, whose lines of force are at right angles to its direction of motion, the electron is constrained to move in a circular path. In fact, if the field is made strong enough the electron may be forced to stay in the field and revolve in a circular orbit whose diameter is smaller than the field. If a magnetic field is applied transversely to the motion of the electrons the electrons may be deflected to such an extent as to prevent them from reaching the plate and to constrain them to return to the filament. A.W. Hall of the General Electric Co. was the first to use this principle in highly efficient vacuum tube converter he called a magnetron. The sudden discharge in the converter tube generates an intense magnetic field that very abruptly halts current flow to the load. Directly thereafter the magnetic field collapses. The collapsing field in conjunction with the reappearance of the pre-glow discharge instantly generates an electrical surge of power. This surge is unidirectional and can run motors and light bulbs with extreme efficiency because DC resistance does not limit this type of current and wasteful heat loss is practically non-existent. The output if feed into a tank circuit can produce high frequency currents. Old storage batteries are preferred because they can hold up to high voltage discharges. In time the recovered spark discharge will clean off the sulfur that has formed on their plates.



**Edwin Gray Energy System - Figure 7** 

- 1. The blue wires represent the current path that powers the load.
- 2. The red wires represent the current discharge path that occurs when the spark gap in the conversion tube fires.
- 3. When the capacitor is discharged an intense magnetic field is created within the tube. This field instantly halts current flow to the load.

<sup>&</sup>quot; Reproduced from Radiant Energy Power Generation" (millenium edition) by Bruce A. Perreault





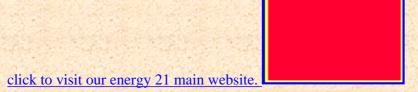
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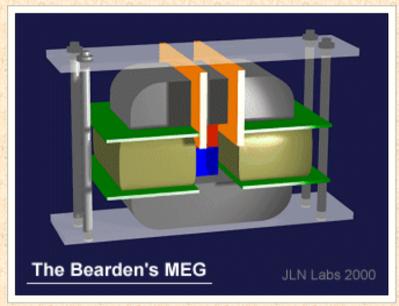
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# The Motionless Electromagnetic Generator,

Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum from Thomas E. Bearden, Ph.D. James C. Hayes, Ph.D. James L. Kenny, Ph.D. Kenneth D. Moore, B.S. Stephen L. Patrick, B.S.

"...This one works beautifully and produces COP=5.0..." say Tom Bearden - (COP=5 is equal to an efficiency of 500%)

Created on 10-06-00 - JLN Labs - Last update 10-31-00

**Sujet: The Motionless Electromagnetic Generator** 

Date: 06/10/00 07:54:41

From: xxxxxxxxx (Tom Bearden)

Dear Jean-Louis,

Information on our Motionless Electromagnetic Generator has now been publicly released, in the form of our paper, "The Motionless Electromagnetic Generator: Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum," carried on public DoE website <a href="http://www.ott.doe.gov/electromagnetic/papersbooks.html">http://www.ott.doe.gov/electromagnetic/papersbooks.html</a>.

Thus you may furnish the information to whomever you wish, since it is now publicly released and can be freely downloaded. It is a long paper (69 pages) and does take a little time to download.

We are encouraging web site managers who so wish, to place a pointer to the paper if they wish to. As you are aware, this one works beautifully and produces COP=5.0. Our patent application has been filed and so full patent coverage is retained; we have been in patent-pending status for some time prior to the public release. We expect to force the patent by direct demonstration and independent government-certified test laboratory testing and certification to NIST, IEEE, and U.S. Government test standards.

The system uses an extension to the work-energy theorem: In a replenishing potential environment, when energy is removed from the potential in a different form, the potential is simply replenished by the giant entropy process (my paper on the giant negentropy process is on the same DoE website). Use of a permanent magnet simply uses its magnetostatic scalar potential to evoke and sustain the giant negentropy mechanism. This sustains the continuous flow of the magnetic vector potential, and the device separates the magnetic B-field from the magnetic vector potential A.

The giant negentropy mechanism continuously replenishes the A-potential as fast as energy is extracted from it. Thus it is rather like dipping bucket after bucket of water from the same spatial volume in a rushing river, with the river instantly filling the hole up each time a dip is made. In this case we must pay only for the switching costs, since the giant negentropy mechanism continually replenishes the magnetic dipole sustaining the magnetic vector potential energy flow. Note that we do not destroy the source dipole, as every conventional closed current loop electrical system does. As Whittaker showed in 1903, once the dipolarity is established, the giant negentropy process continues so long as the dipole exists. Dipoles in original matter, e.g., have been pouring out copious energy by this process for some 15 billion years, so the energy is absolutely inexhaustible and copious.

There are 23 illustrations in the Magnetic Energy Ltd. paper on the DoE website.

Very best wishes,

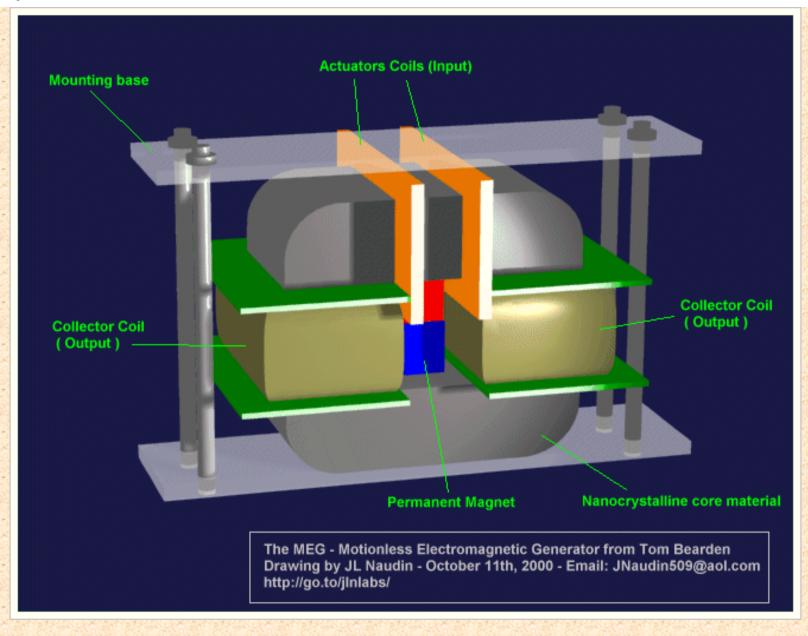
You may download the MEG document at: <a href="http://www.ott.doe.gov/pdfs/MEGpaper.pdf">http://www.ott.doe.gov/pdfs/MEGpaper.pdf</a>

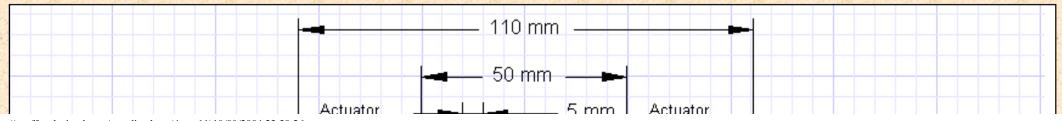
Note (10-26-00): The MEG Paper has been removed from the DoE site, but you may download it:

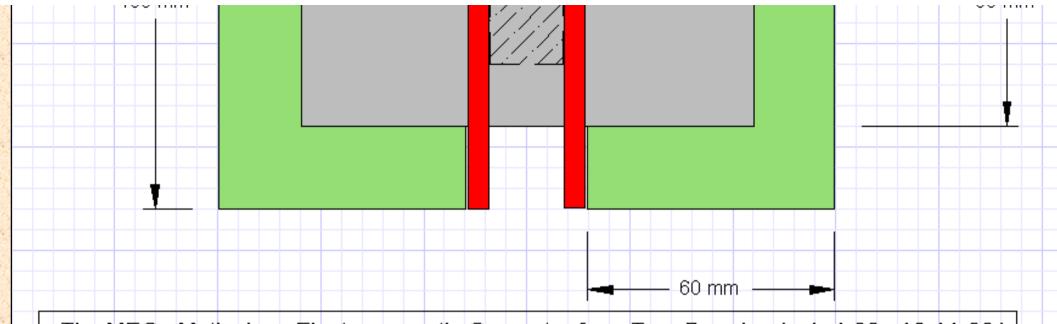
• http://www.cseti.org/bearden/MEGpaper.pdf

If you don't have the Adobe Acrobat reader you may download it freely at :





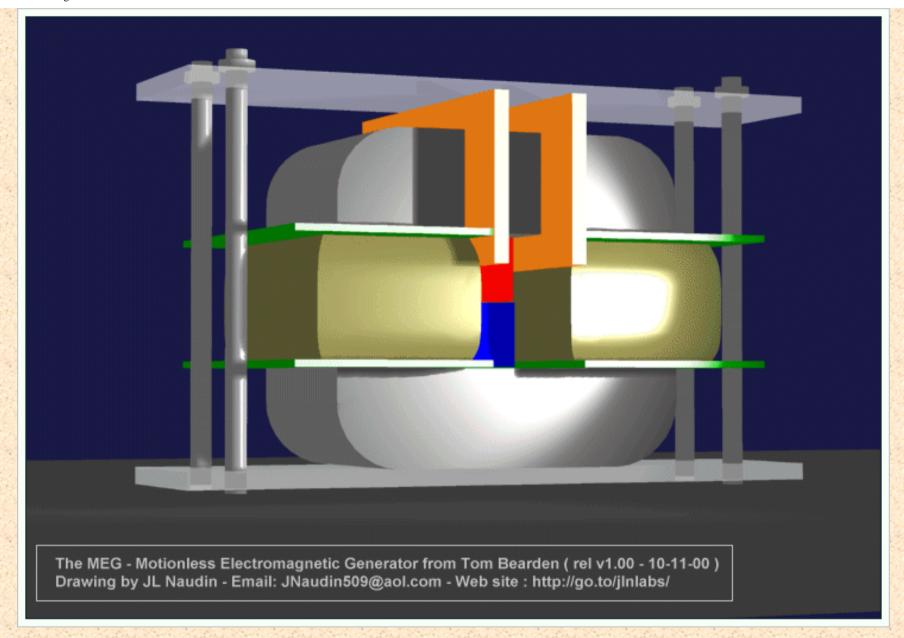




The MEG - Motionless Electromagnetic Generator from Tom Bearden (rel v1.00 - 10-11-00)

Drawing by JL Naudin and based on the Fig16 from the paper published on Oct 6th, 2000

"The Motionless Electromagnetic Generator: Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum "from Thomas Bearden Email: JNaudin509@aol.com - Web site: http://go.to/jlnlabs/



# Some technical infos:

# Fe-based Nanocrystalline Toroidal Core for Current Transformers:

<u>Characteristics</u>: Nanocrystalline alloy has similar features of high initial permeability and temperature stability, less gravity and packing factor than that of Permalloy. Under the same conditions of core size and performance, it is lighter (about 1/3 lighter) and cheaper than

that of Permalloy.

# Nanocrystalline Magnetic Core:

<u>Characteristics</u>: High saturation magnetic induction (1.25T), high permeability, high inductance (ten times higher than that of ferrite), low loss, small volume, light in weight, high electric interference resistance, good frequency performance and high temperature stability.

# For more infos about the Nanocrystalline material see:

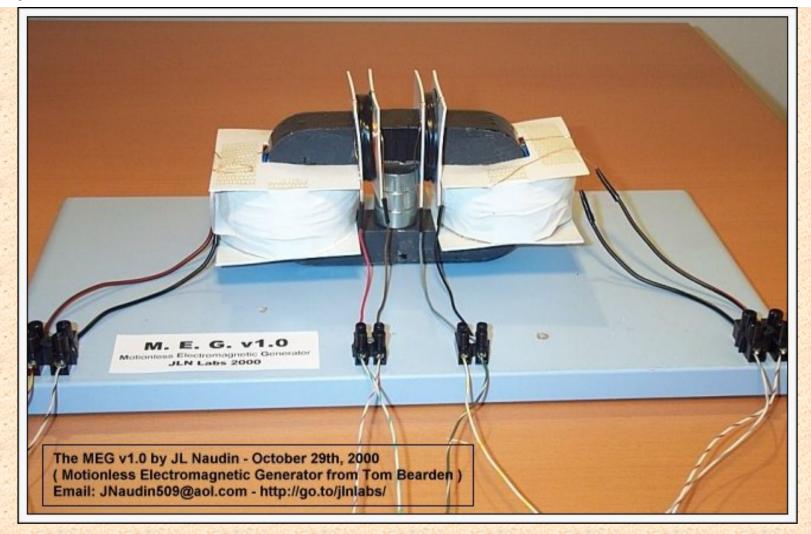
• NANOCRYSTALLINE SOFT MAGNETIC ALLOYS FOR APPLICATION IN ELECTRICAL AND ELECTRONIC DEVICES by V.R. Ramanan ABB-Electric Systems Technology Institute

# Nanocrystalline magnetic material suppliers:

- BFiOTiLAS: Magnetics Components: Softcores material
- MAGNETEC: Tape wound core based on the new nanocrystalline softmagnetic material called NANOPERM

# Interesting patents to explore which have some similarities or interesting characteristics:

- Electromagnetic switches by A.T.Starr (1957): US2802170
- Magnetic frequency changer by H.T.Mortimer (1959): US2883604
- Flux switching transformer by D.S Toffolo (1963): US3087108
- Transformer in combination with permanent magnet by C.S.Garron (1968): US3368141
- Electromagnetic generator by E.V. deRivas (1977): US4006401
- Electromagnetic convertor with stationary variable-reluctance members by F.B.Richardson (1978): US4077001
- Procedures and devices for energy production by H. Kunel (1982): DE3024814
- Energy converter having a magnetic-core intermediate store by W. Volkrodt (1986): DE3501076
- Magnetic Amplifier by D.Bramanti (1987): US4675615
- Apparatus for release of Magnetostatic Energy of permament magnets by A.Boday (1997): CA2172240
- Static magnet dynamo generating electromotive force based on changing flux density of an open magnetic path by A.Keiichiro (1999): US5926083



The MEG v1.0 build by JL Naudin - October 29th, 2000

See: The MEG v1.0 build by J-L Naudin, with diagrams and tests reports





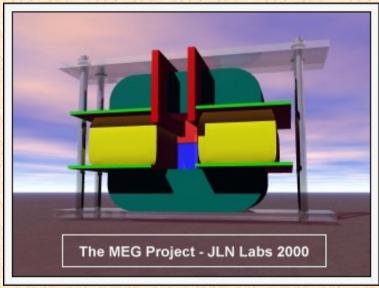
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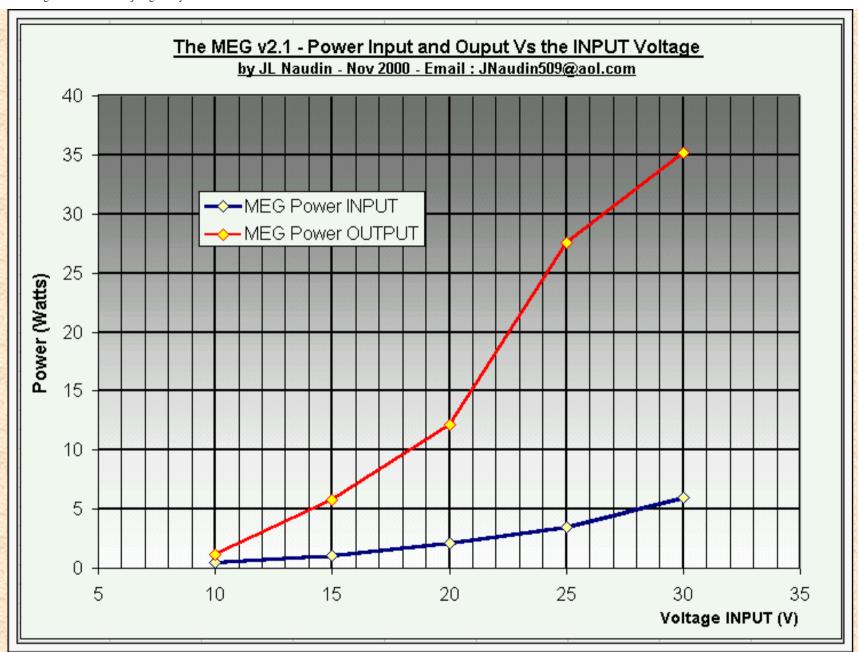
The Motionless Electromagnetic Generator Project

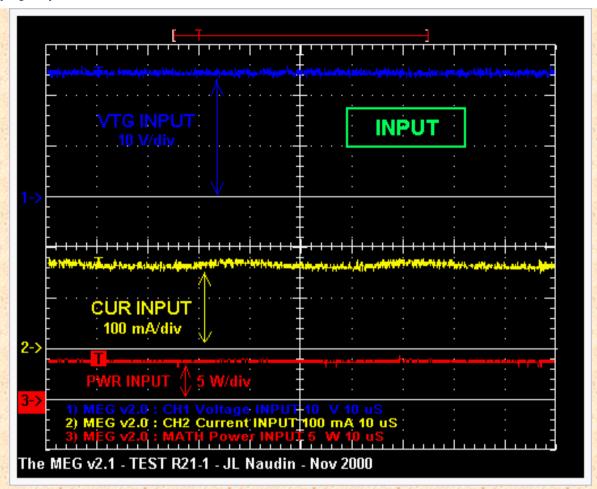
# The MEG Project

"...This one works beautifully and produces COP=5.0..." say Tom Bearden - (COP=5 is equal to an efficiency of 500%)

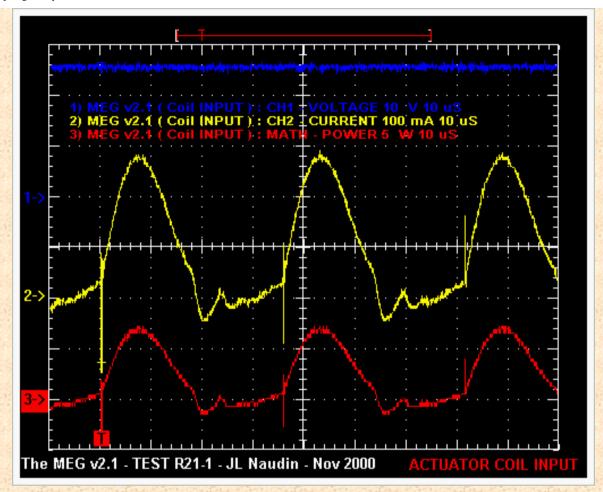
Created on 11-18-00 - JLN Labs - Last update 11-22-00

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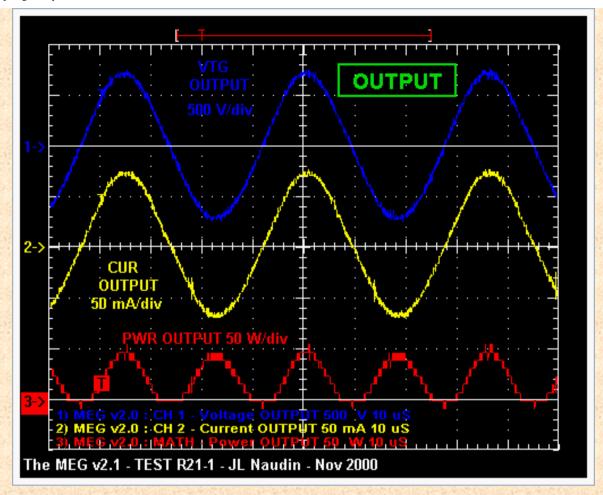




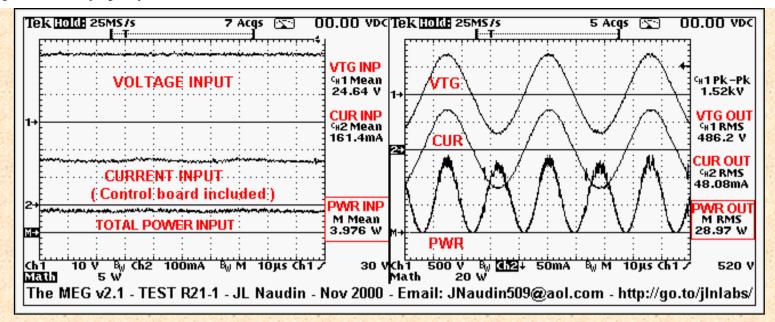
The TOTAL MEG INPUT at the DC input of the control board



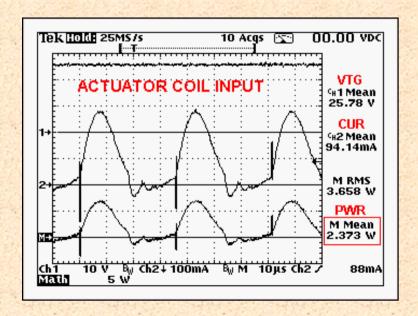
The ACTUATOR COIL INPUT (Primary coil)



Above: The MEG v2.1 OUTPUT (Secundary coil)



On the Left: The Voltage, the Current and the Power INPUT (measured at the DC input of the MEG control board)
On the Right: The Voltage, the Current and the Power OUTPUT

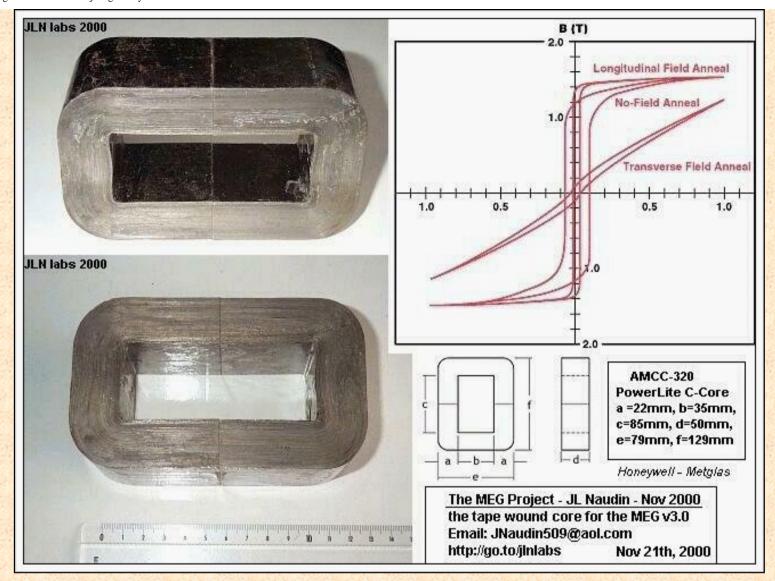


The ACTUATOR COIL INPUT

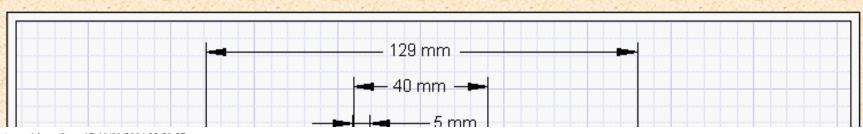
<u>Note from Jean-Louis Naudin</u>: The current has been measured with a 10 ohms ceramic and non inductive resistor ( with a Tektronix THS720P oscilloscope, the probe used is a 1/10 and scope setup for the CH2 is 1000mA/V), the same resistor and the same method of measurement has been used for input and also the output.

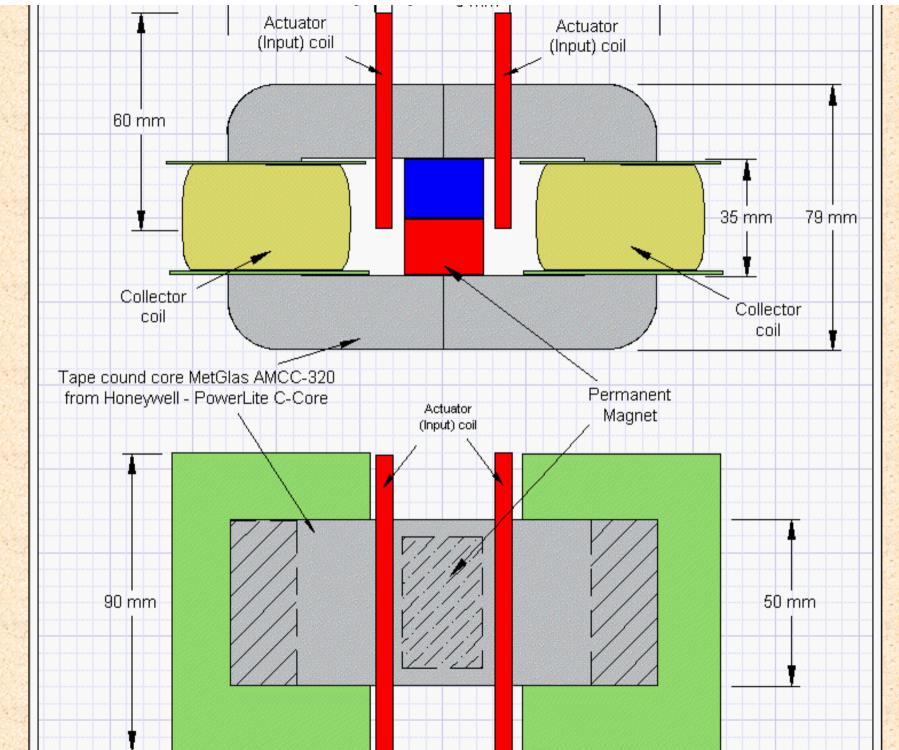


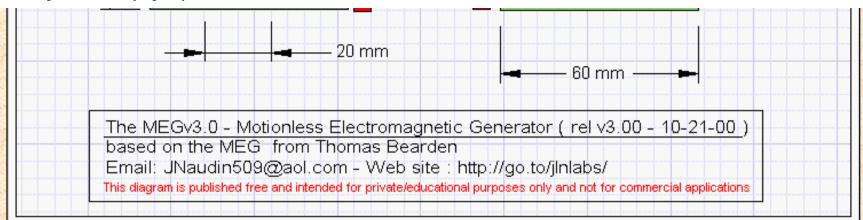
Above: The MEG v2.1 Input at the DC power supply

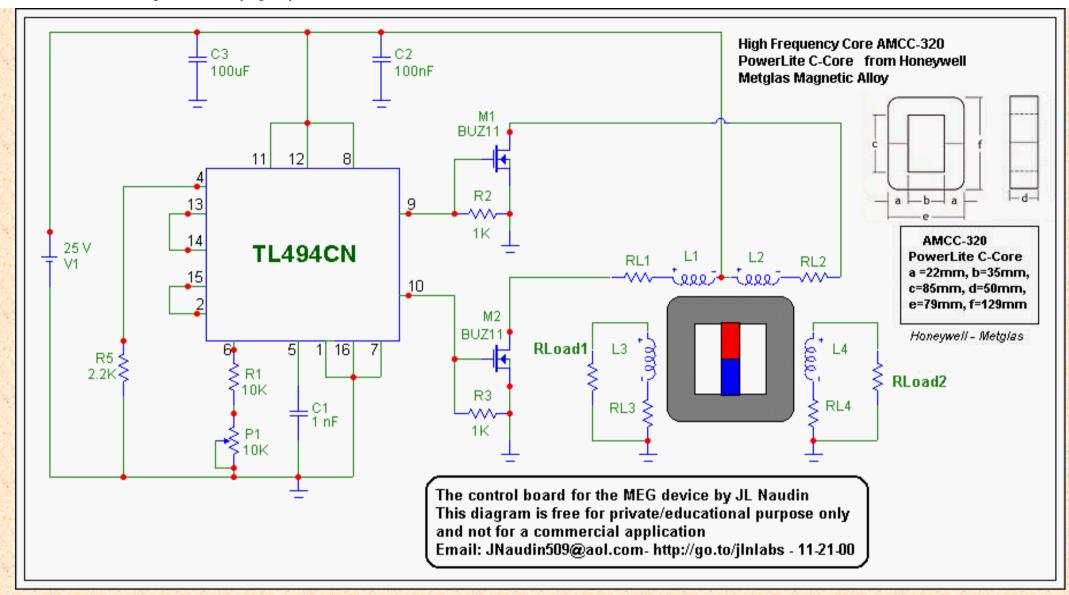


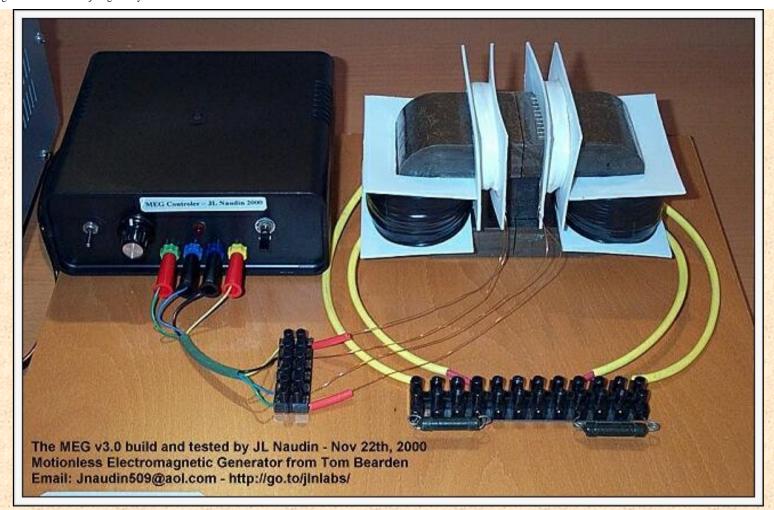
The PowerLite™ C-Cores ( Honeywell ) are manufactured with the METGLAS amorphous alloy.













#### **Technical datasheets:**

- The TL494, Pulse-Width-Modulation (Pwm) Control Circuit from Texas Instrument
- The BUZ11 MosFet N-Channel transistor from Intersil

#### See also the:

- Previous tests results about the MEG v2.0
- The Motional Electromagnetic Generator (MEG) from Thomas Bearden

## Interesting papers and documents about the project:

• The Motionless Electromagnetic Generator: Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum, a PDF document (69 pages 1,29 MB), explanations and tests results by T.E. Bearden

- Giant Negentropy from the Common Dipole By T. E. Bearden (PDF Format 86 KB)
- On Extracting Electromagnetic Energy from the Vacuum By T. E. Bearden (PDF Format 160 KB)

# Some technical infos:

# Fe-based Nanocrystalline Toroidal Core for Current Transformers:

<u>Characteristics</u>: Nanocrystalline alloy has similar features of high initial permeability and temperature stability, less gravity and packing factor than that of Permalloy. Under the same conditions of core size and performance, it is lighter (about 1/3 lighter) and cheaper than that of Permalloy.

#### Nanocrystalline Magnetic Core

<u>Characteristics</u>: High saturation magnetic induction (1.25T), high permeability, high inductance (ten times higher than that of ferrite), low loss, small volume, light in weight, high electric interference resistance, good frequency performance and high temperature stability.

## For more infos about the Nanocrystalline material see:

• NANOCRYSTALLINE SOFT MAGNETIC ALLOYS FOR APPLICATION IN ELECTRICAL AND ELECTRONIC DEVICES by V.R. Ramanan ABB-Electric Systems Technology Institute

### Magnetic material suppliers:

- The PowerLite<sup>TM</sup> C-Cores ( *Honeywell* ) are manufactured with the METGLAS amorphous alloy.
- BFiOTiLAS: Magnetics Components: Softcores material
- MAGNETEC: Tape wound core based on the new nanocrystalline softmagnetic material called NANOPERM

Dear All,
The MEG Project is really fascinating and I fully understand your excitationbut
Please, let me enough time to conduct all my tests and measurements carefully and quietly, these are online and realtime experiments that I am always glad to share with you
All tests results published are really observed and measured by the instruments that I use, but this doesn't mean that all measurements are the reflect of the reality, there are always some possible artefacts. Otherwise some apparently non-coventional effects observed may have a conventional explanation, and all this must be checked again and again. So, this is why I must keep the cool head for conducting my current researches on this fascinating MEG project.
Thank you very much for all your congratulations and your encouragements that you have sent to me, sorry if I am not able to answer to all your multiple technical questions by emails.
Today, I have decided to slow down a bit the public realtime sharing of tests results about the MEG project for preserving the time for conducting my researches quietly. I have now created a small restricted area for sharing the real-time tests results and diagrams which must be checked experimentaly. This area is dedicated to experimenters only which will able to conduct realtime tests and measurements results about this device. Justice and the scientific values and the will to share the knowledge with an open mind
He shall keep you informed about the MEG project through the original JNaudin web site
Best Regards <u>Jean-Louis Naudin</u> ( November 18th, 2000 )
Email : JNaudin509@aol.com





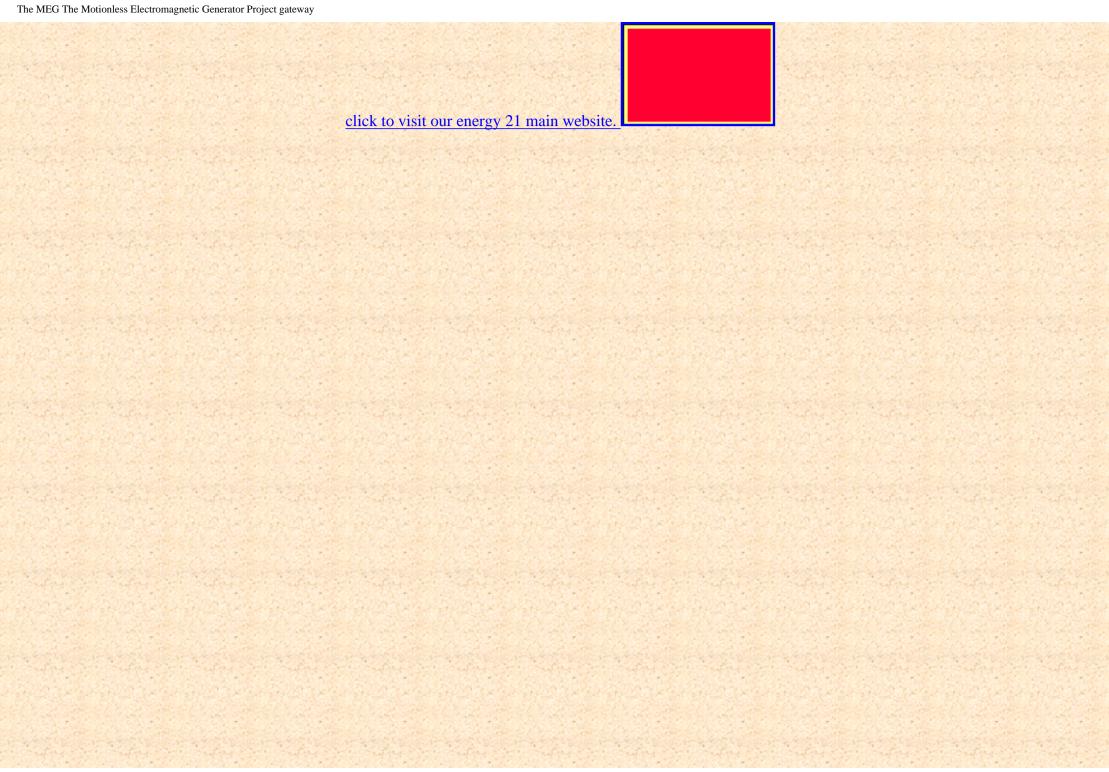
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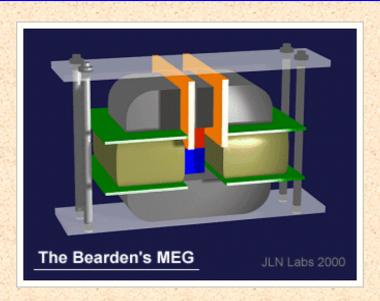
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# The Motionless Electromagnetic Generator Project

# The MEG v2.0 built by JL Naudin

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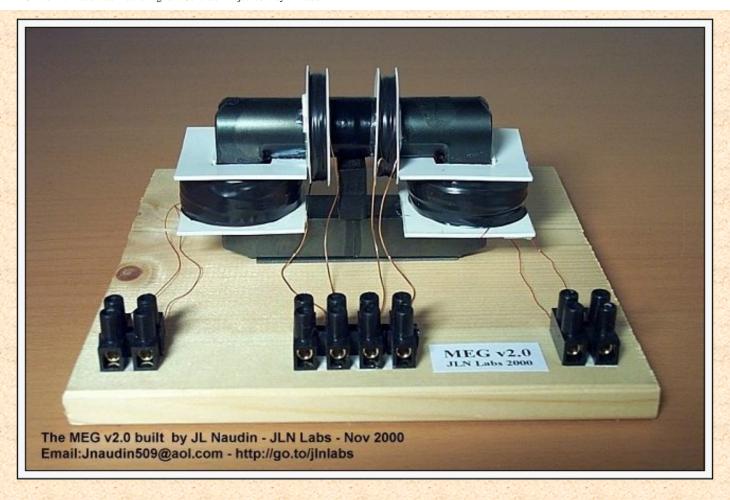


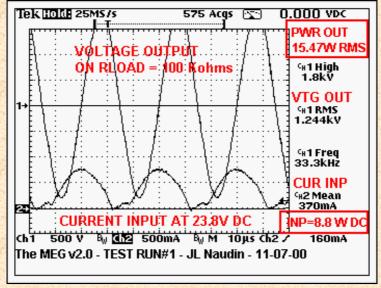
See the lastest tests results of MEG v2.1

The new tests on the enhanced MEG control board v2.0 are very encouraging because I have been able to reproduce the exact waves shapes used in the original Bearden's MEG presented in his technical paper: "The Motionless Electromagnetic Generator: Extracting Energy from a Permanent Magnet with Energy-Replenishing from the Active Vacuum," page 67...

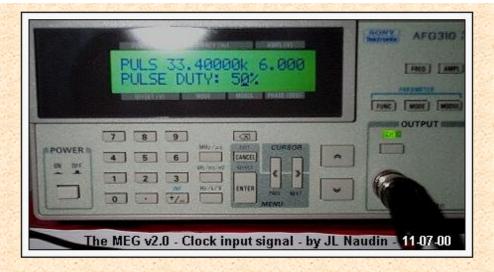
The new MEG control board v2.0 is now <u>fully in line with the original Bearden's MEG</u> comparing to <u>my previous</u> version (see the test of the v 1.0)....

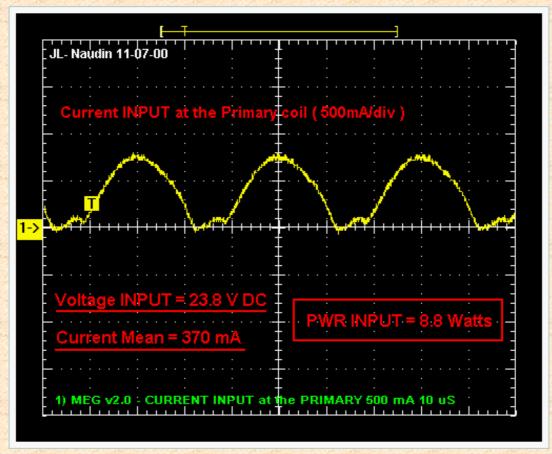
MEG v2.0 : TEST RUN#1 (11-07-00)

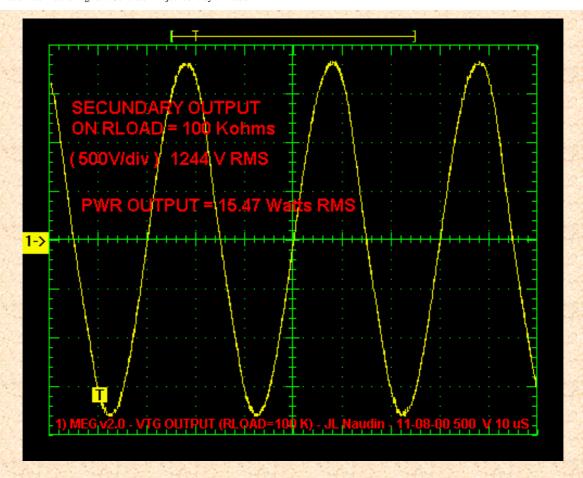








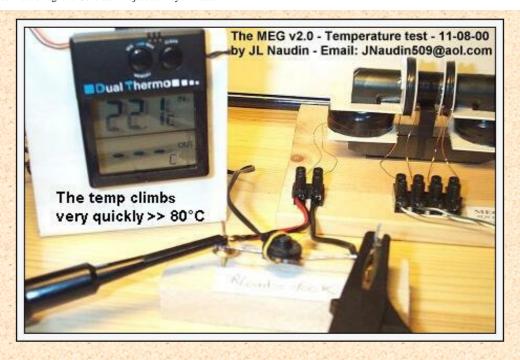




# The measured COP is 1.75

Additional Notes 11-08-00: After some tests about different MEG v2.0 setup, I have found that the Maximum power output can be obtained quickly by simply connecting one side of the secundary coil to ground. So, with one side of the output coil grounded, the COP reach its maximum instantaneously ( about 1.75 ) when the power is swichted on ( this avoid that the RLoad carbon resistor connected at the output begins too hot ).





<u>MEG Project update (11-13-00)</u>: I am trying to close the loop, but at this moment, I have not yet succeed in this way. There are many losses during the step-down phase of the output voltage and thus the device stops after a while...

<u>Important note (11-16-00)</u>: After many tests at long run period, the two secundary coils have been broken due to some sparks inside the windings generated by the presence of the High Voltage. Its seems that the High Voltage output climbs very quickly at a high value (> 3KV) at certain frequencies. So, be carefull if you do some tests. I am also currently searching for a Nanocrystalline tape wound core for the next version of the MEG v3.0.

See also:

Next tests results of the MEG v2.1

>Email: JNaudin509@aol.com





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# TESTAKICA: Some of the Questions around how the testatica may work.

The Author of this article Michael Barrie Smith

check out the webmasters original article on the swiss ml

There has been much controversy over what is the functions of the large cans and I was somewhere that the cans contained aluminium copper a insulator with a spiral copper conductor in the centre.

This reminded me of Tesla spiral transformer, after thinking about it for a while it cam to me.

What if all they are doing in the cans is causing stress in space time, and like a scalar wave receiver the transformer picks up stress if each coil has a different stress in either coil. Then nature causes current flow. Now because we are not taking energy by conduction between + and - the voltage of the stress field doesn't decrease.

This can be demonstrated by using a vandergraph generator and in the bottom drill a hole centre of the top ball. Place a well-insulated rod with a metal ball on it into the dead centre. Connect the bottom of the rod to a wire to a dc motor and place the other end of the motor to ground. Now cover the ball with plastic, This will hold a static charge, this is also to slow up leakage.

Now fire up the vandergraph generator the plastic will be sucked in first then it will be repelled. Then turn off the generator. The motor will be running flat out this will continue while there is stress on the little metal ball. If the plastic is not used, leakage to air would reduce the effect.

Now if the large vandergraph ball was insulated inside and out the D.C motor will run and run. This is because we are not depleting the stress and nature alway tries to equalise stress by current flow. Tesla knew this and he utilised this in his scalar wave weapon.

Tesla used one two or three transmitters and activated them so that were the stresses collided over the target. The inrush or outrush depending on the stress type (ie compression or expansion) this very large equalisation current into or out of, causes damage to the target. This is what I believe is used on the Testatica in the cans.

A stress is formed by compression in one can and expansion in the other now all we need is a low resistance path between them via our load. The function of the spirals is to tap this stress. The pulsing of the D.C. is caused by the stress increasing every time the brushes pick up more charge. The dimming is caused by leakages inside the cans.

Next the self driving part may be a combination of a small leakage across the very rim, now if metal segments on the front and back are out of synchronisation this means that we have a portion of current flow at right angles to the magnetic field. Now on each disc the current flows in the opposite direction this means the forces will be in the opposite direction. This is just using motor rules. Also the magnetic field is pulsed to enhance this effect.

The special diode the most intriguing part to me, we have seen magnets used to separate charges before, but the capacitive part I would say is quartz doped with copper and the inner and outer metals would be different. This would form a high power diode with a very large capacitance the magnet will hold the charges apart for longer helping increase transition time. This is what controls the pulsing.

#### Author

#### **Michael Barrie Smith**

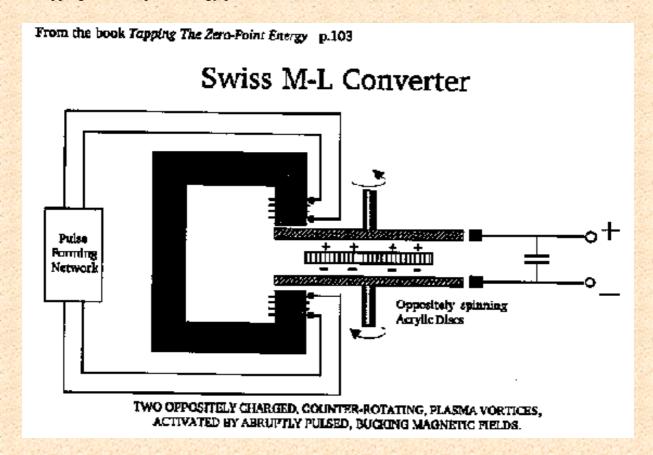
P.O Box 492

Ingham

Queensland

Australia

From the book Tapping the Zero point energy p.103



#### **Testatica**

#### References

56 L.L., P.H. Matthey, "The swiss ML Converter- A Masterpiece of Craftsmanship and Electronic Engineering," in H.A. Nieper, Revolution in technology, Medicine and Society, 'MIT Verlag, Odenburg (1985)

The Author describes a machine consisting of two oppositely charged, counter rotating, acrylic disks separted by a small insulating disk and activated by pulsed magnetic fields. Over 3 KW at 230 volts DC are extracted using brushes at edge of the disks.

Gravitational anomalies are also claimed (In the air gap between the disks are two counter-rotating, electrostatically and opositely charged plasma vortices.

Near the edge of the disks the votices are subject to abruptly pulsed, bucking magnetic fields which may orthorate the





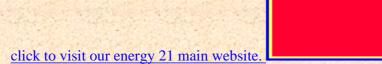
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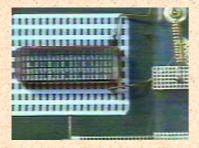


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#### DIELECTRIC ABSORPTION BLOCKS versus ELECTRET BLOCKS

The reason why I believe that the Testatika's horseshoe blocks are <u>not</u> ELECTRETS is that when you look at a similar configuration of blocks used in each top corner of Methernitha's Tini machine this machine's blocks give more of an indication that they are used as electron cascade generators to increase the amount of available electrons in the surrounding air that the generators can collect from, and I believe they are used on the Testatika in a similar way.

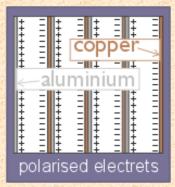


On the Tini there are three such assemblies of blocks of layered plastic (one on each top corner and one at bottom-center), they look as if they comprise of four or five clear plastic blocks stacked upon eachother, separated by thin metal sheets, and the whole assembly is then capped top and bottom by a flat metal plate to which a wire connection is made, which leads off to another part of the machine (see frame 31 on the left). On the Tini generators these block assemblies, especially the top corner ones, face outward to open unrestricted space and are ideally placed to

draw to them free electrons from the air. All that is needed then for the plastic blocks <sup>N1</sup> to create the electron cascades, or avalanches, is an alternating voltage which is readily supplied by the oscillating circuit of the Tini generator (see Electron Cascade and Electron Field Generator pages).

But, there are certain advantages to having electrets squeezed between the feet of the horseshoes as we shall see below. What, though, is an ELECTRET...

Basically its an insulator which has been polarised to retain an electric charge (likening it somewhat to how a permanent magnet holds magnetism) (see fig.2). The process of making an electret involves heating up a plastic material, applying a high tension electric field across it's two faces, and letting the plastic cool down (and solidifying again) only removing the high tension electric connection *after* the plastic has solidified. The high tension electric field polarises and orientates the molecular interfaces within the plastic (dielectric) and because the material is soft (or fluid) they readily align to the direction of the electric field; that's why the high tension has to be continued until the plastic has cooled down and solidified to lock the



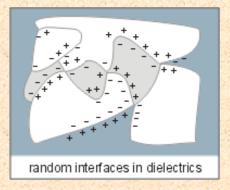
molecules in place. After the plastic has solidified it exhibits an electrical potential difference N2.

How to make an ELECTRET... There are two sets of instructions on how to make an electret that I know of but I'm sure there are more, one is the <u>original paper by the Japanese physicist M. Eguchi N3</u>, and the other is by C.L. Strong published in Scientific American N4. But a word of warning, in making electrets proper precautions are important; the process can be hazardous especially when the dielectric material is melted to its liquid form, for it looses its insulation resistance, and then the high tension electrizing process can become unpredictable and even explosive. The trick is to heat the plastic blocks until they are soft and then take the heat away (with ample experimentation first to observe how the

plastic reacts).

DIELECTRIC ABSORPTION is almost exactly the same although it is not so permanent an effect as that which the electret process produces. From the early days of electronics when research into insulators and dielectrics was almost as important as research into conductors, it was noted that dielectrics exhibited 'elastic stress' whereupon they would absorb amounts of electricity into their structure. This 'mystery' was subjected to many theories and much experimentation during the 1800's but it was James C. Maxwell N5 who came up with a mathematical formulae for it and the explanation that it resulted from charge accumulations on the interfaces separating regions of different components that make up the dielectric material itself.

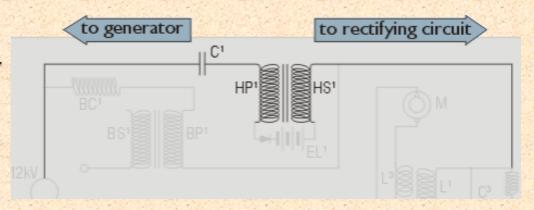
This 'interface polarisation' (as it is now called) is slow to react in a reversing electric field and this can be an advantage, especially if the effect is magnified N6, as I'm sure it has been and then utilised ingeniously within the circuit of the Testatika generator. For when each dielectric block has a current applied to it, it will polarise its structure of molecular interfaces with positive and negative charges (see fig.3), but when the applied current is reduced to nothing the positive charges tend to move so slowly that for all intents and purposes they remain stuck, and so when the next 'pulse' of electric charge comes in it compounds upon the previous unmoved charges,



and so on and so forth, hence the accumulative effect which carries on pumping more and more electric charge until the blocks become saturated. Once this occurs, and the alternating field is continued there is formed a highly mobile space-charge of electrons around the outer surface of the dielectric blocks, the mobility of which then triggers off the electron avalanche effect where, as Flanagan has evidenced, it accelerates the electrons in the air toward the dielectric blocks to such a high speed that they collide with other air molecules to knock off even more electrons. Hence they create a local ionisation of the surrounding air.

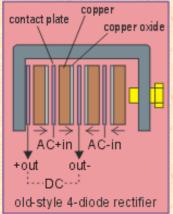
The HORSESHOES and why they are there... One problem in a Testatika type electric circuit is that there has to be sufficient isolation of the rotating discs' electrostatic field transfer system otherwise the whole thing will grind to a halt in a matter of seconds. Electrostatic influence machines do have a tendency to die if their charges are wrongly transferred (or not properly neutralised etc), and provision against this is very evident in the circuit assembly and connections shown in the photographs taken of the Testatikas (see circuit diagram).

This isolation can be achieved usually by one of two ways, either by capacitive couplings, or by inductive couplings in the Testatika it uses BOTH!



Firstly there is a conductive break in the form of capacitor C<sup>1</sup> (and for the return section C<sup>2</sup>), which will only be crossed by an alternating (or pulsed) current; and secondly there is a conductive break by the horseshoe coil windings (see fig.4), which are mutually coupled to eachother through induction (through the iron or mumetal of the horseshoe) but are <u>not</u> directly connected and will, again, only pass an alternating (or pulsed) current between them.

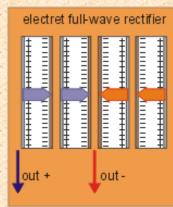
So, while these two factors provide the isolation needed, at the same time they ensure that an alternating (or pulsed) current can pass between the electrostatic generator and the oscillating, rectifying, and transforming parts of the circuit.

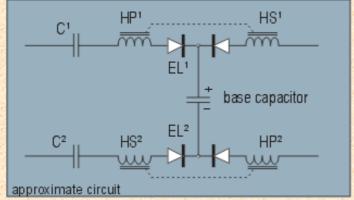


It should also be noted that there is another reason for the horseshoe magnets being placed where they are with, as you will have no doubt noticed, two coil windings of the same number of turns (so they cannot be used as transformers). For they are correctly placed to act also as mutually-coupled iron-cored inductors, to act as chokes to compliment the UPR (upright) chokes situated to each side of the back column, on the way to the rectifier, this is to inhibit the current flow so as to prevent current being unnecessarily discharged in the rectifying process.

But here, possibly, between the feet of the horseshoes are the main reasons for using electrets instead of plain uncharged plastic blocks. **One** - the four electrets in each horseshoe could be connected, all in the

same direction, just as a one-way diode to allow one-way current flow (ie HP¹ to HS¹ toward the rectifier; and rectifier to HP² to HS² and back to the generator): or **Two**, which is more likely, that the electrets are placed inside the horseshoe feet in a full-wave rectifier configuration (see fig.6) so as to allow conduction of both POSITIVE and NEGATIVE pulses to be directed into an auxiliary part of the circuit, namely the base storage capacitor. ECG¹ (EL¹) transferring charge to one terminal of the base capacitor and ECG² (EL²) transferring the opposite polarity to its other terminal so providing an accumulation of (DC) charge for its output terminals (see diagram below).





I suppose it would also make sense, while providing 'electrodes' for these electret blocks, as in the form of metal plates, that it would be advantageous to choose two such different metals so that when they touched they would pass current more easily in one direction than in the other. When the two are linked aluminium is positive while copper is negative - but it would be even better to use a zinc / copper combination (see Horseshoe Magnets

page) and moreover, zinc more readily gives off electrons from its surface.

#### NOTES:

N1 - The list of different 'plastic' materials to experiment with is extensive, aside from the usual plexiglas, perspex, acrylic, epoxy, and glasses, and teflon there is also; lucite, nylon, acetal, polycarbonate, pvc, abs, pet, uhmw pe, hdpe, polypropylene, peek, pes, pei, psu, ppo, ptfe, pvdf, asa, fep, ca, eva, pj, pp, psu, san, sb, to name but a few. All of which react differently when charged up, and all of which relate to the triboelectric charging principles - whereby some plastics are charged positive (donator) and some are negative (acceptor). For more information see "Handbook of Electrostatic Discharge Controls" by Bernard S. Matisoff (1986) pp16; "Understanding and Controlling Static Electricity" by G. Luttgens & M. Glor (1989) pp44; "Plastics for Electrical Insulation" by Paul F. Burns (1968) p50.

- N2 See "Electrostatics And its Applications" by A.D. Moore (1973) is a very well researched book on electrets (p122 130) and electrostatic machines; "Handbook of Electrostatic Processes" by Jen-Shih Chang (1995) pp509 on electrets.
- N3 The first person to make an electret was Mototaro Eguchi, see his "On the Permanent Electret" paper in "Philosophical Magazine" Vol 49 (1925) pp178.
- N4 "How to Make an Electret" by C.L. Strong in "Scientific American" Vol 203 (Nov 1960) p202 210 is a practical description of how to make an electret using carnauba wax.
- N5 "A Treatise on Electricity and Magnetism" by James C. Maxwell Vol 1 (1881) # 325 334. And see above for A.D. Moore (p122).
- **N6** See "Dielectrics" by P.J. Harrop (1972) p71 for dielectric absorption. Doping the dielectric with, for instance, paramagnetic particles will increase the amount of, and surface area of, the interfaces; which is one reason why their inclusion in a dielectric increases the ionising effect. But see the Patrick Flanagan Electron Field Generator page too.

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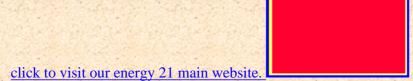
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On the Permanent Electret by Mototaro EGUCHI, Professor of Physics, Higher Naval College, Tokyo, Japan. From "Philosophical Magazine" Vol 49 (1925) pp178.

#### Introduction

"ELECTRET" is the name given to the dielectric which is electrized<sup>2</sup> permanently by a special treatment due to the author. Some waxes and resinous materials have moderate conductivity in their liquid state, while they are very good insulators in the solid state. The electrical conductivity of these materials varies gradually with the degree of solidification, and when the materials get moderately hard the conductivity becomes practically nil. The author let solidify a mixture of these materials in a strong electric field applied through all the time in which the solidification went on. The dielectric taken out of the field, after having been cooled sufficiently, showed very strong polarities on its two surfaces which were kept in contact with the electrode plates during the preparation. The electrization of such a dielectric could not he destroyed by several treatments, such as touching by Bunsen flame, exposure to X-rays, planing with knife, washing with some solvents, &c. Nor did it die away after the lapse of many years. From several subsequent studies, it has become evident that the electrical change of the dielectric is not of a superficial nature, but that it is a permanent internal change within the material.

The name "Permanent Electret" or simply " Electret" was given to the special dielectric at the ordinary meeting of the Physico-Mathematical Society of Japan, February 21, 1920³. Later, I found in Oliver Heaviside's 'Electrical Papers' the section with the title "Electrization and Electrification - Natural Electret" <sup>4</sup>. In this paper he proposed for the first time to use the term "Electret" to fill the want for describing an intrinsically electrized body, and some possibilities of electrets were discussed on the theoretical point of view. The present method of preparation was, [p179] however, obtained independently and also in a way utterly different from his discussions.

The electret shows so great an intensity of electrization that the electric force exerted in front of the surface of the electret may attain the greatest sustainable value in the atmosphere. The permanency is also so good that we have detected no sensible decaying for these three or more years since the preparation.

#### **Ch.1 - Preparation of the Permanently Electrized Dielectric**

From the study of the variation of conductivity with the solidification of waxes and some other materials<sup>5</sup>, I came to think it possible to get a permanently electrified or more correctly electrized dielectric by allowing some kind of waxes to solidify in a strong electric field. After many trials, it has been ascertained that the disk-shaped electret of a certain size is one of the most convenient forms for several reasons, except for the cases in which special studies are wanted. The method of preparation of the disk-electret is, therefore, briefly described here.

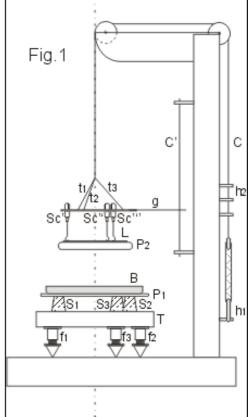
A shallow circular metal basin B (fig. 1), depth 1 cm., diameter 20 cm., is put on a pole-plate

 $P_1$ , a little larger in diameter than the basin. The plate itself is placed on three sulphur insulators  $S_1$ ,  $S_2$ ,  $S_3$ , which are laid on a wooden tripod stand T capable of levelling by the three screws  $f_1$ ,  $f_2$ ,  $f_3$ .

As the other electrode, a hollow metal disk  $P_2$  is suspended by three insulating cords,  $t_1$ ,  $t_2$ ,  $t_3$ . These cords are made of Japanese fishing-lines, Tegusu (a kind of thick silk thread), whose surfaces have been treated with a mixture of some waxes and resin to get rid of the surface leakage. The basin and the disk-electrode are coated with tin-foils (not shown in the figure). The lead sheet L is used as a weight to cause the foil tightly to attach itself to the disk. As the preparatory adjustment, the levelling of the basin B is first effected by three screws  $f_1$ ,  $f_2$ ,  $f_3$ ; secondly, the hook at the end of the cord C is transferred from the arrester  $h_1$  to another  $h_2$ , and the plate  $P_2$  is so regulated by three screws Sc', Sc'', Sc''' that its lower surface comes [p180] just up to the margin of B. Another cord C' stretched through a hole perforated near the end of the guider g serves to prevent the oscillation of the electrode  $P_2$ .

After raising the disk-electrode  $P_2$  up to a sufficient height, the material melted at a temperature far above its melting-point (about 130° C.) is poured in to fill up the basin B, and then  $P_2$  is put on the melted dielectric so that it rests just on the surface of the dielectric. The air bubbles, if any, on the surface of the melted material may [p181] be easily taken off by touching with a small Bunsen flame.

Care was taken to adjust the voltage of the high tension source in order to prevent any undesirable effect such as brush discharges between the electrodes along the surface of the dielectric when it solidified partially. Tin-foils were applied on the electrodes, so that not only did the dielectric not adhere directly to the metal surface, but it might also contract freely as it cooled, and when the dielectric solidified completely the disk-shaped material might be easily taken off from the basin. Moreover, with the disk-electret thus obtained, both surfaces upper (Up) and lower (Lo) might be studied at will.



Ch.2 - The Charge of Temporary Nature and the Permanent Electrization of the Electret.

As the material for the permanent electret, a mixture consisting of equal parts of carnauba-wax and resin with or without a certain amount of bees'-wax was found to be very good as regards the intensity of electrization and the permanency. If we prepare a disk-electret of this material, joining for instance the upper surface (Up) to the positive pole of the high tension source, and the lower surface (Lo) to the negative, we first detect in general a surface charge of negative sign on the upper surface, and one of positive sign on the lower, soon after we take the electret out of the preparing arrangement. But these kinds of charges are of temporary nature, and they die away gradually, in a comparatively short time (in one or two days). After the complete decay of such charges, the surface charges of opposite signs respectively to the above gradually grow up. The positive charge on the upper surface and the negative on the lower, which are respectively of the same signs as those of the applied poles of the source during the preparation, tend to grow to their ultimate values in a few days. The manner of growth of these charges on both surfaces and their values do not vary much even when the method of preparation is modified in some way: for example, when both electrodes are completely insulated from the earth, or when either one of the electrodes is completely earthed and the other insulated. The permanency of these charges is so good that we cannot detect any

sensible decay after many years. We shall call these surface charges of the electret the free charges due to its proper electrization.

- <sup>1</sup> Communicated by the Author.
- <sup>2</sup> The term "Electrization" is used after Heaviside to signify the internal electrical change of a material, which is different from superficial electrification.
- <sup>3</sup> Mototaro Eguchi, Phys.-Math. Soc. Japan, ser. 3, vol. ii. no.7(1920).
- <sup>4</sup> Oliver Heaviside, 'Electrical Papers,' vol, i. # xii.
- <sup>5</sup> Mototaro Eguchi, Phys.-Math. Soc. Japan, ser. 3, vol.i. nos. 10-11 (1919).

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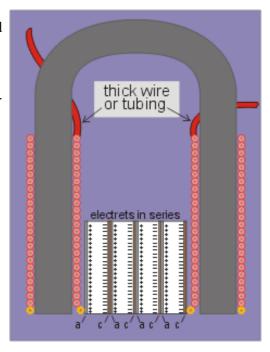
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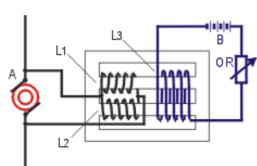
Another possible purpose for the horseshoe configuration, especially if the plastic blocks are indeed ELECTRETS might be to reduce the impedance of the wiring coiled around the horseshoe legs, which would of course improve the current output.

Yet another possible reaction might be to **double** the oscillating frequency of the rectifier section of the circuit, particularly as there can be seen on some of the photographs of the Testatika machines a coil (or two coils) of different coloured wire around the horseshoe legs <u>at the very bottom</u> of the coilings of red wire, and these coilings would be connected to the outer plates of the plastic-blocks / electret setup for just such a mechanism (using the DC voltage from the electret) to operate (see fig.1 and the circuits below).

The thick wiring seen around the horseshoe, and at other places in the circuit is normal for high-voltage high-frequency circuits, whereby the electric current moves on the outer surface of the wire rather inside it. This 'skin effect' is counteracted by the use of multi-strand "Litz" wire or by using thick tubing (of 1/8" or 3mm dia).

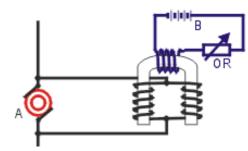
Suitable parallels to Methernitha's electronic principles, as can be seen from the circuit layouts included below, belong to a by-gone era of experimental radio electronics.

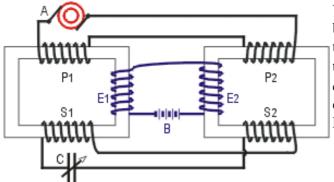




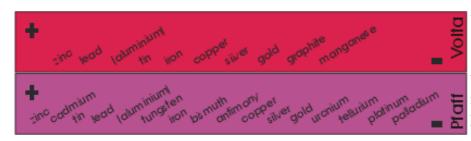
One of the techniques used in the early days of radio was a magnetic amplifier, to reduce the impedance of the coil-windings, to thereby increase the CURRENT in the circuit. The two coils  $L^1$  and  $L^2$  are wound in PARALLEL over the iron core and shunted across an oscillating current A. Coil  $L^3$  is connected to a DC source and regulated by resistance OR. The increase in current, using fairly simple circuitry, was 400%. ("Radio Telephony" Alfred N. Goldsmith (1918) p195-7; and see "Magnetic-Amplifier Circuits" William A Geyger (1954) p82)

A very similar circuit was discovered which doubled or trebled the original frequency when a coil of DC current controlled the transformer core; to prevent the frequency increase but still control the original circuit a reactance coil is coupled to either the primary or the secondary. (From "Increasing Frequency by Static Transformers" by S.M. Powell in "The Electrical Review" Vol 73 Aug 29 (1913) p823)





Various effects can be had from inserting a capacitor between two transformers. In this case, which resembles the Methernitha set-up, the coils are wound in such a way that the DC winding ( $E^1$  &  $E^2$ ) joins the two primary currents ( $P^1$  &  $P^2$ ) which lag  $180^\circ$  apart, and effectively doubles the frequency ("Radio Frequency Changers" by A. N. Goldsmith in "Proceedings of IRE" Vol 3 (1915) p74/5).



#### Volta's contact law

When differing metals are brought into contact (dry) a difference of potentials exists between them.

The metals to the left exhibit positive potential when touched by any of the metals to the right in both the lists above (ie in a combination of copper/zinc - zinc would be positive, copper negative. Also, the pd between lead and gold would be greater than between iron and copper). For the voltage effect between two metals to be at its highest the surfaces of the metals must be smooth and clean (preferably cleaned with fine emery cloth) (also see "Electronic Influence Machines" by John Gray (1903) p191 and p201 about zinc / copper combinations and proportionally increasing voltages).

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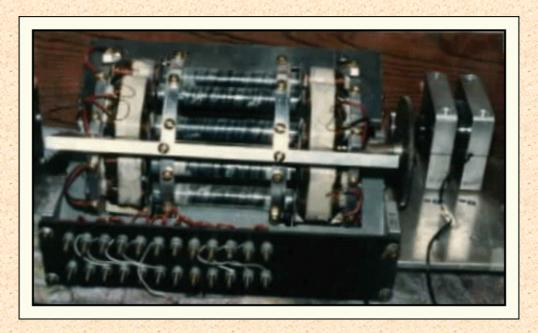


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### THE INTERFERENCE DISK ELECTRIC GENERATOR

#### Email Alan L Francoeur



# schematic diagram blue prints more photographs

This device is described in a non-technical format so anyone can understand the concepts, it is an improved version of the Ecklin generators. It seemed logical to me that to produce electricity more efficiently the design of the generator had to be altered to rotate less internal mass with a balanced rotor disc. At the same time it has to allow for a collapsing magnetic field within the coils without rotating the magnets or the coils.

Using more powerful neodymium magnets and amorphous coils, I designed the system in such a way as to allow the flux to circulate in a magnetic loop while incorporating magnetic shielding. I performed some simple experiments with magnetic shielding using iron strips, ceramic magnets and small transformers. I positioned the magnets and the transformer stationary opposite of each other with an air gap between the magnet and the transformer.

Once the apparatus was assembled I proceeded to move the metal strips in and out of the air gap between the magnet and the transformer which has produced an AC pulse in the stationary coil. Using this principal and refining the design I built a mechanical device incorporating magnetic shielding into the design. I named it the Interference Disc Generator being that the metallic thin iron disc interrupted the magnetic field in the air gap (neutral zone) between the coils and magnets.

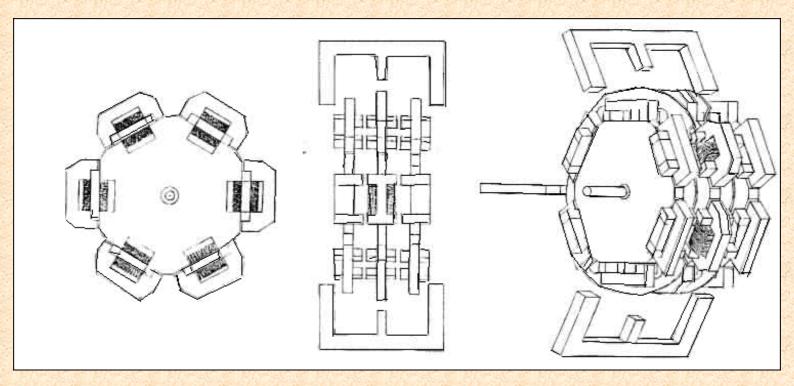
This method is unique in that it produces electricity with greater efficiency due to both the magnets and coils being stationary, brushes and a commutator in this design are not needed and it requires very little startup torque. The first of this concept came to me in 1985 in Yellowknife NWT as I worked in the mining industry.

I worked part time in a machine shop in Calgary Alberta in the summer of 1986, this is where I built the components and tested the first Interference Disk Generator. With this information released you will see a schematic diagram blue prints of the first generator prototype with numbers corresponding to parts.

You will also see <u>high quality photos</u> of the actual machines during several stages of development and the original description. There is enough information to replicate the device and to improve upon it.

I have also replicated the Gary W. Wesley permanent magnet motor from 1879, the magnet motor does seem to produce over unity but it is not connected as a self-runner yet. The neutral zone that Gary W. Wesley talked about is real and it does by pass back EMF. I felt it is worthy of reproducing this interesting device for it is related to the Interference Disc Generator that I constructed many years ago, which also by passes the back EMF.

The reproduction of the Gary W. Wesley permanent motor that I have constructed is not exactly the same, for I used two large very powerful neodymium horseshoe magnets that are incorporated into the design. The principal is simular and it does show very interesting results regarding balancing of the Interference shield, this is what contributes to the apparent overunity results. There are no field coils in the design of the reproduced Gary W. Wesley permanent magnet motor.

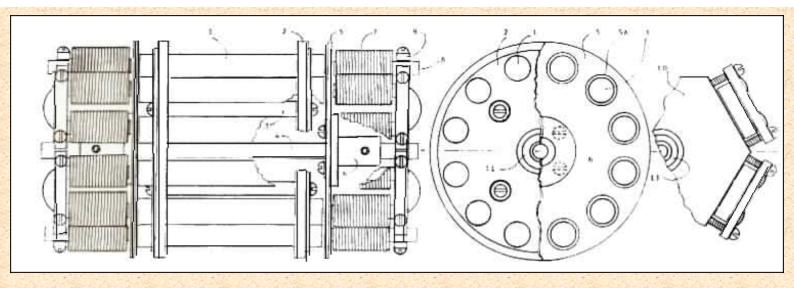


#### SCHEDULE "A"

#### GENERAL DESCRIPTION OF THE

#### INTERFERENCE DISC GENERATOR

The Interference Disc electrical generator is made of a stator (114) consisting of an array of even number parallel mounted bar magnets (112) arranged and supported (114) in a circular fashion equidistant from each other, where the polarity of the magnets (112) are alternating when viewed at either end.



#### schematic diagram blue prints

Also in the stator (102) there are twice the number of coils (111) as bar magnets (112) wound in pairs on U-shaped cores (110). One half of the coil pairs mounted at one end of the bar magnets (112) in the same circular fashion, each corresponding to and aligned opposite to a pair of bar magnets (112) and separated from it by an air gap. On the other end of this pair of bar magnets (112) there are another set of coils (111) aligned likewise.

\*The rotor is made of two magnetically susceptible circular plates (109A or 109B) (such as iron or steel) centrally mounted on an axle (107) which is in respect to the array of magnets and coils.

The interference discs (109A or 109B) are separated from each other such that they can rotate in the air gaps between the magnets (112) and the coils (111). The interference discs (109A or 109B) have a number of equidistant opening, either more or less in number than the number of the bar magnets (112).

The arrangement and size of the openings are such that when the discs (109A or 109B) are rotated by an outside motive force, they open the magnetic field between adjacent bar magnets (112), and the opposing coils (111) at both ends of the stator (114) simultaneously, hence inducing an alternating electric current in the coils (111).

By opening and closing the magnetic influx to the core (110) of the coils (111), an alternating current will be generated in the coils (111) in a retro-order to the rotational direction of the interference discs (109A or 109B). Depending on the number of magnet-coil assemblies three phase AC current can be obtained. The regulation and attenuation of these currents can be achieved by known electric engineering methods.

#### OPTION I AND OPTION II ASSEMBLIES.

A variation of this option I or option II generator has been constructed by mounting two sets of magnets (113) of the stator (115) on magnetically susceptible rings (119) such as soft iron. The polarity of the neighboring magnets (113) are alternating N, S, N, S, etc.

Adjacent to one ring of the magnets and separated by an air gap are parallel mounted induction coils (111A) corresponding to and aligned with the magnets (113). On the other end of the coils, (111A) are an identical set of magnets (113) arranged in the same manner as the first set, but the polarity is reversed in respect to the coil (111A). Thus if on one of the end plates (123) the magnetic pole facing the coil (111A) is the (N) pole than on the opposite end plate (123A) the (S) pole will face the coil (111A).

The rotor (109A or 109B) and it's configuration is the same as in the first variant (see\*), and the induction of AC current, occurring in the same manner and in the same order as described before. This assembly can be constructed in any practical multiple units of the above (123A).

Some of the unique characteristics of this design are:

- 0. Non rotating magnets.
- 0. Non rotating coils.
- 0. No need for brushes or commutator.
- 0. Less rotating mass due to the field coils and magnetic alloys being stationary
- 1. No back emf is noted upon the spinning balanced interference disc while the coils are loaded.

Take a look at the drawings provided, look at the interference disc, one has 11 fins, and the other has 10. I tested a disc with 12 fins, (the same number of magnets) but it had a large static hold on it. I also tested a 10 fin disc with improved results that lead to a reduction of energy input, but the 11 fin disc proved to reduce the drag on the drive motor the most. Using the 10 or 11 fin disc the apparatus needed very little start up torque to rotate the discs. Magnetic balancing of the disc does reduce start up torque on the rotor disc regardless of the number of poles on the disc so long as it is less than the number of magnet poles.

Each and every time I changed the disc on the generator it involved a complete dismantle and reassemble to continue the experiments. The horse shoe coil shape was chosen because it provided an easy flow for the magnetic flux and it fit the overall design very well. Using amorphous alloys instead of soft iron in the coils made for a higher efficient coil with less hysteresis losses and with no heat buildup in the coils.

I used 14 gauge magnet wire to wind the early coils and I wound several of the coils with approx. 100 to 250 turns of wire, 4 coils with 250 turns of wire each. Four coils with 100 turns each, and the other 4 were used for experimenting with other combinations, there are 12 coils in the early machine and 6 larger (letter I shape) coils in the latest machine. The coils in the larger machine were wound with #12 gauge wire.

The efficiency of the unit would vary greatly depending on the speed of rotation, the width of the air gap, the strength of the magnets, and the materials used to construct the coils. I used nickel base amorphous met glass in the coils in both the smaller and larger machines. The efficiency of the machine is inconclusive because my funding was depleted during the testing stage, this has shelved the machine until a later date when I can restore funding to complete the development of this Interference disc generator concept. However I publicize my work in this machine so as to help in your progress and or to give you ideas to advance your projects.

The Interference Discs Generators in this document has the potential to produce over unity. Refining the device with tighter tolerances and correctly selected materials and incorporating internal magnetic balancing will add to the success of this unique generator design.

Less energy is needed to spin the rotor while causing a moving magnetic field in the coils, it is easy to visualize the advantages this design has over conventional generators and motors.

The interference discs will need to be constructed stronger while using rare earth neodymium magnets high permeability steel would be a good choice. Using high permeability steel will reduce the warp in the interference discs allowing for a smaller air gap between the magnets and the coils. I also suggest constructing several layers of metglass shielding material (laminated amorphous alloys) pressed together with very strong epoxy resins. Using amorphous alloys in the interference discs will produce superior magnetic shielding with almost zero hysteresis. The flanges have to be constructed to support the discs and to eliminate the warpage in the disc, at the same being small enough to fit the design and keeping the mass in the rotor/discs to a minimum. Doing these few improvements will equal to a big increase in electrical output and improved efficiency.

The characteristics of using the 11 finned disc to balance the rotor disc will have the same effect of reducing start up torque regardless of the type of magnetic material used. The use of high powered rare earth neodymium magnets produces greater amperage output, and increased stress upon the interference discs due to stronger magnetic fields pulling on the discs.

Remember to use high permeability high strength steel as the metal of choice for constructing the discs for durability and closer tolerances and less cost. Amorphous metglass shielding material will give you the best

results for this application but with an increased cost.

There is plenty of room for improvement in this design while the operating principal remains the same. Looking at the photographs included you will see that the 1st generator frame is constructed mainly from aluminum. This metal was used only because it was an inexpensive material and easy to work with for the first test generator.

Non magnetic and non-conductive materials should be used to construct the generator frame supports to eliminate the eddy currents. Many of the nuts and bolts used to hold the generator together can be eliminated for they were used just to hold it together for testing.

I am sure that you could come up with some real good ideas and improvements of your own with this concept. If you do I would sure like to know so we could all benefit from them.

Many improvements were adopted in the next much larger #2 version of the Interference Disc Generator. Phanolic material (non conductive and non magnetic) were used in the frame supporting the magnets and the coils thus eliminating eddy current losses within the frame support.

Large aluminum  ${\rm E}$  bars were used to support the magnet frame support and the coil frame support with no noticeable eddy current losses. The aluminum used is positioned further away from the coils and magnets in the larger generator so as not to be affected by the magnets. Much larger neodymium magnets and larger I shaped transformer coils were tested in the larger unit that has an increase in output power over the 1<sup>st</sup> machine.

Using the more powerful neodymium magnets created some problems with the interference discs. Not only did they warp the discs they caused them to vibrate and chatter causing the fins to hit the magnets and the coils. I increased the air gap to over half an inch and moved the disc further away from the magnets to prevent damage.

The effect was a reduction of magnetic flux reaching the coils that reduced the power output. The discs must be constructed much stronger and rigid if using neodymium magnet grade 35 or greater. After this has been done the air gap can be closed so more magnetic flux will reach the coils allowing for a greater electrical output.

The wiring circuit can be constructed by known engineering methods to rectify the output current, as well the coils are stationary which makes it easy to harness AC power directly from the coils without brushes. The coils can be wired in series or parallel so long as they are in phase, the number of the poles on the interference disc determines the phasing of the coils.

Financing had been exsausted with the development of the two Interference Discs Generators. I have over 35 thousand dollars in the development of the generator concept up to this point since 1985-86. I decided to write this report and release the knowledge to the public in the hopes that others will replicated the machine for the advancement of overunity systems.

Any one is free to develop and use this technology for the benefit of all in need. I have covered a lot of ground and research in developing the Interference Disc Generator thus far, including replicating the Gary W. Wesley permanent magnet motor. A lot of the home work has been done for you, but more work and refining is needed to perfect the Interference Disc Generator for the ultimate goal of producing an overunity self regenerating permanent magnet machine.

I have several machines on the go and I can only complete one at a time, this release is so others can make a contribution to the cause and have a starting point of where I left off with this machine if you choose. I hope this will help you on your quest in reducing your dependency on the grid one way or the other, whether your reproduce the concept or it stimulates even better ideas in your mind.

I wish you good fortune and success in developing your own Interference Disc Generator if you chose to take on this challenge. Take what you have learned in this report to your advantage and build your machine at less cost than the authors price tag.

I would like to thank my wife Jan and family for their patience and support with the development of all my machines (Inventions) and vapor carburetors to date.

#### Best regards and a bright future to you all

**Email Alan L Francoeur** 

Research/Inventor

Penticton, BC. Canada

schematic diagram blue prints
Photographs





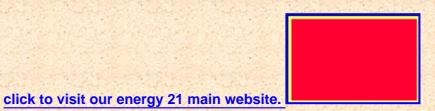
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#### GENERAL DESCRIPTION OF THE INTERFERENCE DISC GENERATOR

main description page photographs

#### SCHEDULE "A"

**GENERAL DESCRIPTION OF THE** 

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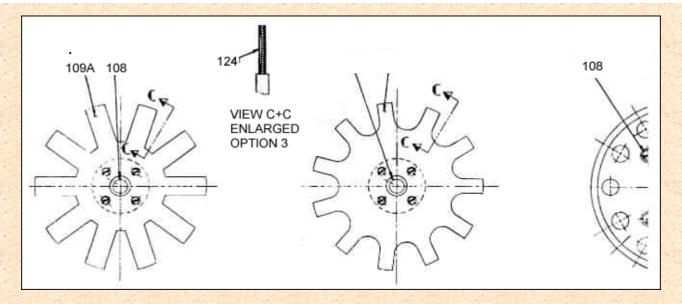
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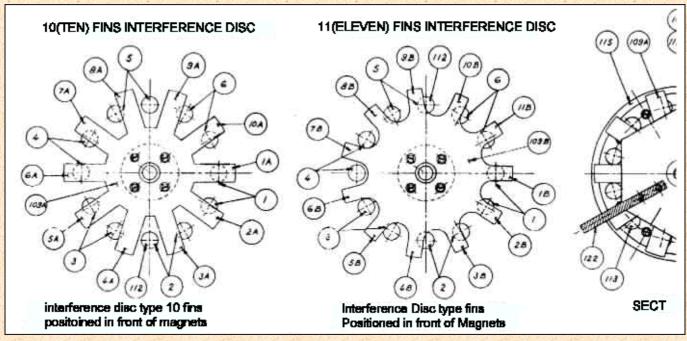
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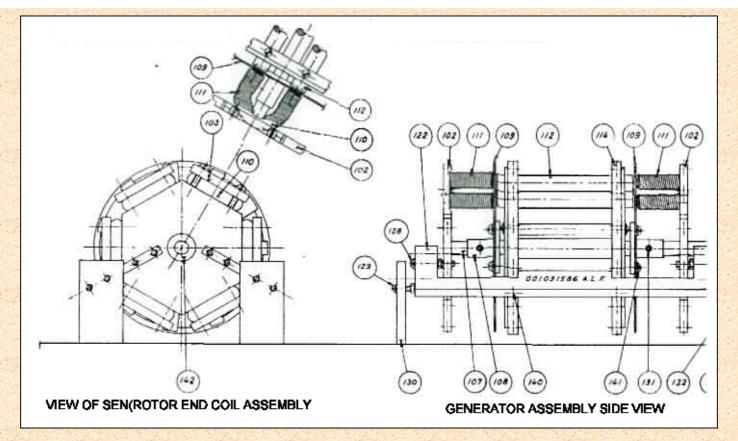
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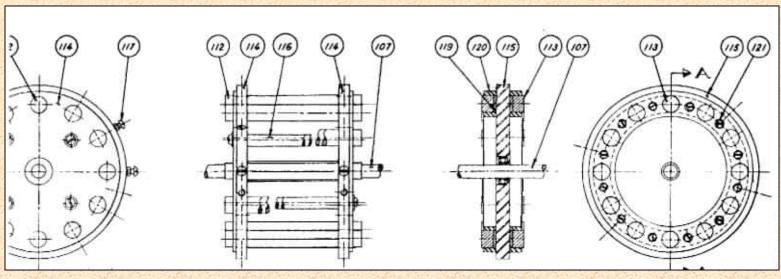
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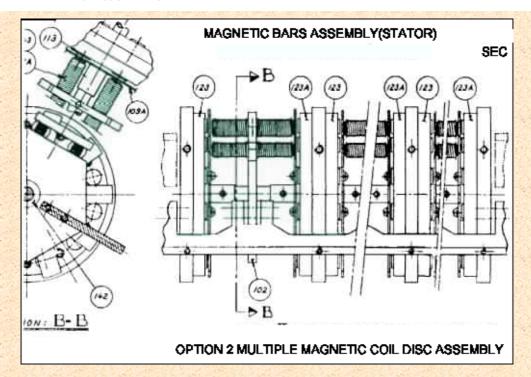
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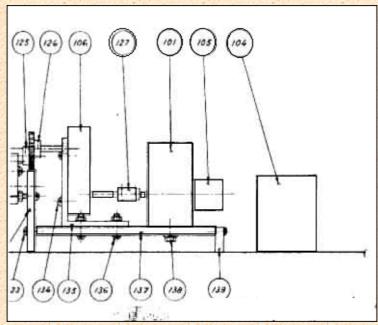












143	36	STRAIGHT BAR METGLASS CORE	METGLASS
142	8	LOW RESISTANCE BEARING	MAGNETIC
141	a	SCREW & LOCKWASHER	/DEM
140	4	SCREW & LOCKWASHER	IDEM
133	2	HOTORBASEPLATE LEG	1.D.E.M
138	2	HET. BOLT & LOCK WASHER	IDEH
137	7	HOTOR BASEPLATE	1DEM
136	4	SCREW, NUT \$ LOCKWASHER	1227
135	V	SEARBOX MOUNTING BRACKET	/DEM
134	4	SCREW & LOCKWASHER	IDEM
133	6	SCREW & LOCKWASHER	IDEM
/32	2	GENERATOR FRAME FRONTLEG	IDEM
/3/	2	KEY & LOCK WASHER	IDEM

/3/	2	KEY & LOCK WASHER	IDEM
130	2	SENERATOR FRAME REARLEG	IDEM
123	8	SCREW, WASHER & NUT	IDEM
128	8	SCREW, WASHER F NUT	101 M
/27	1	COUPLING	106H
126	7	SEARBOY SHAFT DEAR	784H
125	1	GENERATOR SHAFT GEAR	IDEM
124	21	IMPROVED INTERFERENCE DISC FIN	MAGNETIC
123A	3	HAGNETIC RING ASSEMBLY	VARIES
123	d	MAGNETIC RING ASSEMBLY	VARIES
122	2	GENERATOR FRAME	MAGNETIC
/2/	72	SCREW & LOCKWASHER	IDEM
120	6	MAGNET BLOCKS WOLDING RING	128H
118	6	MAGNETIC IRON RING	HAS VETTO
118		SCREWE LOCKWASHER	Hay is
117	24	SCREW & NUT	MAGNETH
1/6	4	REINFORCED TIEBARS	IDEM
115	4	MASHET BLOCKS MOLDING PLATE	IDEM
114	2	MASHET BARS HOLDING PLATE	IDAM
113	72	HIGH STRENGTH PERMANENT MAGNETS	NEOD - CO
112	12	HIGH STRENGTH PERMANENT MAGNETS	. Arr
17.74	72	COIL WOUNDED - ON STRAIGHT BAR METS, CORE	MASHETIC MAT'S
111	12	COIL WOUNDED - 22 GAGE ON U-SHAPED CORE	/DEM
110	12	U- SHAPED METGLASS COIL CORES	METOLAS
098	1	INTERFERENCE DISC-IIFINS	HARMETIC
034	1	INTERFERENCE BISC-10 FINS	IDEM
09	2	INTERERENCE DIEG	IDEM
108	Z	DISCBUSNING	IDEM
107	1	GENERATOR SHAFT	MAGMETIC
106	1	GEARBOX	ALLUM.
105	1	D.C. MOTOR, IZVOLT	ALLUM.
104	1	D.C. BATTERY	NISH POWE
103	12	COILCLAMP	HARNETIC
102	2	COILHOLDER PLATE	IDEM
101	1	MOTORMOUNT	ALLUM.
TEM !	DUANT	DESCRIPTION	MATIL
RAW	N BY	A. DE SWART DATED : MAKE	H 12-1987
COMP	ANY	: DRWG.NO.	4-0001
		COEUR GENERATOR	E; KA. SHT. I OF)

main description page photographs

**Email Alan L Francoeur** 

Research/Inventor

#### Penticton, BC. Canada







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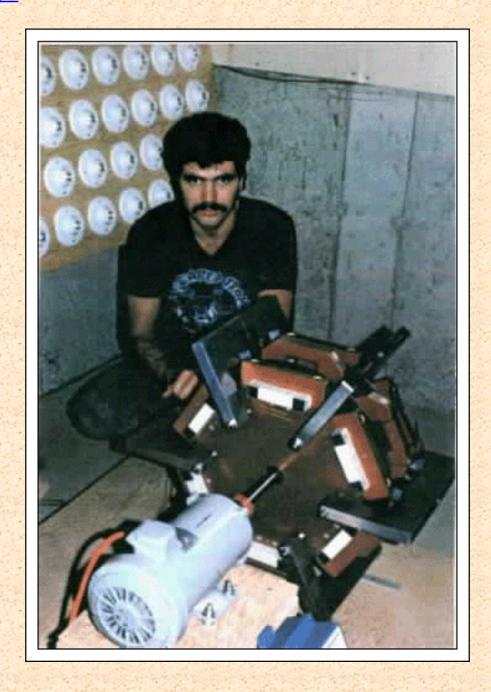


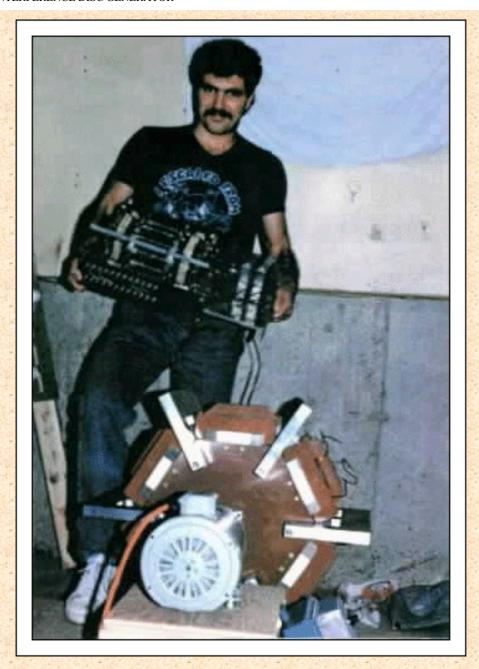
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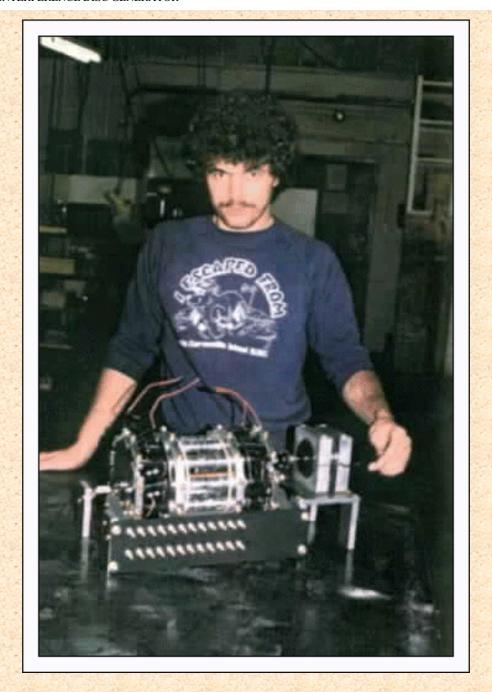


# PHOTOGRAPHS OF THE INTERFERENCE DISC GENERATOR

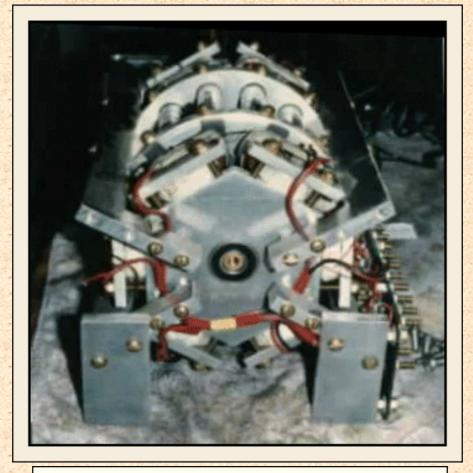
main description page diagram drawings



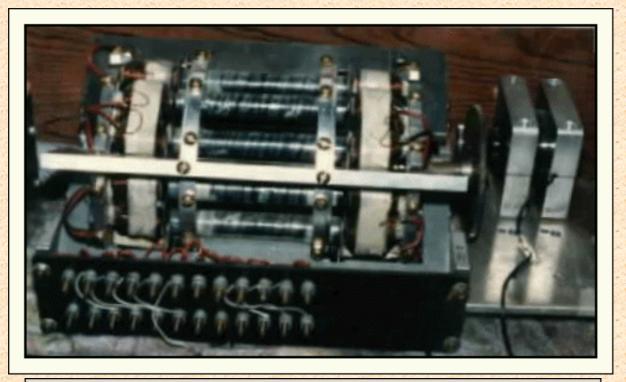


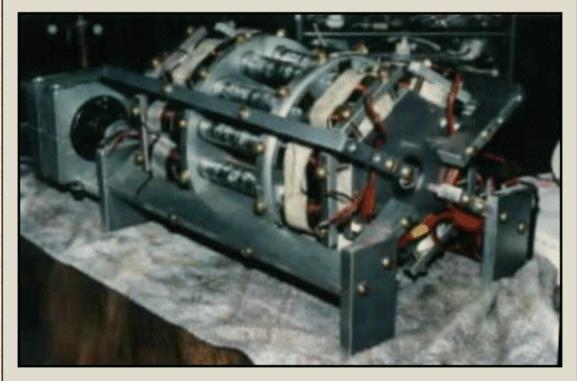


**Disc Generator** 









Generator photographs from various angles

main description page drawing diagrams

**Email Alan L Francoeur** 

Research/Inventor

# Penticton, BC. Canada





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Michael Drinkwater explains how he runs both his truck and backup generator on biodiesel

Two years ago my family and I relocated from Melbourne to our block in Gippsland. Having been quoted a totally unreasonable sum to connect to the power grid, we installed a RAPS system.

We rely heavily on the wind, using one AIR 403 wind turbine to charge our batteries. We have a very high average wind speed and find the performance of this machine to be excellent. It is the only source of battery charging we need, providing we get enough wind.

As most people on independent power realise, you can't rely on just one source, be it wind, solar, or to a lesser extent hydro, to deliver all the time. Most systems have a backup generator, as we do, and ours is powered by a diesel engine.

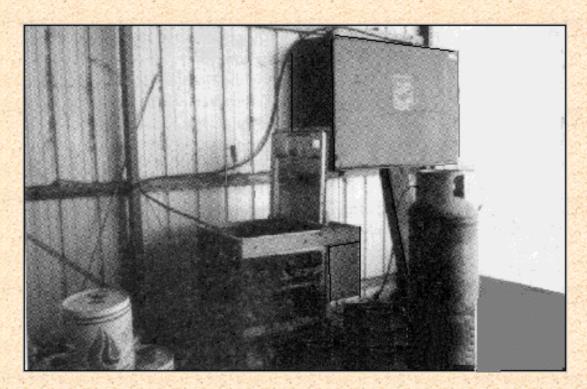
As we are horse breeders we also have a diesel truck to perform all our trans- port duties, from towing a float to going shopping.



Having read with much awe about the Tickells' veggie van,

I just had to buy the book From the Fryer to the Fuel Tank and give it a whirl. It would be very beneficial to us if we could 'do it' ourselves.

I have an employment background in process control instrumentation and also home appliance servicing, and so eventually settled on using a slightly modified dishwasher as a biodiesel reactor.



The complete biodiesel plant No high tech gear here, just simple reused components

It seemed to be almost perfectly suited to this purpose as it had a high wattage heating element (2000 watt), powerful recirculating pump for mixing the reactants and, once it was tilted on the back of the cabinet, a capacity about the same as my truck and generator fuel tanks combined.

# The conversion

I used an old New World dishwasher from which I removed the following items: dish racks, spray arms, door springs, and insulation from the back of the cabinet, which allowed me to fit a gas burner ring to preheat the oil and keep the concoction warm after reaction while settling, as is necessary during cold weather.

The capacity of the cabinet is 200 litres in total, which produces around 160 to 170 litres of fuel. I also fitted a drain cock to the lowest point in the cabinet to drain the glycerine off after the reaction. The final product is then pumped to an overhead storage tank (a reused heating oil tank which holds 400 litres).

It took me a while to get started and source the ingredients at a reasonable cost, but now I meet my entire fuel demands with bio diesel. I have fitted my generator with a truck alternator to directly charge my batteries if necessary, making it very efficient.

I have found some types of cooking oil to give better results than others with animal-based oil being the best, but it is more challenging to process as it is more solid than vegetable oils, like cotton seed oil, which stays liquid at room temperature.

I do not find it necessary to perform a titration test with every batch of oil as the oil I get seems to be of fairly consistent pH, but I do need to purchase better scales, which are quite expensive.

As long as the reaction produces a clear separation of the glycerine and the biodiesel, it seems to perform well in both the generator and the truck. The only problem I now have is to find a use for the large quantity of glycerine soap I have accumulated.

I am truly in debt to the ATA and the Tickells for this information, which has changed forever the way our energy requirements are met both in power generation, transport and independence.

We eagerly await more good ideas to give our descendents a chance at life on Planet earth. I might even give the methane digester a whirl.

You may also be interested in these following webpages as well

Tickells' veggie van

Going bush with renewables and bio cooking

This article and pictures originally appeared in The Renew magazine April June 2000

Visit the ATA RENEW website

email renew magazine







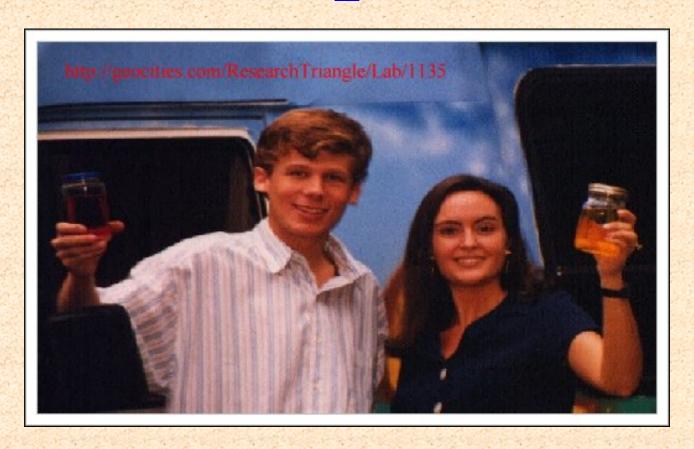
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# On the smell of an oily french fry

Josh and Kaia Tickell have an obsession.

They collected used oil from fast food joints, cook it up with some special ingredients and then pour it into their Diesel 'Veggie Van'.

They have toured the US on vegetable oil, and are spreading the word about this clean and great smelling fuel.

Their story is as follows

Powered by vegetable oil, the Veggie Van took us 16,000 kilometers across the United States.

The Van visited 20 major cities and 25 states where people smelled the clean french fry-like exhaust.

Over 40 million people saw the multi coloured Veggie Van drive across their television screens. Thousands attended presentations about it, and hundreds of thousands more read about the van in their local newspapers and on the internet at the Veggie Van website.

What began as a college project culminated during the summer of 1997 in a massive public awareness campaign.

We knew that we had reached people from almost every walk of life when a person begging on the street shouted to us, "Hey isn't that the van that runs on that used vegetable oil?" We nodded in response and as we drove away the man shouted, 'That's incredible good luck!'

## Fields of fuel in Germany

Luck had once taken us to a traditional farm in picturesque southern Germany where we had seen vehicles fueled by vegetable oil. While studying organic agriculture and living on this farm, we noticed that the farmers were continuously hauling tanks full of yellow liquid.

The farmers told us, "This is fuel from the Canola plants which grow on our farm and on Jorg farm up the road. We put it in the diesels and they smell good.' To our amazement the farmers poured the yellow liquid into their car and tractor, which then emitted a pleasant smelling exhaust.

## What you didn't know about the diesel engine

More than 100 years ago, a brilliant inventor named Rudolph Diesel designed the original diesel engine to run on vegetable oil.

Over time the diesel engine was modified to run on cheap, dirty by-product of gasoline production, labeled 'diesel fuel'. Straight vegetable oil is too thick to run in most modern diesel engines, but bio diesel, a bio degradeable, nontoxic fuel made from vegetable oil, works in any unmodified diesel engine.

Not only does bio diesel require zero modification to the engine, but this fuel works either by itself or blended with petroleum diesel.

The process of converting vegetable oil into bio diesel fuel is called transesterification and is far less complex than it sounds.

In fact the process is so simple that it can be done in a blender.

# A simple reaction

The chemicals needed to make bio diesel are cheap and easy to find.

Any vegetable oil (such as used in restaurants coil, ) methanol (a clear alcohol used as racing fuel), and caustic soda (a white powdery substance used as a drain cleaner) are the basic components. During the conversion process the ingredients are heated and mixed and bio

diesel and glycerin are created.

The glycerin can be used to make soap or any one of thousand of other products. Bio diesel fuel can be used directly in an unmodified diesel engine and it can burn up to 75 percent cleaner than petroleum diesel fuel.

Since bio diesel can be made from used cooking oil, we decided that it was time for us to take this idea on the road.

## How it all began



Enamored with the idea of transforming the fast food restaurant fryers of America into a network of low cost gas stations, we decided to build a portable fuel processor, buy a motor home with a diesel engine, and travel across the country. Sitting on a local used car lot was a 1986 Winnebago LeSaro with a 2.1 litre Renault diesel engine that would soon become the 'Veggie Van'. The small white van had the perfect engine and it got 25 miles to the gallon.

Two purple gleaming photovoltaic panels soon adorned its roof line. The panels allowed us to stay 'off the grid' because they powered the van's refrigerator, lights, computer, power tools and video equipment. Fueled by soft drinks and pizza, a rag-tag group of volunteer art students painted sunflowers and earth symbols on the van.

The Van Gogh-esque graphics and some well placed lettering told any onlooker that this Veggie Van was powered by vegetable Oil' got 1,300 Miles per Acre' and was on the Veggie Van USA Tour'. The exterior of the van hinted of the mechanical magic occurring inside the engine, which remained totally unmodified.

## The Green Grease machine

The "Green Grease Machine' was created when we mixed salvage parts from scrap yards, boat marinas, and hardware store plumbing supplies with our blood, sweat and used restaurant cooking oil. First an old Champion juicer motor sucks vegetable oil from a restaurant fryer, then a converted tug boat filter strains the french fries and other bits of food out of the oil, and lastly the oil moves into a converted 1976 military stream kettle where an outboard boat motor swirls the ingredients together.



#### The first run

Some interesting experiments with vegetable oil and fryer grease gave way to our first large batch of bio diesel fuel.

Covered in grease, we watched as the dark fuel was poured into a secondary tank of our test vehicle, a diesel VW. As soon as the tank's valve was opened the fuel began to gurgle, the engine changed pitch and the air was filled with the odor of super-fried vegetable oil. Our experimental fuel actually worked!

For months, we experimented with various blends of vegetable oil, succeeding to run our VW Jetta on up to 80 per cent straight fryer grease for over 5,000 miles.

#### Life on the road

Phone calls and emails poured in from around the country as we planned the 1997 Veggie Van USA Tour. We talked to reporters, environmental organizations, music festival managers, and school teachers as we scheduled tour events and planned our route.

The trip itinerary filled quickly. We had the Veggie Van, the Green Grease Machine in a trailer and together they weighed almost 5 tons! The bio diesel fuel gave at least 10 per cet power gain over petroleum diesel and we felt every bit of it on the mountains.

Life on the road in the Veggie Van was a non-stop, colour full adventure.

At least one out of every four people who passed us on the highway waved, honked ,or gave us a big smile. We often turned our heads to absent-mindedly look at passing vehicles only to see a camera flash from the passenger side. In rest areas and parking lots, people gathered around the van, reading it's messages, taking pictures of family members next to it, and including it in their summer vacation home movies.

The first question people asked us was, 'Does it really run on vegetable oil?' One whiff of the exhaust was enough to convince most skeptics. Believe it or not, it does smell like french fries.

That summer we talked with farmers who want to run their equipment on oil from the crops that they grow.

We found that urban dwellers want public transport without the asphyxiating pollution. We met with CEO's environmental organizations, and people of all ages and backgrounds. We talked to 'snowbirds' in campgrounds, truckers in truck stops, and young men in fast red cars in traffic jams.

We talked to students of all ages who want to study clean technologies.

We heard the voices of a proud, caring people, who still love their country, their land, and their air. They want to use clean fuels in their cars and renewable energies in their homes.



## The public responds

When the 1977 Veggie Van USA Tour officially ended in Hopland, California, The Veggie Van had been on the Today Show, Dateline NBC, Nightshift and many other news broadcasts across the country. The Associated Press circulated an article about the Veggie Van to hundreds of newspaers around the country. Wherever we arrived people said they had just read about us in the paper.

The Veggie van Website logged over half a million hits that summer and continues to receive hundres of visits a day.

The website was featured in Yahoo's weekly picks and in Internet Life magazine.

# Power to the people

The 1997 Veggie Van USA Tour gave us proof that there are better ways to run cars And ultimately better ways to run our society. Every time we turned grease into clean fuel, We proved that we can create clean energy resources using our current technology. Our goal is empowerment of ourselves and others through education and information.

We wrote the book,

From the Fryer to the Fuel Tank; How to make Cheap, Clean Fuel from Free Vegetable Oil,

in response to the hundreds of emails letters, and phone calls we received requesting more information about the amazing fuel made from fryer grease. The first book about about

biodiesel available gives simple easy to follow instructions for making fuel from vegetable oil. Everyone aged six to one hundred and six will find this book a humorous and insightful look into vegetable oil power, renewable energy and how to make cheap, clean fuel from free fryer grease.

## The Veggie Van rides again



The Veggie Van is currently voyaging to schools to show young people that renewable such as biodiesel fuel and solar power are easy to use and good for the environment. The response from kid of all ages has been a big 'thumbs up' for the plant powered vehicle.

Meanwhile preparations for this years "Veggie Van Grease 'n' Go USA Tour' are underway. Starting in June, the fryer grease hits the Veggie Van fuel tank and the tires hit the road in another exciting cross-country adventure.

This year's tour goals are to have fun, make tons of fryer fuel and show up in unexpected locations to talk to people about renewable energy.

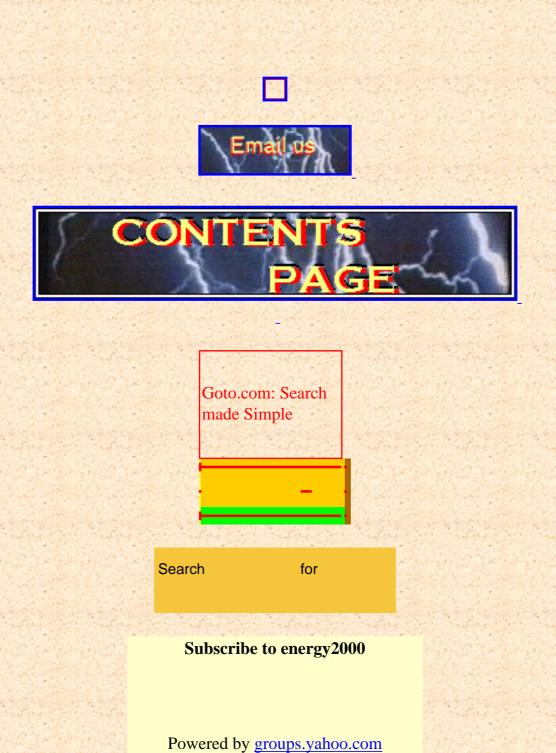
While the Veggie Van makes its way through the highways, bi-ways, and fast food restaurants of America this summer, the cyber - tour will be occurring online at <a href="https://www.veggievan.org">www.veggievan.org</a>. Events will be announced a few days ahead of time (so you have time to tell your friends that the Veggie Van is coming to your town.)

You can follow the adventures trials and tribulations of the Veggie Van by watching this site for our daily digital updates. The Cyber-Grease 'n 'Go Tour will feature stories, press and of course pictures of the clean burning odyssey as it unfolds.

Story by Josh and Kiara Tickell, Green Teach, 15 Paradise Plaza Suite 311, Sarasota, FL 34239, Fax + 1 813- 354 -2377

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and from the original authors and Photographs from Josh and Kiara Tickel who's website is The book From the Fryer to the Fuel Tank is available through the website <a href="www.veggievan.org">www.veggievan.org</a>





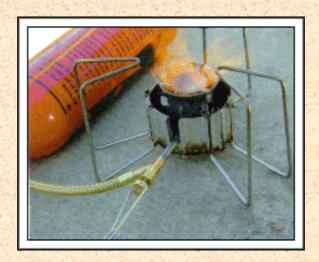
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# Going bush with renewables

If you like to tread where few have gone before, you can lighten your ecological footprint by using renwable energy along the way

Most Australian National Parks do not permit visitors to collect firewood from within their boundaries, and while many permit fires with wood collected from elsewhere, the trend is towards no campfires of any kind. This means that if you want a cup of tea or a hot meal while you're camping, you're going to have to carry either a solar cooker or some kind of portable fuel stove.

Most of my outdoor travelling involves cycle touring or hiking, so one of the many folding reflective solar cookers isn't really an option. While these are a great idea, they're limited to daytime cooking, and in southern Australia, use during the summer. I'm usually not in one place for very long during the day, and like a cup of tea and a hot meal at night.



I own an MSR Dragonfly stove—a single burner with a refillable liquid fuel bottle. The bottle has a pressure pump on the lid, which forces fuel through a jet where it ignites and gives off a surprising amount of heat. I have mainly used it with Shellite, or distilled petroleum, but it can be used with kerosene, petrol, aviation gas and diesel.

While the stove doesn't use a large amount of fuel (around a litre for two weeks of cooking), it bothers me that I am using fossil fuels to make my meals in the middle of the wilderness. There is also the issue of the inevitable drips of fuel from the fuel line giving clothes and food in my pack an unpleasant aroma, not to mention the odd splash that gets on your hands when packing up.

At the same time that these frustrations were mounting, we were doing a lot of research at ReNew into how waste vegetable oil is currently being used as a fuel in Australia. One of these applications appeared in the last issue in the story on the *Veggie Oil Powered Tractor*. Alongside this was an article on making biodiesel, a vegetable oil-based replacement for diesel. These articles inspired me to solve my problems with my fuel stove, and I gathered the ingredients for a small batch of biodiesel.

For my small batch, I purchased two litres of 'No Name' blended edible vegetable oil, which was the cheapest available. I also bought a 500 gram container of caustic soda from the supermarket cleaning products section. A friend who works in a laboratory was able to obtain 400ml of methanol, but I also tracked down some motor sports suppliers who sell it as 'Racing Fuel Number 6'—they were fairly easy to find in the Yellow Pages.

Following the instructions in *ReNew*, my first attempt at biodiesel worked well. It did seem strange that a fairly odourless substance could replace diesel though!

Fuel stoves work by forcing a liquid fuel into a hot tube below the burner where it becomes gaseous and ignites as it is sprayed out of the jet. This gasification allows the stoves to burn fairly efficiently and cleanly—much more so than if a liquid were being burnt.

In order to get this gasification process started, it is necessary to 'prime' the cold stove by releasing a small amount of liquid fuel through the jet and allowing it burn on and around the inlet tube. Once hot, the stove can be turned on and the tube remains heated. With volatile fuels like Shellite, this is a simple process and takes only a few seconds, but with biodiesel it is not so simple.

Like diesel, cold biodiesel does not ignite instantly. My first attempt at getting the stove going was not too successful, as I released too much fuel for priming. The result, when I finally got it lit, was a pool of flaming biodiesel in the stove's drip tray that took several minutes to burn out. This did successfully prime the stove though, and it boiled a billy full of water with a roaring orange flame in a few minutes.

I have refined the priming process by using a kerosene lamp wick to get the flame started. This is much better than using a match or twigs, which are more likely to clog the jet with ash.

Another slight inconvenience with biodiesel is that, despite priming, it does leave more deposits than a more volatile fuel. This simply means that the jet needs to be cleaned more often, though this only takes a few minutes.

For my next batch of biodiesel I plan to use recycled vegetable oil, making it both a renewable and recycled fuel. R



#### Michael Linke

Cooking in the bush with biodiesel, a diesel substitute made from vegetable oil. The advantages are that biodiesel burns a lot cleaner than diesel, does not have an unpleasant odour if it spills in your pack, and is made from a renewable resource. The disadvantages are that it clogs the stove's jet more rapidly than fuels like Shellite, and it is harder to prime the stove.

You may also be interested in these following BIO FUEL webpages as well

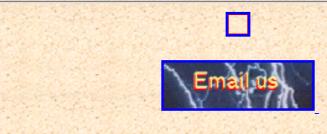
Tickells' veggie van

**Backyard Bio Diesel** 

This article and pictures originally appeared in The Renew magazine January March 2000

Visit the ATA RENEW website

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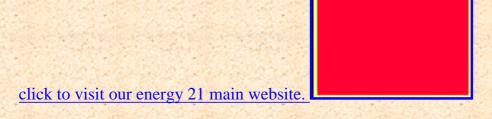
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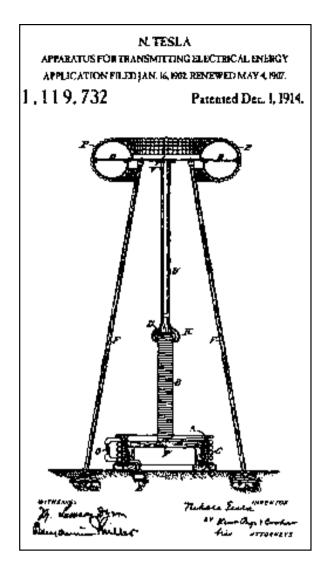


**A**vramenko's **F**ree **E**lectrons **P**ump ( **AFEP** v1.0)

By Jean-Louis Naudin / Stefan Hartmann

created on November 1st, 1999 - JLN Labs - Last update November 3rd, 1999

The AFEP experiment is based on the russian patent application filed on May 10th, 1993 by Stanislav and Konstantin <u>PCT/GB93/00960</u>). This a staight-forward application of the single-wire electrical energy transmission based upon the principle of longitudinal electrostatic waves as described by Nikola Tesla in the 1890s.



For more informations about the working principle and the main theory about the Avramenko's experiment, I suggest you strongly to read: *The Electric Spacecraft Journal - issue 12, 1994 "Russian patent on Longitudinal electrical transmission" by Avramenko and "Longitudinal Electrodynamic Wave experiments" by Charles Yost.* 

## The AFEP device v1.0 uses two main effects:

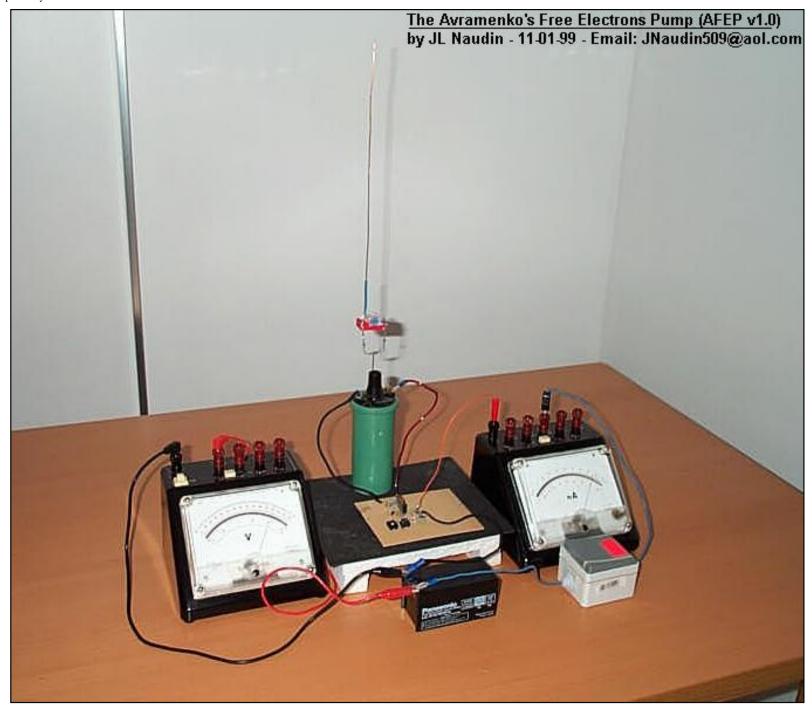
- The Avramenko's single-wire transmission plug system
- The capacitance coupling with the earth atmosphere for tapping free electrons in the air medium.

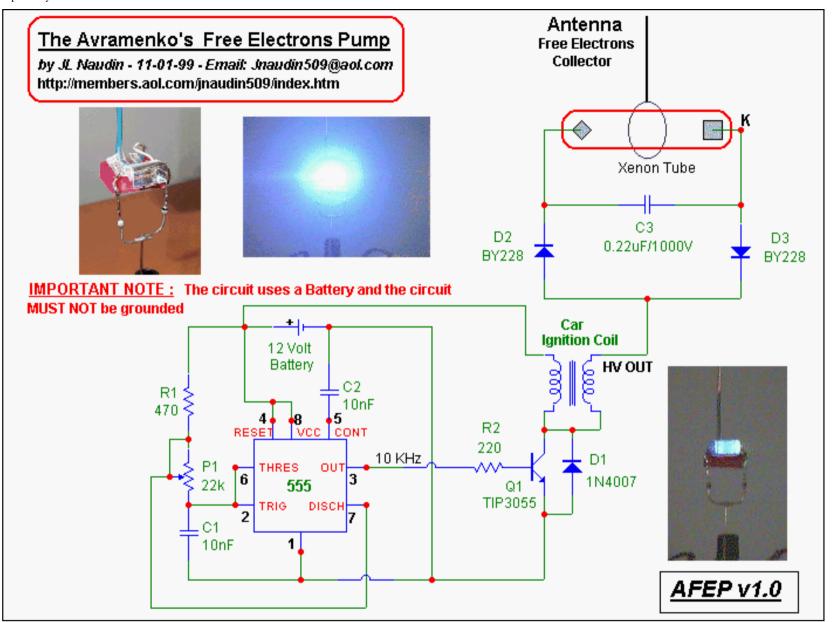
Some testing devices and experiments have already been done successfully by Stefan Hartmann with the "Car ignition coil experiments with Avramenko plug" and freely released on the Web on October 26th, 1999 (thanks Stefan...).

So, today, I have reproduced successfully the Hartmann's setup with some improvements:

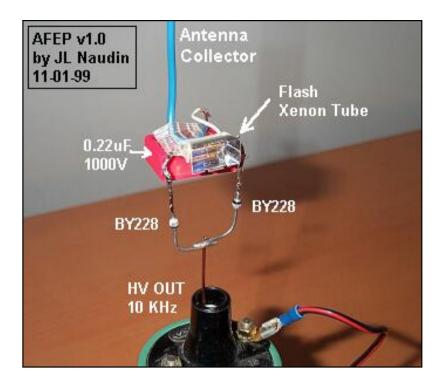
- The electronic generator (aka the Avramenko's monovibrator) runs at a higher frequency (10KHz),
- I have used a xenon flash tube instead of a simple spark gap,
- I have used a copper wire as an antenna for the coupling with the earth atmosphere (and not with the ground as in the Stefan's test ), the sucked free electrons act as a trigger for the xenon flash.

The AFEP device MUST BE powered by a battery source (I have used a 12V 1.3 AH lead acid battery) and MUST NOT BE GROUNDED. This is very important, because the system MUST BE OPEN. If you ground the AFEP generator circuit, you build a common closed system and free electrons can't be tapped from the atmosphere.

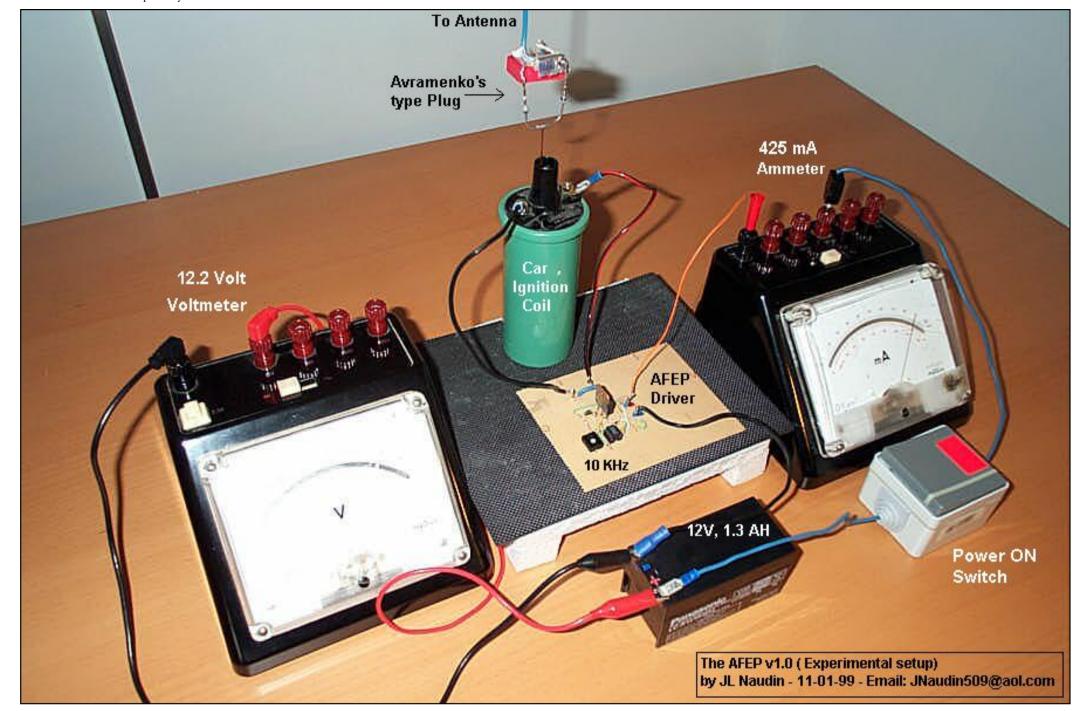




The main driver circuit uses a basic 555 square waves oscillator tuned at 10 KHz for the best output. The TIP 3055(Q1) is used as a common switcher for the car ignition coil. The most important part is the enhanced Avramenko's plug:



I have used fast switching HV diodes (BY228). The energy stored in the 0.22uF HV capacitor is sent to the flash xenon tube trigged by the free electrons flowing through the copper antenna. If the AFEP antenna is disconnected the xenon tube doesn't flash.



The AFEP v1.0 experimental setup



A bright and strong flash between the Avramenko's plug



#### The AFEP Generator works also well with the spherical capacitor used with the FEP v1.0

#### Reference documents:

- Electric Spacecraft Journal issue 12, 1994:
- "Russian patent on Longitudinal electrical transmission" by Avramenko
- "Longitudinal Electrodynamic Wave experiments" by Charles Yost
- New Energy News August 1994: "Solid State Space-Energy Generator" by Stanislav and Konstantin Avramenko.
- The Russian patent: (PCT/GB93/00960) May 10th, 1993 by Stanislav and Konstantin Avramenko.
- Tesla US Patent number 1,119,736: "Apparatus for transmitting electrical energy" (issued Dec. 1, 1914)
- Tesla US Patent number 8,200 : "Improvements relating to the transmission of Electrical Energy" (17th Apr.,1906)

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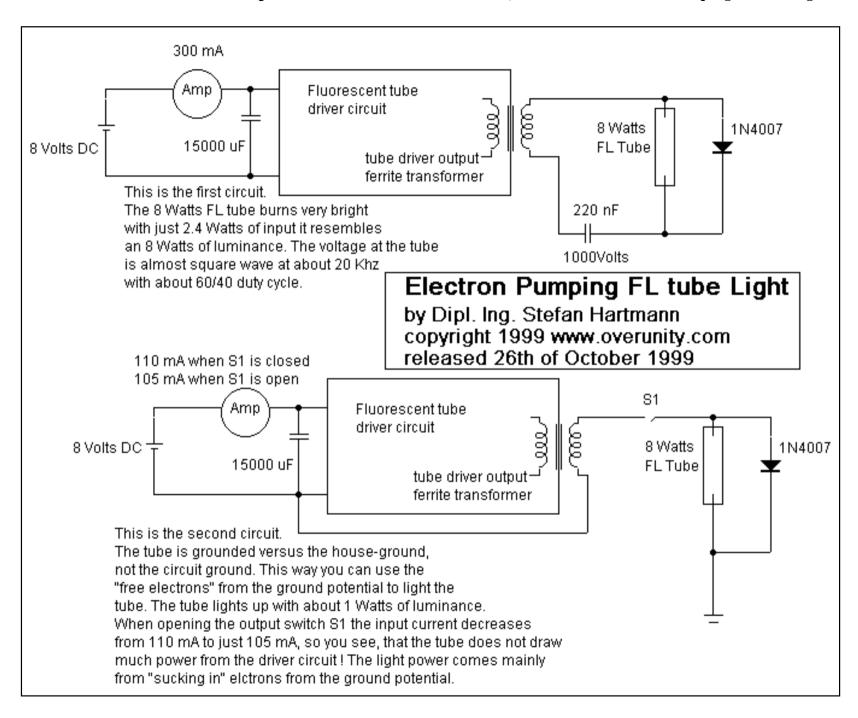


The Free Electrons Pump (FEP v1.0)

By Stefan Hartmann and Jean-Louis Naudin

created on October 28th, 1999 - **JLN Labs** - Last update November 6th, 1999

This device is based on the Stefan Hartmann's experiment released on October 26th, 1999: "The Electron Pumping FL tube light".

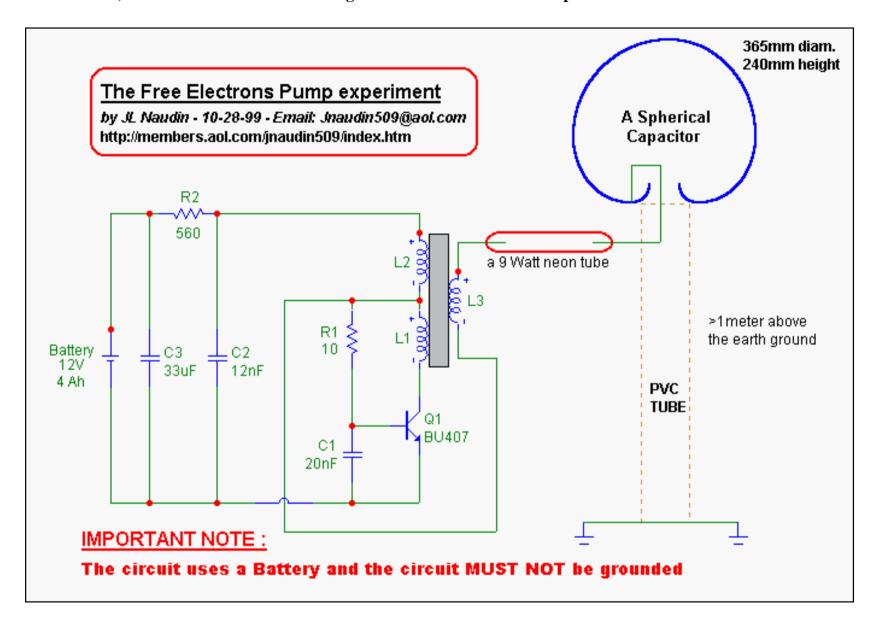


Now, I have reproduced and tested successfully the Hartmann's basic device and improved the design, so I have built the Free Electrons Pump v1.0:

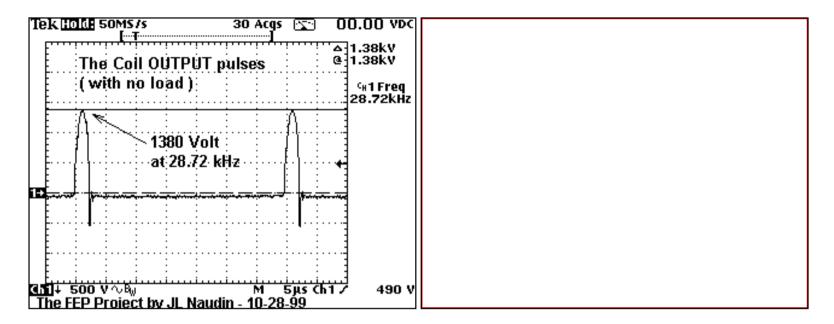
The FEP v1.0 is an enhanced version which uses a spherical capacitor coupled with the earth atmosphere. As Nikola Tesla had used in the Power Wave experiment in Colorado springs in June 26, 1899 and also during his tests of the first models of the Tesla Magnifier Amplifier tower, the FEP v1.0 uses the same principle for sucking free electrons from the atmosphere: "To produce an electrical movement of the required magnitude it is desirable to charge the terminal as highly as possible, for while a great quantity of electricity may also be displaced by a large capacity charged to low pressure, there are disavantages met with in many cases when the former is made too large. The chief of theses are due to the fact that an increase of the capacity entails a lowering of the frequency impulses or discharges and diminution of energy of vibration....." (Tesla US Patent number 1,119,736: "Apparatus for transmitting electrical energy" (issued Dec. 1, 1914)).



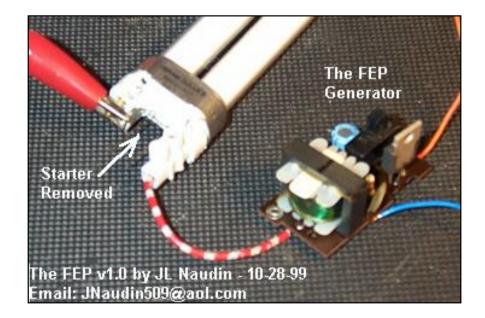
The FEP v1.0 uses a spherical capacitor made with an aluminum hollow sphere (365 mm diam. and 240 mm height). A 9 Watt neon tube (OSRAM 9W/Dulux S 41/82) is connected between the FEP generator and the aluminum sphere.

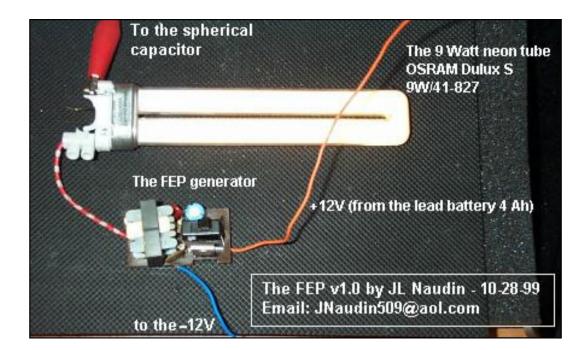


The FEP generator is a High Voltage Pulses generator which produces 1380 V pulses at about 29 kHz (see below). The FEP transformer (L1,L2, L3) is a high frequency transformer (with ferrite core) which can be found in common portable neon lights (used for camping). But you can also use L1 (7 turns of 4/10mm), L2 (6 turns of 5/10), L3 (750 turns of 1/10) wound on a ferrite core 10mm diam. If you find a ready made ferrite HF transformer, this will be better.



The 9W neon tube is a common low consumption light tube, but I have removed its original starter circuit.





The FEP Generator MUST BE powered by a battery source (I have used a 12V 4 Ah lead acid battery) and MUST NOT BE GROUNDED. This is very important, because the system MUST BE OPEN. If you ground the FEP generator circuit, you build a common closed system and free electrons can't be tapped.

**TESTING RESULTS (10-28-99)** 



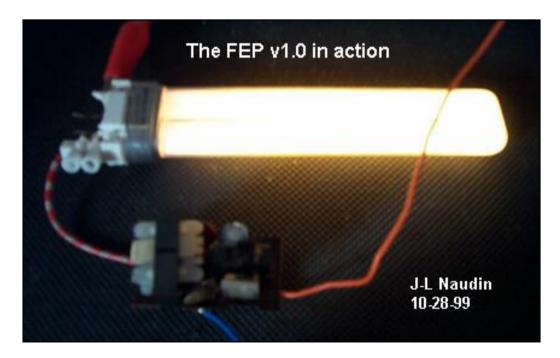
I have used an analog voltmeter and an analog ammeter, this is strongly recommended for avoiding some parasitic effects due to the electromagnetic waves induction (EMI) in some digital equipments which can generate some "false/true" measurements....

So, when the power is switched on <u>WITHOUT</u> the neon tube ( with the FEP output left opened ), the power input required for the functionning of the FEP circuit is **5.17** Watt (11.5 Volt and 450 mA DC input )(see below).



When the 9W neon tube is connected with its spherical capacitor, the power input DROPS to 4.66 Watt (11.5 Volt and 405 mA DC input ) while the neon tube throws out about 30% of its max light...(see below)





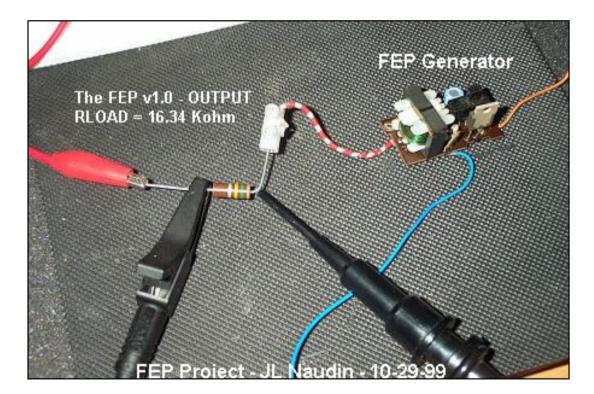
Note: If you don't have an aluminum spherical capacitor, you may also use a big aluminum sheet as a free electrons collector.

Now that you have a very simple electronic circuit that you can build and test by yourself, you will notice that this circuit works very well and shows that some free electrons can be tapped easily, from the atmosphere or from the ground with the FEP v1.0 device...

Jean-Louis Naudin October 28th, 1999

#### **POWER I/O Measurements (JLN 10-29-99):**

The 9 Watt neon tube has been replaced by a 15 Kohm-5 Watt (the exact value was 16340 ohm) carbon resistor (see below):



I have used a Textronix THS720P isolated and ungrounded channels oscilloscope for measuring the voltage accross the output resistor. The RMS and PEAK output voltages has been computerized automatically by the scope.

The FEP v1.0 (Input/Ouput)				by JL Naudin	10-29-99 Email: JNaudin509@aol.com				
DC INPUT					OUTPUT				
Vinp (V)	CurOut (A)	Pwr (W)	Del Pwr	Freq (kHz)	Rload (ohm)	Vout RMS (V)	Pwr RMS (W)	Vout Peak (V)	Pwr Peak (W)
11,3	0,34	3,842	-	30,75	Nload	1260,0	-	-	-
11,3	0,32	3,616	-0,226	31,19	16340	114,4	0,801	376	8,652

### JLN Comments:

As you may notice in the diagram above, the measured output power accross the resistor was 801 mW RMS for 8.6 Watt Peak, the most interesting thing to observe is that THE INPUT POWER DROPS of 226 mW while 801 mW is generated at the output.

## See also:

- A successful replication of the FEP v1.0 device by David Mason (04-25-00)
- The new <u>FEP v2.0 generator</u>
- The AFEP v1.0 (The Avramenko's Free Electrons Pump device)

#### Reference documents:

- 1) "The Electrical Experimenter: My Invention by Nikola Tesla", June 1919
- 2) Tesla: Man Out of Time, by Margaret Cheney Prentice-Hall, Inc
- 3) Tesla US Patent number 1,119,736: "Apparatus for transmitting electrical energy" (issued Dec. 1, 1914)
- 4) Tesla US Patent number 8,200: "Improvements relating to the transmission of Electrical Energy" (17th Apr.,1906)
- 5) Theory of Wireless Power, By Eric Dollard, B.S.R.A. 1986.
- 6) "Tesla's Tower (Wardenclyffe) by ESJ Staff Electric Spacecraft Journal, issue 2 (1991)
- 7) "The Power Wave (1899-1991)" by Ron Kovac Electric Spacecraft Journal, issue 3 (1991)

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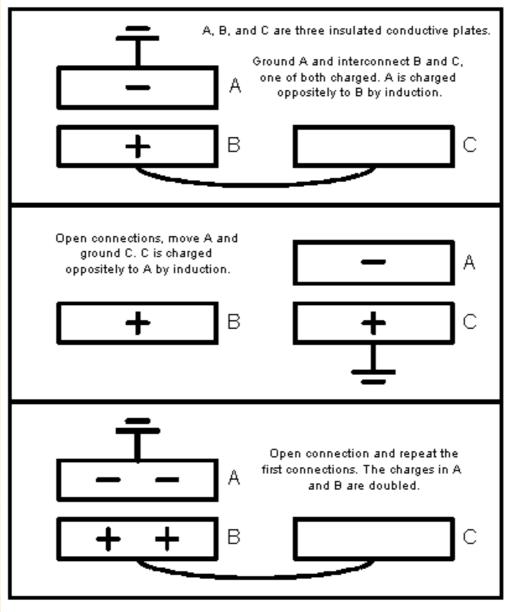


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# Operation of Bennet's doubler

A device invented in 1787, that increases exponentially an initial charge through a series of operations.



The procedure can be repeated several times, with the charges ideally doubling at each cycle.

Acmq, 1998







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# Bedini Simple Science Fair motor

Thanks to John Bedini for sharing this information,

Here is a device of 10 year old girl that has built a science fair project that appears to be unusually efficient.

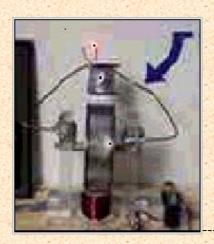
Here is the device a student that John Bedini talked to about a motor and she built it with a little help on the phone, it generates power and runs at 4000 rpm.

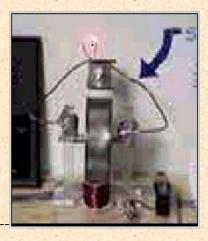
Here is the MPG of all the since fair awards she took with one of my motors. Still plugging away through schools now with the kids.

This is the all North Pole Motor, the Led on the top is the generator, she built this Motor all by herself, she took all the first place ribbons plus a special award in science it used a nine volt battery and ran the whole time the science fair was on for 5 days when they stopped it.

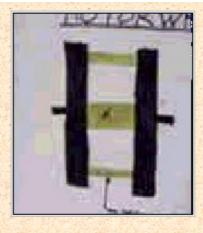
John remarks that if a ten year old can do this and win what the is wrong with the whole world.

### 674kb Motor Video





Two stills from the video showing the motor running from a single 9VDC transistor battery and running a generator that lights the LED on top.



A diagram of the motor showing the magnets between two cylinders which apparently are forced to spin when the coil at the bottom pulses and where the coil at the top generates current to drive the LED.

Looking at the picture, it appears the shaft of the wheel is driven by a slot car type motor that is driven by the battery.

As the wheel rotates, the magnets between the discs induce current in what looks like a coil on the bottom which recharges the battery??? And another coil on top which lights the LED???



Some of the ribbons and awards won by this amazingly simple highly efficient science fair demonstration motor.

If the motor is a 1.5vdc slot car motor, they easily draw from 200 milliamps (300 millwatts) to 500 millamps (750 milliwatts). 4000 rpm with this kind of power usage should NORMALLY drain that 9VDC battery in a couple of hours.

John says this circuit ran for 5 days (120 hours!!) on the single 9vdc battery, that is amazing and the girl should be congratulated for demonstrating it to win the science fair awards.

# We hope you build your own motor and prove it for yourself.

This battery was measured by the science teacher before the motor was turned on and it measured 8.9 volts.

These batteries are usually 400 millamps batteries for one hour, The motor was running on 22 millamps at 4000 rpm.

When pulling the generator load the current draw on the battery went down to 13.2 millamps;

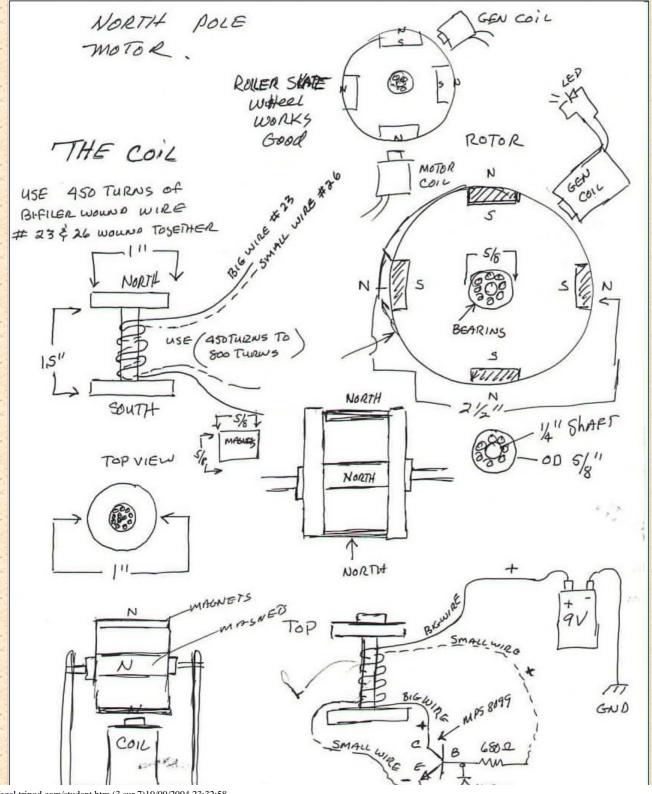
(look for the all North Pole Motor in the notes) this is the same motor that anybody can find in the lab notes on the energy21 web page.

It's like John has said all along these motors when built like he have said not changing anything have no problem doing this, John Bedini claims to have a motor setting on the same batteries for 12 years at in his shop.

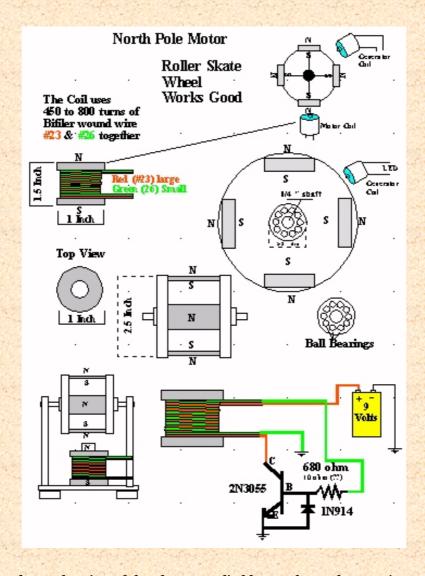
John also claims to have been doing these motors for a very long time, In his life he claims also to have found the answer to getting results and this is with the school kids because they do not change things and they learn, wile the others change things.

John claims if people would just build it the way described the inventor would get the results the he claimed, and then make improvements we would be energy efficient right now.

John courteously has sent this cool diagram on of the motor the 12 year old built and he given permission to post it, it is so clear that I decided not to redraw it. If you choose to build this very simple motor, please share your thoughts and experiences with us at energy21 newsgroup as below and/or with John.

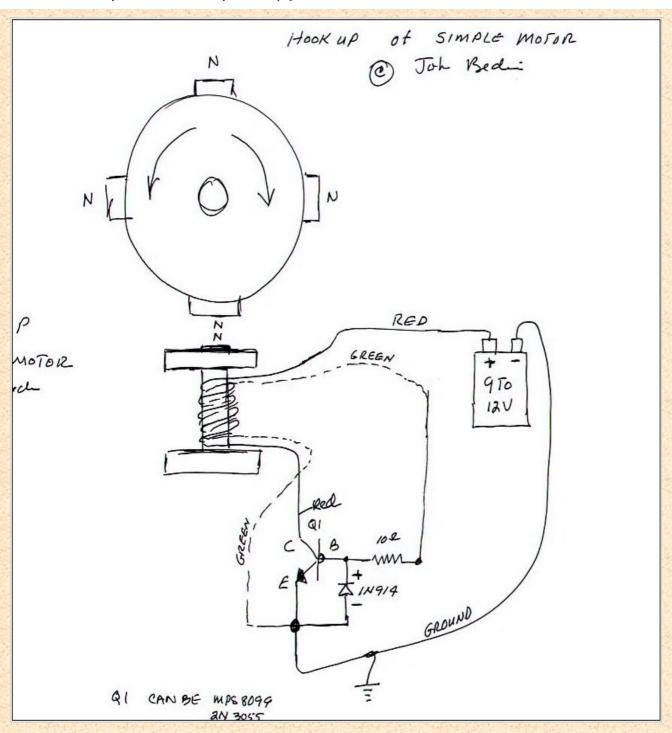






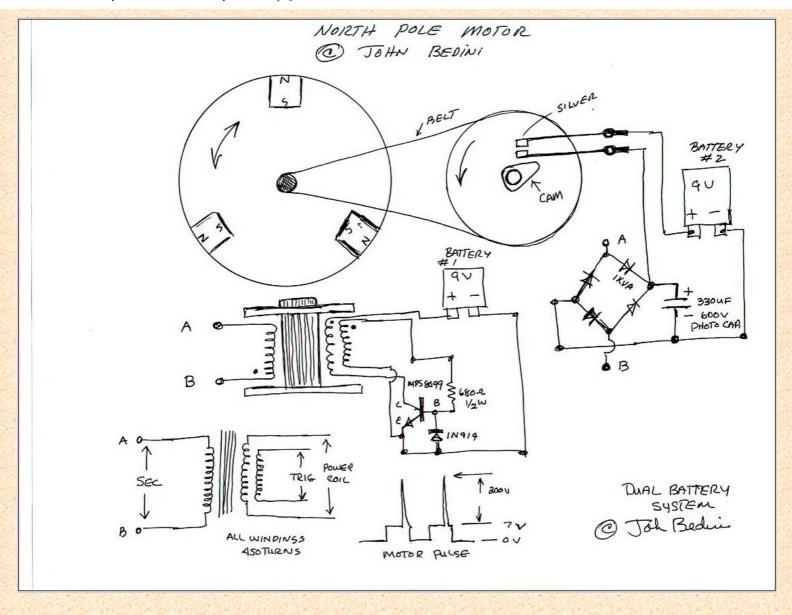
a better drawing of the above supplied by another web page viewer

John has released this diagram also showing the transistor and arrangement to clarify some the design



Q1 is an MPS8099 bipolar transistor or a 2N3055 transistor, 10ohm resistor, 1N914 diode. John also wrote that he cuts welding rods into the length of the coil form, then inserts them into the center hole around which the wire is wrapped to form the coil, this increases the magnetic flux as an 'iron' core transformer.

Dual Battery Motor courtesy John Bedini



a better drawing of the above supplied by another web page viewer

# **Email John Bedini**

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The contents of Joe cell chapters

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Credits

What is the Joe cell

Some Properties of orgone

Some names for the life force

**Orgone Polarity** 

Theory of Cell Design

materials and design

Sizes and diameters

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Charging the water cell

Connectioning to motors

When Things go wrong

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Brotherhood of Man

A Joe cell parts supplier

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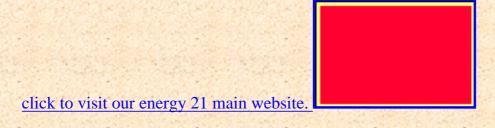
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# Chapter 1.

" Since corrupt people unite amongst themselves to constitute a force, then honest people must do the same "

Count Leo N. Tolstoy.

#### Introduction.

#### Intention

My intention ( to the best of my ability ) is to remove some of the mystery, secrets, guesswork and plain misinformation that surrounds the construction of the "cell". The aim is to help the constructor make a cell in a laid out, step by step, method that I employ to make my own cells. My knowledge comes from making the cells. As I have built many working cells, this experience has given me the knowledge, not by guesswork or reading someone's book or listening to second or third hand "expert opinions. I now pass this information on to you, and it will always stay as my opinion and information until you build your own cell. Only then will you know how to make a cell, and not before!

#### Joe

In approximately 1992 a new form of a generator was constructed in Australia. In preparation for this book, I spoke to both the designer and his fiancee, regarding my wish to give him the due credits, etc., for his 7 years of work and cooperation with all involved parties. Unfortunately due to the lunatic fringe and money grabbers that dealt with him, this poor, victimised individual has decided to relinquish any further involvement with the cell that bears his name. So in respect to his wishes, he will simply be referred to as Joe. I would simply like to say, dear Joe, that if it was not for rare individuals like you, we the vast brainwashed majority, would never find the true beauties of Mother Nature's gifts.

It is now probably to late to save Mother Earth from the years of pollution and desecration caused by the thoughtless money-grabbing multinationals. As a species, we are unique. Even a little simple bird keeps its nest clean, yet we the most intelligent of creation, destroy our only home! Yet, individuals like Joe show us that there is a better way, a simple pure way, Nature's way. Without the benefit(?) of years of dogmatic mind shrinking education, Joe found, by intuition, how to ask Nature a question in such a way that it answered. The answer was a method of powering machinery without the use of our primary resources or the creation of pollution. This method is well known to the select few and the technology has been around for centuries. Joe has made a crude easy to build version of this generator. The generator is called a Joe cell.

# What is a Joe cell?

To find out, let us look at some of the characteristics of the cell as stated by Joe:

- \* The water in the cell is not consumed.
- \* The cell runs cold to the touch.

- \* It takes a period of time before the engine will run from the cell. It then has an erratic power output and works in an intermittent fashion.
- \* When the cell is removed from the car, the engine takes an appreciable time to return to " normal " and run from the original fuel.
- \* If the cell is left in the car for a long period, the engine becomes " charged ". From this point, the cell is not required for the motor to run.
- \* All spark plug leads can be removed and the engine will still run as long as the ignition coil and distributor remain functional.
- \* The output of the cell, does not have to be connected to the internals of the engine, a close external coupling will do.
- \* The cell requires the " charging " of the water to work.
- \* The " charged " water can be poured from one container to another without losing the
- " charge ".
- \* The cell requires a specific style of construction, little understood by most constructors.
- \* An empirical construction style has evolved with little, if any, science or success.
- \* The source of power for the cell and its use has great value for some individuals. These
- \* individuals are creating misinformation, cloaking operations and fear to the cell constructors.
- \* Human presence can affect the operation of the cell in a positive or negative way.

There is much more information on the Joe cell that is available to the privileged few, but we have enough information from the above clues to identify the energy type. From the above, it is plain to see (as I will explain to you) that without a shadow of a doubt in my mind, the Joe cell is a crude Orgone accumulator, and that the cell runs on, or collects Orgone. There is a 100% correlation with Orgone energy and its properties. As these accumulators have been and are in use all over the world, the constructor can share in this vast pool of knowledge. For example, as early as the first of January 1867 a French patent, number 60,986 was issued to a Martin Ziegler for an accumulator of a living, non electrical type of force. The experimenter can with a little research, and notes like these, bypass the myths, misinformation and the mongers of secrets and get on with scientifically based facts. Also, he can be prepared to realise and meet the **DANGERS** that await the rash and fool hardy.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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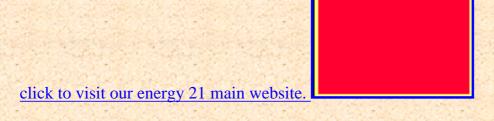


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Chapter 2.

**ORGONE** 

"How else should it be done then?, was always the immediate question. The answer is simple:

Exactly in the opposite way that it is done today! "

## Viktor Schauberger.

As all known effects of Orgone are seen in the functioning of a Joe cell, it is reasonable to assume that the reader should have a good working knowledge of Orgone energy. Additionally, as the cell obeys all known Orgone laws and as the cell's operation does not contradict even one Orgone effect, it is safe to assume that this is the energy that is utilised in the cell. In honour of, and respect to one of the world's great, forgotten, and scorned scientists, namely Wilhelm Reich, I will continue to use the name Orgone as used by Reich. A multitude of other scientists, great and small, have given this mysterious force a name. In a following chapter I have listed at least 70 names by various individuals for the same or a similar force.

Orgone energy is the live cosmic energy of Nature. To quote Reich ... The Cosmic OR Energy fills the universe ... and ... it is a spontaneously pulsating, mass-free energy ...

For interested readers, there is a huge collection of facts, opinions and absolute rubbish on the Internet regarding Reich and Orgone. As the aim of this book is to focus on the Joe cell, the above definition will suffice.

#### Some properties of Orgone energy

Thousands of properties have been observed for the life force and I would like to list and explain the main ones relating to the cell.

- 1. It is mass free. ie. Orgone energy has no inertia or weight etc. So conventional test equipment that requires a reaction or something to " push " against to measure a force will be ineffective.
- 2. It is present everywhere, but more importantly to the Joe cell user, the concentration is variable from place to place and from time to time. Therefore, if the cell is leaky and located in a low concentration area, it may stop breeding or even loose the seed. The external signs are a motor that will not produce full power or will not run at all.
- 3. It in constant motion. It has an uneven movement from West to East at a speed considerably greater than the earths rotation. The motion is a pulsating expansion and contraction and a flow normally along a curved path. Inside an accumulator, the energy is emitted as a spinning, pulsating wave. Both of these can be seen to varying degrees in a charging vat and/or cell. These signs are very important to the experimenter as they are his tools in the different stages of seeding and breeding of the cell.

- 4. It negates the laws of entropy. Orgone energy flows from lower concentrations to higher concentrations ie. Orgone attracts concentrations to itself. This is the normal process of creation and as such is a proof of Orgone being a living energy. For the experimenter, this is very important, especially in the seeding stage. If the cell is located in an unfavourable location, it may not seed or take a long time to seed. I have had cells taking 4 weeks to seed, others take only a few days.
- 5. Matter is created from it. Under appropriate conditions, which are not rare or unusual, I have had different minerals formed from identical cells. This in my case is usually a white or green powder that forms as very fine colloid that eventually sinks to the bottom of the cell. You definitely do not want this to occur in the Joe cell as the cell will not run the car and the only solution is to completely dismantle, repolish and clean all components. For the sceptical, you may assume that the deposits are coming out of the water. I strongly disagree.
- 6. It can be manipulated and controlled. We do this in the cell by forming alternate organic and non-organic "cylinders" to form an accumulator for the Organe. Thus the organic layers attract and soak up the Organe and the metallic layers draw it from the organic material and radiate it into the interior of the accumulator. Additionally we use electricity, magnetism and electrolysis to assist with the breeding process.
- 7. It comes from the sun in vast quantities. As such, allowing for thermal lag, the Orgone density peaks in the afternoon and diminishes in the early morning hours. As people have found, a leaky cell will not function as it " dies " around 3 am to 4 am.
- 8. It is affected by weather, ie. humidity, cloud, temperature and time of day affects the accumulation of Orgone. For the experimenter with a leaky cell this explains the weird behaviour of leaky cells ie. sometimes they work, other times not, but if you stand on one foot, talk to it, try different water, chemistry, more or less power etc. it will "come good". This has created a whole religion of what you must do or not do, to such an extent that with the blind leading the blind, the cell in the hands of a casual constructor is doomed to failure.
- 9A. It moves in the direction of a magnetic field. This is highly significant to the cell builder. This factor controls the position and polarity of the cell's internal wiring as well as controlling how much residual magnetism the steel can have and still allow the cell to work. This is critical in the choice and cutting operations of the related metals. Again, a whole mythology has developed around this area. From reading previous material on the subject, it seems that the steel has to be cut by vestal virgins in the Black Forest on a moonlit night!
- 9B. It moves at right angle to an electrical field. Again, highly important, as it dictates polarity and wiring connection to the cell.
- 10. It is absorbed by water. This is one of the reasons that we use water in the cell. To be successful, the water has to be the right type of water. By the way, for example, we could have used bees wax instead of water, but as we want to encourage the breeding process with all the tricks in the book, the bees wax would have prevented the use of electrolysis.
- 11. It is polarised. As Orgone is polarised, that is, we can have positive or negative Orgonic force, so we can build a positive or negative cell. But, if you mix your positive and negative construction materials as most people do, then your result is a leaky or non-operational cell.
- 12. It will penetrate or travel along all known materials. All bodies of continuous structure are equally good conductors eg. It may travel through 70 feet or more of metal. As such, do not think that you are trapping it in the cell. The only reason it stays in the cell at all is because it wants to. It is up to the experimenter to set up a seeding and breeding environment that is conducive to Orgone and not try to create an imaginary prison that the experimenter hopes will trap the Orgone. As a side note, mankind has created synthetic materials in recent times that can greatly stop the penetration of Orgone. I am talking about polymers.

- 13. It has a slow conduction rate. Orgone will take 20 seconds or more to traverse 50 yards of wire. For the experimenter, this means that you should wait about 30 seconds after turning power on to the cell before you can expect to observe Orgone action at a stable rate.
- 14. It exhibits a constant upward tendency, raising vertically. Highly important in creating a non-leaky cell installation in an car.
- 15. It cannot remain in steel or water longer than about 1 hour. Simply said, if you cell is not breeding, it will die in about 1 hour. This explains the use of a 1.5 Volt battery across leaky cells to maintain a breeding process. What you achieve with the small potential across the cell, is a very low rate of electrolysis that matches the leaking of the cell and thus maintaining the breeding process.
- 16. It radiates a great distance. From a typical cell the radiation circumference is at least 160 feet. Think about it!
- 17. It follows optical laws. It can be refracted by a prism, reflected by polished surfaces, etc. This explains the reason for the mirrored or highly polished surfaces in some parts of the cell. It also allows us to control some leaking by utilising optical laws.
- 18. It surrounds itself with alternating spherical zones of opposite polarity. This is utilised by us to determine cylinder diameters and consequential spacing in the optimisation of the cell.
- 19. It is affected by living beings. Again, important, as the experimenter and his attitude can interact with the cell
- 20. It can only be concentrated to a finite amount. If a cell is charged to its maximum degree so that it can hold no more, the Orgone will transform itself into electricity, and in this way or form, find a discharge. By the visual observation of the bubbles, pulsations, and surface tension of the water, we utilise this fact to our advantage.
- 21. Torsion (Orgone) fields transmit information without transmitting energy, and they propagate through physical media without interacting with the media.
- 22. Torsion (Orgone) fields cannot be shielded by most materials, but can be shielded by materials having certain spin structures. As in point 12 above.
- 23. Each physical object, in living or non-living nature, possesses its own characteristic torsion (Orgone) field.
- 24. All permanent magnets possess their own torsion (Orgone) field.
- 25. Torsion (Orgone) fields can be generated as a result of a distortion of the geometry of the physical vacuum. This is demonstrated by pyramids, cones, cylinders, flat triangles, etc.
- 26. Torsion (Orgone) fields can be screened by aluminium. This allows the use of aluminium coated mirrors, or highly polished aluminium to reflect our Orgone (Torsion) field. See point 17 above.
- 27 It will pass through all materials, but at different speeds.

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# Chapter 3

#### COMPARATIVE NAMES FOR THE LIFE FORCE

"Matter is latent force, and force free matter"

The mystic school.

At no stage do I even remotely hint that the following terms are identical. The purpose of the list is to show the many names given to unexplainable forces of which Orgone is one.

Akasa. Hindus. Animal magnetism. Mesmer.

Arealoha. Francis Nixon. Astral light. Kabbalists.

Baraka. Sufis. Bio-cosmic energy. Dr. Oscar Brunler.

Biodynamic Ether. Rudolf Steiner. Biofield. Yu. V. Tszyan.

Bioplasma. Russians. Biotronic. Czechs.

Brahma. Hindus. Ch'i. Chinese.

Chronal field. A. I. Veinik. Cosmic energy.

Cosmo-electric energy George Starr. D-field. A. A. Deev.

Dige. Apache. Digin. Navaho.

Dynamis. Ancient Greeks. Eckankar.

El. Hebrews. Elan-vital. Henri Bergson.

Electrogravitation. T. T. Brown. Elima. Nkundu.

Eloptic energy. T. Galen Hieronymus. Eloptic radiation. Hieronymus.

Entelechy. Dreisch. Ether. Aristotle.

Ethertricity. Gaston Burridge. Fermi Energy.

Fluroplasmic energy. B. Hilton. G-field. Sir Oliver Lodge.

Gravity field energy. H. A. Nieper. Hike. Egyptians.

Hullo. Chickasaw. Ka. Egyptians.

Kerei. Indonesians. Kirlian effect.

Latent neutral. Keely. Life Force. Dr. Aubrey T. Westlake.

Logoital plasma. Hieronymus. Magnetic Fluid. Mesmer.

Manitou. Algonquian. Manna of the Polynesians.

Manna. Israelites. Maxpe. Crow.

Mitogenetic emanation. A. G. Gurvich. Mon-emanation. I. M. Shakhparnov.

Multipolar energy. V. V. Lensky. Mumia. Paracelsus.

Mungo. African. N-emanation. M. R. Blondolt.

Negative entropic energy. James DeMayo. Nervous Ether. Richardson.

Nervous Ether. Richardson. Neutral force. Kabbala.

Neutricity. Gallimore. Neutrino sea. P. A. A. Dirac.

Numen. Romans. Odic Force. Baron Karl Von Reichenbach.

Orenda. Iroquoi. Orgone Energy. Dr. Wilhelm Reich.

Pneuma. Gallien. Prana. Hindus.

Psychotronic energy. Czechs. Pure non manifest energy. Todd R. Knudtso

Reiki. Japanese. Scalar energy.

Space energy. Spiritus. Fludd.

Tachyon energy. Telesma. Hermes Trismegistus.

Time emanation. N. A. Kozyrev. Tinh. Annamites of Vietnam.

Tondi. Sumatra. Universal life force. Baron Eugene Ferson.

Virtue. Jesus. Vis medicatrix. Hippocretes.

Vvis naturalis. Vital Fluid. Alchemists.

Vril. Wakan. Sioux.

Wakonda. Omaha. X-agent. H. Moriyama.

X-Force. L. E. Eeman. Z-emanation. A. L. Chizhevsky.

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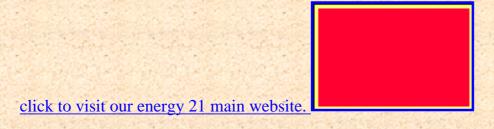
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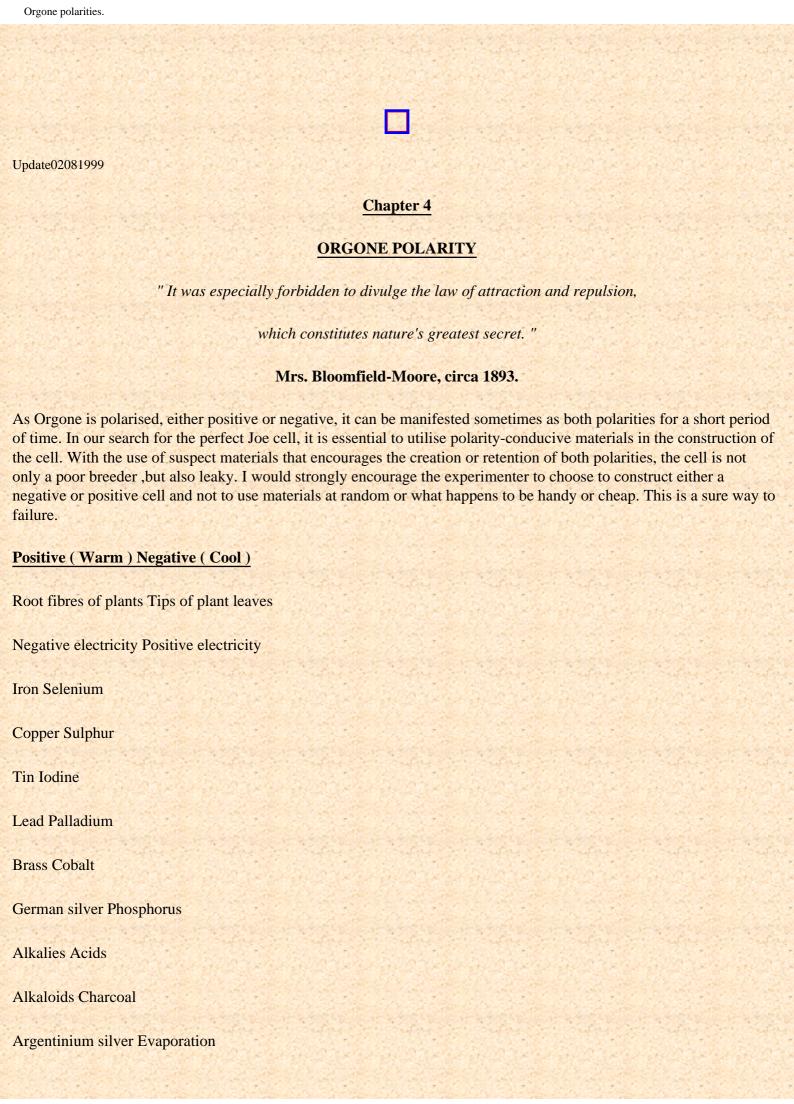
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Orgone polarities.
Mercury Steaming
The base, ( non pointy end ), of crystals Tip of crystals
Friction Sound
Magnetic South Magnetic North
Left hand Right hand
Left side of body Right side of body
Back of neck Forehead
Running water Distillation
Bismuth Vibration
Zinc Tellurium
Osmium Decomposition
Γitanium Oxides
Potassium Haccoid salts
Calcined lime Chemical reaction
Caffeine Vinegar
Paraffin Alcohol
Creosote Mouth and tongue
Moon Sun
Planets Stars
Red end of sun's spectrum Blue end of sun's spectrum
As seen from the above short list, chemical reaction, electrolysis, evaporation, steaming, vibration, sound and chemicals are the most common goings on in the cell and in the motor. To rephrase, since the natural events in our cells habitat favour these actions, I would suggest that the experimenter builds a cell that utilises as many of these parameters as possible, until he gains the knowledge of the causes of the cell behaviour. I personally only build acid cells. I have a dislike of the corrosion associated with alkaline cells and also find that the water remains crystal clear

and the insulators do not fail in my acid cells.

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# Chapter 5.

#### THEORY OF CELL DESIGN

"Everything that is natural is silent, simple and cheap "

Viktor Schauberger.

After 6 years of experimentation, I made the assumption that the Joe cell was working on Orgone energy. This assumption came as a result of hundreds of hours of reading and experimentation. In all that time, all the recorded effects of Orgone, (and there are hundreds) have matched the behaviour of the Joe cell. There has never been a departure from the known recorded effect of Orgone energy, not even <u>one!</u> As such it would take a far braver man than I to argue with the huge supporting evidence of thousand's of man-hours and the work from hundreds of qualified individuals from all over the world. So, as my own humble experiments agree with the majority, I have said, and will repeat many times, the cell runs or more correctly, accumulates Orgone energy.

### Theoretical requirements

Sometimes I have to restate the obvious, namely, if we are to accumulate Orgone energy, we must have an Orgone accumulator! We are not designing this cell to use Neutrino's, Deuterium, Nitro-glycerine, steam, Nitrogen, Hydrogen, Hydroxy, or any other author's pet opinion to the contrary. You will have to read other publications for those topics and cell designs, this train goes to Orgone country. We are designing our cell to run on Orgone energy! When I say "we ", I am assuming that the reader is following suit, and will build a cell closely matching these instructions. As such, a close study of the chapters on Orgone properties and cell polarities would be in order. If you were a naughty boy and skipped over these sections, I would suggest that you read them now. So what have you discovered? You should be in agreement with me on at least two points, ie. that the cell should use as many of one type of Orgone polarity materials and properties as possible, and additionally, we want to utilise as many as possible of all external forces available to us to assist us in the accumulation of the Orgone energy.

Are we on the right track with our Joe cell accumulator? What would we aim for in the design of a perfect energy accumulator? Is there any better way to go? Maybe we are on the wrong track? At this stage it may be a good idea to consider the design parameters for the ultimate energy source. After all, why waste our time with the Joe cell if there is a "better "way of getting our energy. Better meaning, cheaper, parts effective, less polluting, less destructive, longer lasting, etc. If we look at the quote from Viktor Schauberger at the start of this chapter, "... natural, silent, simple and cheap..." is a very good starting point. Let me give you a brief list of the requirements of this magic accumulator and see if we are on the right track with the Joe cell:

- \* The Joe cell is natural as it operates on the life force (Orgone). It is the only natural man-made energy producing device that does a direct interchange from a primary energy source to the final energy supply. As such it seems to provide "free energy " and thus be an impossibility. This is a huge stumbling block for people who do not understand the concept of "free energy ".
- \* The Joe cell is silent. There are no moving parts. A solar panel or Peltier effect device would be the closest highly inefficient relations.

- \* The Joe cell is simple. No moving parts, a set of cylinders and water, you could not get it any more simple.
- \* The Joe cell is cheap. After the initial outlay, there are no further material costs or replacements required to worn-out parts. The Joe cell is virtually everlasting. If you build one with second hand components, your total outlay should be under AUS \$200.00
- \* When we use energy that is at its fundamental stage ie. the energy cannot be broken up into any other energy constituents that are at a smaller level; we have no waste by-products and thus no pollution. The Joe cell runs on the life force energy (Orgone) which is a fundamental force of the Universe. You are not going to get any more basic than that!
- \* Any centrifugal, expanding and exploding force is wasteful due to the creation of heat. Any device that generates heat as part of its operation can never be considered an efficient energy source.

Nor can it ever be an over unity device. The Joe cell runs cool and so does the motor that runs from it.

- \* Any energy produced from a set of conversion stages is wasteful. For example, a nuclear submarine has a nuclear reactor to create heat. The heat is used to create steam from water. The steam drives a steam turbine. The steam turbine is used to run an electric generator. The electric generator is used to drive an electric motor. The electric motor turns a propeller. The propeller twists in water thus providing a thrust. The thrust propels the submarine. You would have to be kidding! No wonder that superior beings roll on the floor with laughter on observing our "technology". How unnatural is all that? The Joe cell converts the primary life force (Orgone) into an expanding multiple use force in one step. Beautifully simple!
- \* The Organe does not have to be stored or converted and stored. It is an on-demand system and thus there is no infrastructure required to store, distribute, ship, sell, etc. Unlike petrol, it is the same price each week (free). Definitely not good news for the oil multi-national concerns. Maybe that is why we are not using this force? < grin>.

So to summarise, I would say that, (to the best of my knowledge) as there is no alternative energy device to compete with the Joe cell, we would be on the right track if we build a cell that ran on Orgone. Please note that the Joe cell and its construction has limitations and negatives as you have already read and will read in later chapters. As we do not live on a perfect world, we are not perfect humans and the Joe cell is not a perfect device.

#### Making a theoretical cell

By reading through the list of Orgone properties and selecting the ones that look useable, you should have selected these:

*Property 14.* As it has a preference for a vertical and constant upward alignment, we will have the outlet of our cell at the top most point of the final structure.

*Property 6* As it can be manipulated, it means that we can build a container to house it. We will have cylindrical cylinders, concentric and with a vertical axis to fit in with Property 14.

*Property 10.* As it is absorbed in water, we are going to make a water cell. As we are dealing with water, the cell has to be water proof and non corrosive.

*Property 20.* As it can only be concentrated to a final amount, we know that sooner or later something will occur in the vertical plane and with our outlet located at the top of this vertical axis, ie. *Property 14*, something will come out.

Property 9A As it moves in alignment with a magnetic field, we know that if we place one of our potential's at the bottom of our " conductor ", and the other potential at the top of our " conductor " a magnetic field will result and the Orgone field will move in the same direction. As our conductors are the metal cylinders, they now must have a concentric vertical alignment to fit in with Property 14. As we are dealing with magnetic fields, our cell material should not interfere with the chosen field that assists the Orgone to follow in a vertical alignment. Also, as we are dealing with water, electrolytes and magnetism, the cell material suitable for the simple cell should be stainless steel with a low as possible magnetic residual. Just on the side, our " conductor " is a complex combination of water, stainless steel cylinders and ion flow. Nevertheless, it will create a directional magnetic field

Property 9B. As it move at right angle to an electrical field, our concentric vertical cylinders prove a perfect match, ie. the electric current flow is from the inner most cylinder, to the outer most cylinder in horizontal lines. As the Orgone flows at right angles to this field, the end result is again a vertical alignment of Orgone. Good stuff!

Now, from the table of Orgone polarities, we can get a few more "helper's "to coax the Orgone force to work for us;

The electrolysis will be very interesting to it, and as Joe said, connecting the power to the cell when the engine is running is like switching the turbocharger on full boost, man you are off! Like wise the friction from the reciprocating parts in the engine will get it to go in and have a peek and then, "got you! ", we can use it! The sound and vibration are additional bonuses when the car is running.

# Capacitor effect

For the electronically versed readers, let me explain to you one way that the cell acts as a concentric energy accumulator. It is a well known fact that the charge of a capacitor is proportional to the surface area of the plates. Similarly, we know that the potential increases as we bring the plates closer together. Now look at the beauty of the Joe cell. We have a set of concentric plates with an obvious reduction of surface area as we move towards the middle of the cell, ie. as the cylinder gets smaller in diameter, the surface area reduces proportionally. Now, as the surface area of the cylinders decrease towards the middle, we **automatically** have the charge increasing as we move towards the center! Therefore, the greater the number of cylinders, the greater or more intense is this charge build up. So, thrown in at no extra design cost is an automatic magnifier for the Orgone force that is concentrated automatically at the center of the cell. The above applies only if the water can act as an dielectric, ie. that it does not have too many ions in the water. Thank you Nature! By the way, on a larger scale, the earth is the middle of the accumulator and the different atmospheric layers are the cylinders that concentrate the sun radiations.

#### **End result**

We now have a theoretical cell. It is made from a plurality of concentric stainless steel cylinders in water, with an application of a suitable electric and magnetic field, and a top-located outlet on a vertical aligned cell.

So, the above is the layout and the logic in the construction of a theoretical cell. Now, dear Joe did not do any of the science, did not know any of the scientists, did not read any related books and did not know what Orgone was, but by a stroke of sheer luck and intuition, he made his final cell in the above configuration, and the rest is history! Yes, dear friend, our theoretical cell is exactly how you should make you practical working cell. This will be explained in the next chapter.

\*\*<del>\*</del>\*

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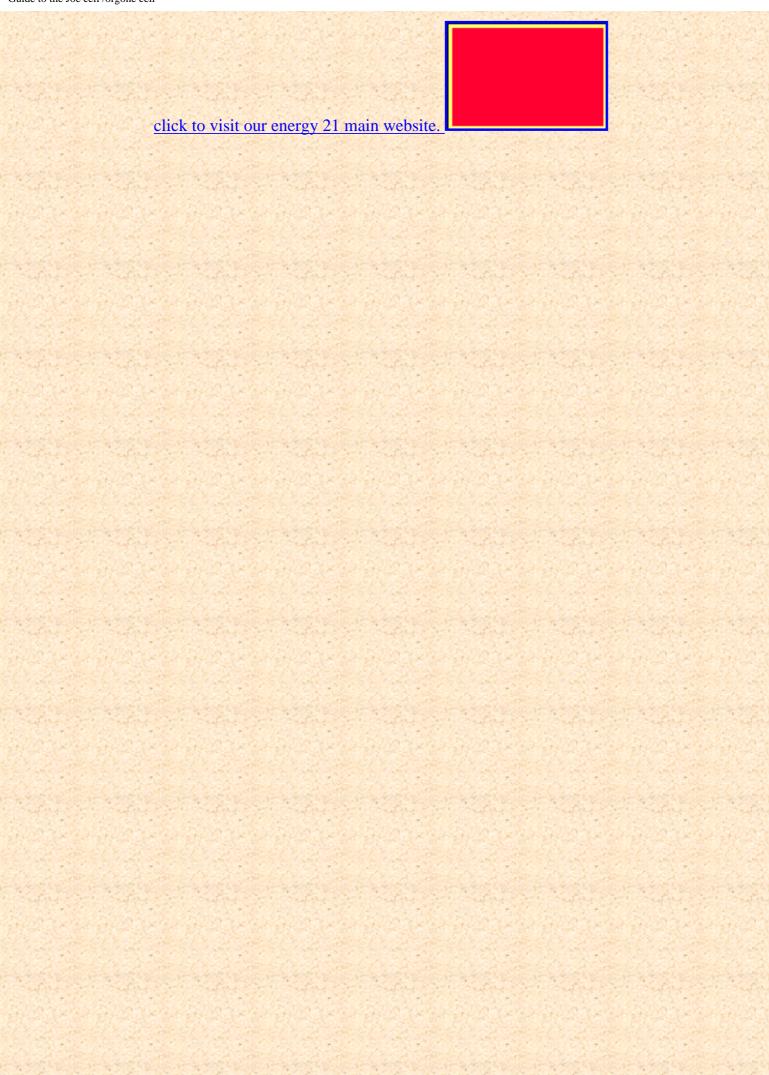
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# Chapter 6

# MATERIALS AND CELL DESIGN

"There is no ideal crucible, no crucible so perfectly sealed and protected that it can be considered a closed system, a unit absolutely isolated from the rest of the universe.

#### Raymond Abellio, circa 1975.

In this section, I would like to take you step by step, through the cell construction process. I have stated in other sections of this book and I would like to also state here that there are countless methods of constructing Orgone accumulators. The method described here is based on the Joe cell construction techniques. For a very comprehensive description of this type of cell, I would presume that the reader has read, or has access to, a copy of Barry Hilton's book, "How to run Your Car on Zero Point Energy". This book contains in words and diagrams what Joe wanted the public to know about his cell. As such it is essential reading.

Note. I have a copy of the above book and recommend it to others, <u>but</u>!, that does not imply that I agree with the theories or facts as expressed by Barry and Joe. Nor does it imply that I promise you that if you buy the above book, you will be able to "run" your car, or even have a working cell. Simply stated, I see Barry's book and my own, as pieces similar to the pieces of others, in a jig saw puzzle. If you put all the pieces together, you will understand the life force, or whatever else you want to call it. You do not require all the pieces if you only want to "run" a car, but the more pieces you have, the greater is you understanding of the causes, not just the effects. Thus the car will run for a longer period of time without mysterious "down times".

I am not interested, as established before, in arguing, challenging, debating, competing, or defending my written notes with any parties. I give you these notes freely as a pointer, to show you a method of cell construction that works for me. If you have something constructive to contribute, I will gladly alter my notes.

Right, with the preamble out of the way, lets get to work. I will go through each step:

- A. Parts list.
- **B.** Selection of materials.
- C. Machining operations.
- D. Options.
- E. Assembly.
- A. Parts list.

The following parts lists, tie in with section **D**.

Common to all vats and cells, you will require lugs that can fit over a ½ inch (12 mm.) bolt, and multi strand wire capable of flowing 10 Amps continuously, red for positive and black for negative. You may want to purchase an in-line fuse holder and a few 5 Amp fuses to suit.

A1. Charging vat. (Optional item).

This vat can be any suitable low paramagnetic food grade steel container. A favourite with Joe and others is a stainless steel beer keg. These seem to be plentiful, but be wary of quality. The seam welds are particularly paramagnetic. There is a story of Joe testing about a hundred kegs before he found one that he liked. Unless you are going to use the large cones, about 10 inches ( 250 mm. ) diameter, I see no useful purpose to have such a large charging vat. Even if you employ it to fill up your radiator, it is still a hell of a lot of water. I could see a use for one as a shared club or group resource, but not for one individual. I personally use a much smaller vat with an internal working height of 11 inches and a diameter of 8 inches. This type of keg has the advantage of not being seam welded horizontally half way up the container. This is exactly where you do not want any magnetic bands! My cone diameters are either 5.5 inches or 6 inches depending on the scrap metal dealer.

So, you will need:

- 1 x Keg of your chosen size.
- 8 x Cones of chosen size.
- 1 x Nylon, or similar, central cone support rod.
- 8 x Nylon, or similar, spacer washers to suit cones and central support rod.
- 16 x Neoprene O-rings to suit central support rod
- 1 x 300 mm. long by 6 mm. diameter (approx) stainless steel support rod. (Use horizontally across keg to hold central rod and cone assembly).
- 1 x 1 meter long (approx), by 12 mm. wide stainless steel strap, approximately 1 mm. thick.
- 6 x Stainless steel pop rivets.

**Note.** If you just want to get on with it, and you only want to charge your car cell, you do not require a charging vat. Its main virtue is the quantity of water and the ability to remove any scum from the top of the water. Unfortunately, as you car cell is enclosed, this scum is not so readily removed, **but** there is nothing to stop you charging the water in your car cell, tipping out you stage 3 water in a glass container, filtering this water and reintroducing it back into you car cell. Anyway, if you use the methods described in these notes, you will find that your scum will be at a minimum. I have always charged my car cells as a stand alone unit, ie. no charging vat. The advantages are that you know that the cell and the water are okay and not just the water, as the case would be, if you simply added the water out of your charging vat into your car cell.

A2. 4 cylinder test cell.

The test cell is a vital piece of equipment that you should make. It has two main functions: One, it is a training aid for you while you are learning about the different stages of charging the water. You will easily be able to observe the

different bubble types, surface tensions, deposits in the sump and colloidals suspensions in the water. Two, you will be able to fill it up with suspect water from you main car cell and test to see if the water is still at stage 3. You do not have to be Einstein to work out that your test cell container should be transparent.

#### You will need;

- 1 x Glass or clear ( not translucent ) acrylic container about 6 inches ( 150 mm. ) diameter by about 8 inches ( 200 mm. )tall. The container must have a lid!
- 1 x Set of 1 inch, 2 inch, 3 inch and 4 inch cylinders about 5 inches (125 mm) long.
- 18 x ½ inch (12 mm.) diameter by ½ inch long spacers.
- 1 x Approx. 10 inches (250 mm) stainless steel strap as per charging vat parts list.
- 2 x Small stainless steel nuts and screws to secure the strap to the plastic or glass container.
- 2 x Stainless steel pop rivets.
- 1 x 1.5 feet (500 mm.) of heat shrink tubing to fit over you stainless steel strap.
- 2 x Lower acrylic support combs, (to be described later).

Note. If you use the glass jar, you may want to insert the negative via a ½ inch (12 mm.) stainless steel bolt via a hole that you drill through the bottom of the jar. In that case, you will need a 3 inch (76 mm.) stainless steel bolt, nut and washer, plus two Nylon or Teflon machined washers where the bolt exits the glass container. The extra effort may not be worth it unless you can get the parts cheaply.

# A3. 4 cylinder car cell.

The construction of the 4 cylinder and 5 cylinder cells are the same except for the extra cylinder and 6 spacers. Thus I will only describe the construction of the 5 cylinder cell. If you want to make a 4 cylinder cell, follow the construction of the 5 cylinder cell without the extra cylinder.

**Note.** The only reason that I mention the 4 cylinder cell at all, is again due to the myths that have developed in the "field". Basically, the story goes like this: It is rumoured that if you do not use the charging vat, you can only charge and run you car with a 5 cylinder cell. You supposedly cannot charge you water with a 4 cylinder cell, only run you car on it. Joe also mentions in his video that he thinks that the 4 cylinder may even run the car better than the 5 cylinder cell. Personally, I have found that you can charge both a 4 and a 5 cylinder cell and thus, they will also run the car. As the leakage of a cell is determined by the "layers" or number of concentric cylinders, the 5 layer cell is a better cell. I have found that a 5 cylinder cell works much better for me and I really have nothing to recommend the 4 cylinder cell for, except that it is a smaller cell. There is still meagre feedback from constructors, so the jury is still out.

### A4. 5 cylinder test cell.

This is my favourite configuration. My very first test cell was a glass 5 cylinder cell with 7 inch long cylinders. This cell has been in constant use now, for about 6 years, still not broken after countless dismantles and services. The insulators and cylinders after 6 years are as good as they were on day 1.

This cell uses the ½ inch bolt-through-the-bottom alternative.

The construction is the same as the 4 cylinder test cell, with the addition of 6 extra spacers to support the extra 5 inch cylinder. That's it.

A5. 5 cylinder car cell.

This is the one, dear people. You either get this one right or end of Joe cell as reality and back to fantasy. This is the baby that has to seed and breed for you. This is the one that has to be reliable and sludge free. This is the one that people will judge your sanity on. If it does not work, you go down the path of all other failures and dreamers. Conversely, when you get it working, you will not be able to count all your new " friends ". They will all want one, just " like the wizard made ".

There are variations, I will give you my favourite one, you will need:

- 1 x Set of hand selected, polished, clean, low paramagnetic, (maybe heat treated) 1 inch, 2 inch, 3 inch and 4 inch inner cylinders, of 8 inch length, or length very close to 8 inches, as calculated from own your calculations as per Chapter 7.
- 1 x 5 inch diameter outer cylinder, as above, but 10 inches long.
- 1 x Lower plate, one 5 inch thread, one 5 inch O-ring seal and one 5 inch nut to suit the above
- outer casing. This is not of-the-shelf. You will need machine work to make the press fit
- section. See diagram.
- 1 x Top cone. This is a standard 5 inch to 1 inch tube reducer. Apex angle to suit material but between 60 and 90 degrees and optimally 57 degrees for 316L stainless.
- 24 x ½ inch diameter by ½ inch long ebonite or similar spacers.
- 1 x 3 inch long by ½ inch diameter stainless steel bolt, nut and washer.
- 2 x Nylon or Teflon machined insulators for bolt exit.
- 1 x 1 inch (24 mm.) diameter compression fitting for your cell outlet. This outlet will be a right- angle or straight fitting depending on your individual requirement. This is where your 1 inch (24 mm.) outside diameter aluminium engine pipe fits in.
- 1 x A suitable length of 1 inch outside diameter (24 mm.) aluminium tube for your cell to engine blind plug fitting. (My tube has a 20 mm. inside diameter but this is not critical).
- 1 x 1 inch (24 mm.) long, ½ inch (13 mm.) inside diameter stainless steel tube. This slips over the stainless steel bolt and holds the inner cylinders clear of the bottom
- 3 x Acrylic combs to support the inner cylinders. Optional, to be described later.
- **Note.** All components should have the minimum paramagnetic field possible. Your test magnet can be slightly attracted, but must not stick and support its own weight! All parts are to be cleansed in mild vinegar or acetic acid that

has been added to juvenile water. Do not leave finger prints on any stainless steel surface.

Regarding heat treating, as the Curie point of most stainless steel is 800F and higher, our heat treatment must exceed this temperature. Two methods that work are:

- 1. Local advice from a Melbourne heat treatment operator: he suggests to place the material in an oven at 1200F for three hours in a Nitrogen gas, then reduce the temperature slowly to atmospheric over twelve hours.
- 2. TM Technology, (http://.www.tinmantech/html/faq\_stainless\_working\_joe-c.html) suggest 800F to 1200F for ½ to 2 hours.

# B. Selection of material.

Material selection can be broken down into:

B1. Stainless steel cylinders and cones or domes.

A vast amount of good advice and pure drivel has been written on this subject. So much so, that I had cell builders from USA telling me that the right grade 316l stainless steel is unobtainable over there, and Australia is the only place that is can be sourced from! I have also been told by "experts" that this steel can only be made in the Southern Hemisphere (due to the Earth's magnetic field rotation,) and that is why the Joe cell only works in Australia and New Zealand! When I tell them that I cannot afford to buy new steel and obtain most of my stock via scrap metal dealers from dismantled American and British food machinery, they then think I am hiding the truth from them and that I am somehow refusing to show them the "secrets" of the cell design. What can you do with some people?

So, where do we go to get this "unobtanium "material? Where is the line between fact and fiction?

First of all, let's go to the start of Joe and his cell designs. You would have noticed historically that he used plastic and stainless steel in his designs and, irrespective of the material used, <u>ALL</u> types of cells worked for him. So it does not have to be stainless steel at all! As I will show in a later book, stainless steel is really quite a lousy material, but will suffice for this cell. However, as people, including Joe, experimented with various chemicals, they discovered that some stainless steels had three main advantages; namely, it formed a good pressure container, it was impervious to the majority of chemicals and it was "non-magnetic".

I will list some of the "non-magnetic "stainless steel, but please note that all stainless steel will be magnetic to some slight degree:

**AISI 304.** Used in dairy, textile, dyeing and chemical industries for containers subject to different types of corrosive conditions.

**AISI 316.** Parts for chemical and food plants, wearable for high temperature.

**AISI 316L.** As for 316, but with superior corrosion resistance when exposed to many types of chemical corrosives, as well as marine atmospheres. It also has superior creep strength at elevated temperatures.

AISI 310. Furnace parts, radiant tubes, annealing boxes and heat treatment fixtures.

AISI 410. Cooking utensils, turbine blades, coal screens and pump rods.

AISI 420. For the automobile and aircraft industry. Components such as valves, pistons, and nuts and bolts.

#### AISI 431. Parts requiring highest strength and rust resistance.

Now, for reasons that I do not fully understand, the Joe cell fraternity has decided that only 316L will do. I have proved over and over that this is a myth. Not only that, I would challenge any builder to pick 316L stainless from similar grades at a scrap metal dealer! What we are looking for are cylinders, cones and domes that have the least remanent paramagnetism. This is easily checked by taking your faithful rare earth magnet to your metal dealer. My magnet is only 5 mm. diameter by 3 mm thick and is attached to a convenient length of fishing line. By swinging the magnet near the stainless steel you will easily see how paramagnetic the steel is. Especially check the longitudinal or spiral seam welding. The magnet will be attracted to the seam, but reject the material if weld seam is discoloured for more than ¼ of an inch (6 mm.), or it is a different thickness to the rest of the metal, or the magnet sticks and stays there supporting its own weight.

#### Note.

- \* Always have a keeper on your test magnet when you carry it in you pocket, as it just loves to "wipe out "credit cards and similar magnetic stripe products!
- \* Do <u>not</u> use a ferrite magnet! similar to the easily obtainable round speaker magnets that every experimenter has in abundance. These are nowhere near strong enough and you will be deluded into thinking that you have found "Joe cell steel heaven ", as the stainless steel will pass your magnetic tests.

If you plan to heat treat you cell components after all machining and welding operations, the selection process does not have to be quite so rigorous. I personally would get the least paramagnetic steel anyway, as it is no extra in a scrap dealer and you may not have to heat treat the completed cell.

\* If you are buying new stainless stock be prepared for some awfully dodgy 316L stainless.

It seems to vary tremendously with the country of origin. I have found that certified stainless in a plastic wrappers and with '316L' written longitudinally and repetitively along the whole length is generally fine. You will find that when you spin a good piece in a lathe and gently hold it with your hand, a good piece will feel "round", but with a bad piece, you will feel longitudinal ripples. Similarly when you are cutting a piece of genuine 316L you will hear a ringing and the saw will be really working to cut it. I have cut some so-called 316L that cuts like butter! Believe me, real 316L is a bitch to work with.

Summary of the above. Since 316L is "the best", try to buy some certified 316L stock. Try to buy some seamless tube if you can. Do not buy any on some salesperson's guarantee that it is non-magnetic. **Test it!** If they will cut it free of charge, see how they cut it and get it cut at least 1 inch, (25 mm.) oversize. Usually a top supplier will charge about a \$1.00 a cut with a liquid cooled band saw. In such a case, you do not require a large waste margin, a ¼ inch will do for you truing operation on the lathe. Make sure that there are no dents or major scratches in the sections that you purchase.

The cones are usually an off-the-shelf reducer and you should have no problems in getting what you want (except for price). The cones normally have seam welds, so check these. You can also get of-the-shelf, any compression fitting, flange, thread, blanking cap, bolts, nuts and washer. What you can buy is only limited by the size of your wallet All certified stock, even the washers, will have '316' written or stamped into the component. If you are using dome ends of varying geometrical configurations, you will have to have them hand beaten or spun to you dimensions. I don't have to tell you that anything to do with stainless is expensive. Think about it three times and buy once only! Consider carefully what cone angle you want to use. For example, a cone reducer from 5 inches to 1 inch can be made in many different angles. Do not assume, that because the end holes are the correct diameter, that this automatically makes the optimum cone angle.

#### B2. Insulation material and cylinder spacers.

The insulation material that is used where the  $\frac{1}{2}$  inch (12.5 mm.) bolt exits the lower cell fitting is not that critical. I have used Nylon, Teflon and similar polypropylene and polycarbonates. They all work fine. Find a plastics supplier and rummage through his bin of rod offcuts, or if that fails, you will have to buy some. The colour is not important. I use a white or off white as a preference. Teflon is by far the best, if you can afford it. I do not use it. I buy 2 inch (50 mm.) greasy Nylon rod that is far cheaper and that I machine to my final sizes.

The insulators between the cylinders are a different story. These tend to have deposits formed on them over a long (over 6 months) period of time. The can also crack or loose their elasticity causing the cylinders to move, or they will disintegrate or turn to jelly. When I first started on this project, I copied Joe and used rubber "counter hose "as found on the roads in that era for traffic monitoring. This hose material is no longer in use, and there was really nothing special about it, just handy as it was always laying around on some road or other < grin >.

As my cell design developed, I started matching my materials with the Orgone polarity. I found sulphur based product ideal for the acid cell, so now I use ½ inch (12 mm.) ebonite rod. I am not telling you to start using ebonite rod, only that it is a suitable spacer. Ebonite rod is quite cheap eg. ½

inch diameter by a meter long is about AUS \$6.00. In Melbourne you can obtain it from E. C. Menzies Pty. Ltd., 19 Ewing St. Brunswick. Phone is (03) 9387-5544. As purchased, this rod is not polished and you could polish it with fine wet and dry emery paper if you so wish.

You can also use 100% silicon thick wall tubing, or red rubber chemical corks of the right size as recommended by Barry Hilton. I have tried a mixed set of the above in one cell to see which would fail first. I discovered that after 6 months both the silicon tubing and the rubber corks lost some elasticity and although the cylinders had not slipped, in a four wheel drive, rough terrain application, there would have been some problems. A neutral and superior spacer can be machined from Teflon rod and it works very well.

#### B3. Cell to motor tube.

This one is nice and quick. I have stuck to 1 inch (24 mm.) outer diameter aluminium tube, with a wall thickness of 1/16 of an inch, (about 1.6 mm.) so the inside diameter is 20 mm. It is readily obtainable, reasonably easy to bend, electrically conductive and works well as a guide for Orgone. I standardise on 1 inch (25 mm.) outer tube diameter for all the cells that I make and supply and thus the cells are interchangeable for fault finding and performance checking. I would strongly suggest that the bigger groups involved in cell design, should agree to a set of standards for cell design that are mutually agreed to world wide. This would allow mass production of cells with the related advantage of cost cutting and uniformity. Other diameter of tubes and materials can be used, there is no rigid rule. If you find something that works for you and it is readily obtainable and cheap, please let me know so that I can add it as an update to this manual. For example, I have used normal clear plastic water tubing, covered it with aluminium foil and then I have heat shrunk a plastic sleeve over the lot to give it strength. Not as good as solid aluminium, but easy to form and easy to make when you have no access to solid aluminium tube.

So there you have it for the materials. Low component count, therefore simple and close to Nature.

### C. Machining operations.

Machining operations can be broken down into;

#### C1. Cutting operations.

This is one of the important steps in cell construction. As previously stated, any high speed cutting at the steel

must be removed from the final length of the component. That is why I suggested the oversize margin in B1. If the tube is cut with a liquid cooled bimetallic blade or at low feed speeds with a metal cutting disk, you will not see any colour change whatsoever! When I cut my tubing at home, I simply use a 4 inch (100 mm.) angle grinder in a cutting attachment and slowly rotate the tube as I cut the steel. There is no colour change and I can cut my tubes so close to the finished size that the lathe work is only a truing operation. As mentioned above, I true the tubes and match for length at slow speed in the lathe. The final matching of the cylinders is done by holding a metal ruler across the tops of two cylinders. You should see no light under any of the four contact spots. I match all my cylinders starting at the 1 inch one and work outwards.

#### C2. Polishing.

This is not a difficult operation. I use about 400 grade emery paper and whilst the part is rotating in the lathe, I polish the internal and external tube surfaces. Do not polish to leave cross hatch marks, ie. do not move your emery paper laterally back wards and forwards at speed. Make you lateral traverses slowly. That's it, no mysterious techniques.

#### C3. Welding.

I have my parts either Tig, Mig or plain old oxy acetylene welded with 316L rod or wire. Again no mysterious techniques, just a good welder.

#### C4. Insulators and spacers.

I turn my chosen spacer material on the lathe. I cut off my ebonite rod or Teflon to ½ inch (12 mm.) lengths on the lathe. Ditto, no mysteries.

As you can see, there is no laser cutting or matching to angstrom units for part dimensions. Nor is there any submerged welding by highly qualified aircraft experts. All operation can be performed by a handyman or the nearest machine shop.

# C5. Press fit operations.

I sometimes press fit components. At all times, as a result of the press fit process, I make sure that I have no change in internal dimension and the press fit is exactly that, ie. not a finger push fit. I clean and "pickle" the surface prior to the press fit operation for about 15 minutes and then wash off the chemicals in juvenile water. On the external side of the press fit, I deposit a ring of 24 hour Araldite to guard against any weepage of electrolyte. The adhesive you, use whatever it is, must not be accessible to the internal working of the cell, otherwise it will deposit itself all over the cylinders and insulators and diminish or "kill" cell operation.

# D. Options.

The following options are possible;

# D1. Construction of a charging vat.

The options are related to the cone diameters As explained in A1, I make the small charging vats; Joe, Barry and others make the large ones that use 10 inch (250 mm.) cones. There are variations in the quantity of cones, as used by Joe, and this is covered in detail in Barry's book. I prefer to use 8 cones, 1 reflector, 1 positive, 2 negative and 4 " spacers ". There are also variations in the support method of the cones. I prefer the central Nylon rod. Others prefer spacers between all the cones around the periphery of adjacent cones and an agricultural pipe up the middle of the cones ( see Barry's book).

As mentioned previously, unless you are after a vast quantity of charged water or have scum problems, you will not need it.

D2. Construction of 4 cylinder test cell.

You can have the outer container made from glass or acrylic (Perspex), but in all cases, make sure it is clear. The other variation is in the method of extracting the negative, either with a stainless steel strap out the top, or with a stainless steel bolt out the bottom. Again, it is up to you. The bolt out the bottom is a pain, as the container now has to be supported by a suitable stand. Also, the bolt method introduces further costs. For a test cell, it is not mandatory to use a bolt entry from the bottom of the cell.

D3. Construction of 4 cylinder car cell.

See notes for 5 cylinder car cell.

D4. Construction of 5 cylinder test cell.

See notes for 4 cylinder test cell.

D5. Construction of 5 cylinder car cell.

The variations are quite numerous. The obvious ones are the composition of the spacers and insulators. This I have covered and will not repeat.

We have a choice in the way that we "join " the outer cylinder with the cones or domes or plates.

We have a choice in the support mechanism for the inner cylinders.

We have a choice in the geometric shape of our top and bottom "covers".

We have a choice in the way that we attach the ½ inch bolt to the 1 inch tube.

We have a choice in the outlet fitting type.

#### E. Assembly.

E1. Charging vat.

There are several versions of the charging vat. There is a thorough coverage by Barry Hilton in his book. I suggest that the reader has a look and then they can decide which version they want to build.

Either way, apart from size and some minor details, the vats are very similar. The one that I am about to describe is my version and matches the previous part list. I will keep this section brief, on the assumption that you have seen Barry's book. As you can see, the photos make the construction quite clear.

E1a. I will mention a few pointers that may be not clear from the photographs:

\* Remove the metal mandrel head out of the pop rivets as the remanent head is not stainless steel and will be magnetic

and will rust.

- \* The stainless steel strap from the two negative cones must not be cut, and thus is one continuous length ( as described in Barry's book ).
- \* The function of the O rings, is to allow the gasses liberated by electrolysis to pass via the irregularly cut central holes of the cones. You place one O-ring on each side of the Nylon spacers. So the order would be, one cone, one O-ring, one Nylon spacer, one O-ring and finally the next cone and so on with the next O-ring, etc. until you complete the cone stack.

As you can see, I have left this section very brief on the assumption that most readers will not build a charging vat, or if they did, there is sufficient information above if you study the photos.

E2. 4 cylinder test cell.

I will not cover this test cell, as it is the same as the 5 cylinder test cell, minus one cylinder.

E3 4 cylinder car cell.

I will not cover this car cell, as it is the same as the 5 cylinder car cell, minus one cylinder.

I have however, provided ample photographic views of the construction.

E4. 5 cylinder test cell.

E4a. The 5 cylinder test cell is similar to the 5 cylinder car cell as described in E5 below. When you complete you 5 cylinder sub-assembly as per E5c, palace it to one side and proceed with next step.

E4b. Have somebody drill the appropriate size hole in the bottom of the jar to match the stepped washer as per E5e. I drill my own hole in the glass, using the right size outer diameter copper tube. I attach this copper tube in a slowly rotating vertical drill and lubricate the copper cutting edge with a mixture of kerosene and fine valve grinding compound. The grinding compound can be obtained from any motor accessory shop. Go nice and easy, and frequently add new cutting paste. Haste means a broken jar, so do not say I did not warn you. When finished, dispose of the ground glass, paste, etc. in a safe way.

E4c. Assemble cylinder sub-assembly to glass jar as per car cell assembly. Do not over-tighten the nut! Fill with juvenile water, test for leaks, etc.

E5. 5 cylinder car cell.

E5a. Rather than covering the construction of Mark 1, Mark 2, mark 3, etc. types of cell, I will cover the construction of a 5 cylinder that I consider as the "best" of the simple type of Orgone accumulators that we have called the Joe cell. I cannot see any value in covering the other variants of simple type of 5 cylinder cells, only to tell you at the end to build the one I am about to describe.

E5b. Make sure that you hands are not oily and re-check that all cylinders are clean. Obtain a kitchen cutting board or a piece of MDF or chip-board or any smooth and level surface will do. We will assemble the cell upside down on this flat surface, as this will ensure that the finished cell will be flat across the tops of the cylinders, ie. the side that is on the flat surface ( as this is the critical area! ). As your cylinders will not be perfectly identical in length, this method will also place the irregularities towards the bottom of the cell, where it is not as important.

- \* The first step is to prepare our ½ bolt, so that the hexagon head is a tight press fit into one end of the 1 inch cylinder. A minimum amount is ground or turned to off from the hexagon head so that the bolt head is a tight interference fit inside the tube. I have seen bolts with unaltered heads hammered into the pipe. Depending on the bolt, this caused the tube to assume a hexagonal appearance where the bolt head was forced into the tube. It still works okay, but it is not aesthetically pleasing. If you perform the task correctly, there will be a minimum of distortion to the outside of the tube and the water will be able to flow easily in and out the tube via the hexagonal flats of the bolt head, as they are not touching the inside walls of the tube.
- \* The head of the bolt is pressed into the tube until the bottom of the head is in the tube by ¼ of an inch or 6 mm. See diagram and picture. If you look through the tube you must see adequate clearance for water flow. On the bolts I use, when I finish the lathe work, all the hexagon shape is removed and I have to grind 3 slots in the head with my angle grinder to provide channels for water flow. When you roll the 1 inch tube on a flat surface the bolt shaft should roll with no wobble. This verifies that you have pressed the bolt head squarely into the tube. It is easy to drive some bolts into the tube and not keep it concentric-centric with the tube. The end result is that the whole inner cylinder assembly will be askew and interfere with the proper seeding of the cell.
- E5c. Now take your 1 inch tube and place it upright on your assembly board, with (obviously) the bolt toward your face. Remember that the flat board end of the tube will finish up as the top of the inner cylinder assembly. Take you 2 inch tube, slip it over the 1 inch tube and position it so that there is an equal gap between the 2 inch and the 1 inch tube. As you build up your inner cylinder assembly you will repeat this step with you 3 inch and 4 inch tubes.
- \* Take 3 of you chosen ½ inch (12 mm.) long insulating spacers and force them into the gap between the tubes at 120 degree spacing. Push your insulating spacers into the tube until they are below the tube edge by ¼ of an inch (6 mm.). As I use ½ inch ebonite spacers, I have to file a flat to reduce the overall diameter of the ebonite before I press fit them into the tube. I place this longitudinal flat towards the convex or outer cylinder surface for best friction fit. If you use Teflon or Nylon rod, you will have to machine this tolerance factor into you rod diameter before you cut it up into you ½ inch spacers. Naturally, this problem does not exist with rubber hose or any other malleable material. You will find that if you use a malleable material, with time, your cylinders will sag and you will lose your critical level top line-up from inner cylinder to inner cylinder. In that case, I would suggest that you make a supporting comb assembly under the cylinders to support them. I have made these out of Perspex ( acrylic ) and they resemble a comb with the teeth facing upwards. The cylinders fit in the roots of these teeth, with the teeth spacing being the gap between adjacent cylinders. Please be wary of the type and quantity of acrylic that you use. Several experimenters have found that some grades of acrylic can short circuit the cylinders if used for separators or support medium. Avoid acrylic and similar materials until you become more proficient with cell characteristics.
- \* You now reverse your 1 inch tube and do the above, for the top 3 insulators. As the bolt body is obviously in you way when you try to place the tube on your flat surface, you will have to drill a ½ inch hole in your assembly board. I hope that it is not your wife's or girlfriends chopping board or bread board! So now the finished product is a 2 inch cylinder supported by 3 top and 3 bottom spacers with a dead flat relative top surface.
- \* The above procedure is repeated for your 2 inch to 3 inch tubes, and your 3 inch to 4 inch tubes. I find that for the 3 inch to 4 inch tubes, it is better to use 4 insulators at each end for a total of 8 instead of 6 inter tube spacers. The reason is that the larger diameter of the 4 inch tube now allows considerable flexure and 3 insulators at each end are not enough for a firm fit.
- \* There is no magic in the alignment of inter tube insulator line-up. Some perfectionists insist in having 3 radial lines (as in three spokes of a bicycle wheel), radiating out from the center, with 120 degree spacing. I have not found this critical. You now have a inner tube cylinder sub-assembly completed. The last step is to put the assembly back on your flat surface with the eventual working top down, and the bolt pointing up towards you. Now with a wooden or rubber mallet, gently tap all the cylinder edges, as to force the eventual top surface to be perfectly flat. Great, put this sub assembly to one side and let's move on.

E5d. To assemble the outer case of the cell, the following welding and machining operations are required:

- \* Have your top cone to compression fitting welded together. I would suggest that your compression fitting is designed for 1 inch (24 mm.) outer diameter tube. This way, all club members or larger groups will be able to interchange cells as a help with car conversions. After the above welding, remove any "dags" that resulted from the welding operation. Grind and polish this junction, so that the internal transition from cone to outlet fitting is as smooth as you can achieve, without ridiculous fastidiousness. Check that the joint is water tight.
- \* Press fit your modified thread to one end of the 5 inch cylinder, making sure that the 5 inch cylinder protrudes slightly below this male thread, so there is metal to metal contact with the lower cap when it is assembled and the 5 inch nut is done up. This step must also allow reasonable compression of the O-ring. See pictures.
- \* Have the cone welded to the other end of the 5 inch cylinder. As in the step above make sure that the transition from cone to outer cylinder is smooth on the inside. Check that the joint is water tight.
- \* At this stage, have you outer assembly heat treated to remove the paramagnetism from the welding operation. I do not do this, I use the unit as it ends up after welding and the cell works okay, but to guarantee the success of your cell, I would strongly recommend the heat treatment step. When the unit come back from the heat treatment people, lightly repolish the outside and inside. Also, at this stage, run a bead of 24 hour Araldite, or similar, over the outside only junction of the pressed thread ring and the 5 inch cylinder. This will ensure that you will not have any slight electrolyte weepage from the press fit. This completes the outer case construction. Place it next to you completed inner cylinder assembly and lets move on.
- E5e. All that is left to do is to complete the lower cap and ½ inch bolt support system. In the middle of the lower cap, you will need a hole that is ½ inch (12 mm.) greater in diameter than the shaft diameter of the bolt. So for example, if your bolt shaft was ½ inch diameter, you would drill a 1 inch hole in the lower cap plate. This allows a ¼ inch (6 mm.) gap that will be filled up by your inner insulating washer.
- \* You now require a 1 inch (25 mm.) length of thin wall tubing that you push onto the bolt until it touches the lower edge of the bolt head. Make sure that the outer diameter of this sleeve tube is not so large that it blocks the water flow in and out of the 1 inch cylinder.
- \* The next step is to make 2 washers from Nylon, Teflon, etc. The inner washer will be stepped ( see photo ). The smaller diameter step will have a 1 inch outer diameter and deep enough to be nearly as thick as the cap material thickness. The outer diameter of this stepped washer is not critical, so about 1.5 inches will do .The thickness of this larger diameter matches the distance that the bolt is inserted inside the 1 inch tube. So, ¼ inch ( 6 mm. ) is required in our example. This will result in the inner cylinder assembly being 1 inch above the lower cap. This insulator has a central hole drilled through it to exactly match the shaft diameter of the chosen bolt. A tight fit here will minimise and water loss down the bolt and thus out of the cell. The insulator that is on the bolt on the outside of the lower cap is easier to make. Make it about ¼ inch ( 6 mm. ) thick and 1.5 inches wide. The hole in the center is again made to match the shaft diameter of the bolt.
- E5f. Now assemble the inner cylinder assembly to the lower cap plate. With clean hands, place the inner cylinder assembly top down, bolt up, on your flat plate. If not already done, slip your 1 inch long spacer sleeve onto the bolt. Next apply Vaseline (petroleum jelly), liberally all over the bolt shaft and inner washer. Place the inner washer onto the bolt so that the smaller diameter step is facing you and liberally cover this step with more Vaseline. Now place the lower cap onto the bolt the right way round, so that the 1 inch step of the inner insulator fits into the 1 inch hole of the lower cap. Again liberally apply Vaseline on the outer insulator and slip this over the bolt. Next, put you washer, electrical lug and nut on the bolt (see photo). Tighten the nut more than hand tight but not excessively. Check your handiwork, make sure you remove excess Vaseline also ensuring you do not get any on the cylinders or over the inside of the cap plate.

E5g. Take you outer casing, Vaseline the O-ring and sit it in the groove of the 5 inch male thread. Lower your completed inner assembly and make sure that the lower cap plate fits snugly into the 5 inch outer tube, without disturbing the O-ring. Take your 5 inch nut and screw it on the thread. Use reasonable force to do the nut up.

E5h. Fill the cell up right to the top with juvenile water and leave it overnight in an area or surface where you will be able to see any leaks. If there were no leaks, pour out the water and give yourself a pat on the back. Why? Because you are finished. You can now insert fresh juvenile water to the correct level and start your charging operations. Good going!

\*\*\*\*\*\*\*\*\*\*\*\*\*

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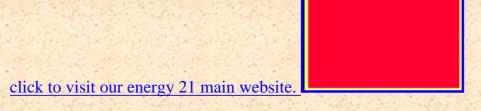
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# Chapter 7

#### SEED DIAMETER/HEIGHT RATIO

"Nature is the embodiment of the simplest conceivable mathematics."

#### Albert Einstein.

To calculate the height of the cylinders for maximum efficiency, proceed as follows:

- 1. As covered in greater detail in the chapter on "Charging the water", make sure that you have your chosen test current flowing through the cell. I normally adjust my electrolyte to obtain a repeatable current flow of 1 Ampere with 12 Volts across the cell.
- 2. Place a known voltage across the innermost cylinder and the outermost cylinder. For car use, I suggest 12 Volts from a car battery or equivalent. The negative goes to the inside bottom of the innermost cylinder, (normally 1" diameter), and the positive goes to the outside top of the outermost cylinder, (normally 4" or 5" diameter). Measure this voltage accurately!
- 3. Now leave one lead of the voltmeter on the inner cylinder, and with the other lead, find the half voltage point radially from the inner cylinder to a point in the water. Do your best to memorise this point. Now place one lead of the meter on the outer cylinder and with the other lead, find the half voltage point radially towards the inner cylinder. Note this point. It will be close to the first measured point, but not necessarily the same point! If there is a difference halve the difference and record.
- 4. Measure diametrically the distance from the centre of the innermost cylinder to the half voltage point as measured plus the difference, if any. Double this measurement! This is the diameter of the "seed "circumference. For example on a 4,3,2,1 cylinder cell, the total diameter was 2.24" and for a 5,4,3,2,1 cylinder cell, the total distance was 2.83"
- 5. By using the natural logarithm of the height of the cylinder, we can interpolate and work out our optimum cylinder heights. The formula is: h = e to the power of d (h = height of cylinder, e = 2.718281...,d = seed diameter). All measurements must be in inches. I have worked out some standard size values for you. You can easily work out your value from the following table.

#### Cylinder Seed Cylinder Seed

#### height diameter height diameter

6" 1.79" 13" 2.56"

6.5" 1.87" 13.5" 2.60"

7" 1.95" 14" 2.64"

7.5" 2.01" 14.5" 2.67"

8" 2.08" 15" 2.71"

8.5" 2.14" 15.5" 2.74"

9" 2.20" 16" 2.77"

9.5" 2.25" 16.5" 2.80"

10" 2.30" 17" 2.83"

10.5" 2.35" 17.5" 2.86"

11" 2.40" 18" 2.89"

11.5" 2.44" 18.5" 2.92"

12" 2.48" 19" 2.94"

12.5" 2.53" 19.5" 2.97"

6. So in 4. above, we would use inner cylinders of about 9.4" for the 4 cylinder cell and we would use 17" cylinders for the 5 cylinder cell. If this height is too long for you, you can use the next submultiple for the longer cylinders, ie. 8.5" for the 17" cylinders, etc. There is a corresponding loss in "breeding" output, but as long as your cell is not too leaky and you are not travelling in a strip of low level Orgone you should get away with it.

7. At no stage should you use inner cylinders of a length of less than 7" of cylinder height for the most common cubic capacity car engines. Of course, for test cells, you will be able to get away with lower surface area cylinders. I use 5 inch (125 mm.) high cylinders in my test cell, as this allows me to use less water during experiments.

<u>Final note on the above.</u> Many many cells have been built without going to, or knowing about, the above table and they all work to a degree, well enough to start the car. As a simple reliable rule that works, use 7 inch long inner cylinders and a 9 inch long outer cylinder for a 4 cylinder cell. Use 8 inch long inner cylinders and a 10 inch long outer cylinder for a 5 cylinder cell.

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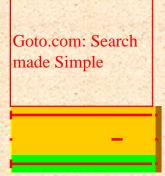
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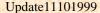
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# Chapter 8

# WATER TYPE AND IT'S RELATION TO THE CELL

" Water is a living substance! "

Viktor Schauberger.

As seen on the chapter on Orgone polarity, we have the choice of negative Orgone, positive Orgone or a combination of both. Combined polarity Orgone cells are more suited for use in real Orgone motors and "anti-gravity devices" as used by the people in the know, but the funds, time and permission are out of the realm of the normal back yard experimenter. So as far as these notes are concerned, scratch that option out. A positive cell would require alkalies, different insulators, 316S stainless steel and water with a natural pH of 7 or more. For many reasons, I did not choose to go in that direction.

As I will explain shortly, I choose to make only negative cells, and these notes are based on the construction of negative cells. Do not read negative as not as good as positive. They perform the identical functions, all that we are doing is sitting on the left side of a see-saw and not the right side.

What do I mean by negative or positive cells? Simply stated, a negative cell is based on acidic water and related materials and a positive cell is based on alkaline water and related materials.

# Water type

As discovered by many experimenters and holy people, Orgone, or the life force, loves or has a great affinity for water. Just as well, or we and the rest of the planet's "living "creations would not be here. So the first step in our quest to build an accumulator is to provide for whatever we are trying to accumulate, a container or area where we can accomplish this task. Okay, I far as I am concerned, we are trying to accumulate Orgone energy, thus the aim of the game for me, is to provide the most attractive and pleasant area to allow this energy to gather and then I concentrate, focus and utilise the energy before finally releasing it back to where it came from. If we assume for the moment that Orgone will be accumulated by water, the next question is obvious, what type of water, in what type of container, how large? etc.

Here experimenters have gone in all directions and a huge mythology from armchair experts has developed to show the way to the "blind". Let me state from the start that Reich and others have spent their lives telling us how and what to do. I have compiled a great deal of scientific information, and as such, I am standing on many great shoulders that have passed before me to give me a better view of the problem, and I claim no credit. The only credit I claim is that I have got up from my backside and have actually done something with this information. So by doing, now I know, like you will, if you ever make a cell.

So, as I am dealing with living energies, it makes absolute sense to me to accumulate these energies in a medium of their choice, ie. in living water! All water is not just plain old water, nor are all pure waters the same, or pure. Unfortunately, the experimenter grasps on the word "pure" and immediately images of "pure" water from the local

supermarket or distilled or rain water or his favourite filtered tap water flashes into his head. No, No, No! I am deliberately belabouring this point as it is critical in the construction of easy seeding, breeding and low leakage cells. Get your water right or stop reading here and use these notes to light fires.

Okay you say, let's move on, what is this magic water? Pure water means that good old mankind did not get a chance to "help" the water to make it better with additives, or the water has not lain around in metal or cement pipes until we want to use it, nor has it been ripped apart by turbines and pumps, nor has it lain stagnant and motionless in the Sun, nor has it flowed next to roads to have all the car combustion heavy metals fall into it, nor has it flowed underneath high tension power lines, nor has it had all the guttering from thousands of houses dump their toxins into it, nor has it had thousands of roads and streets drop its pollutants and waste into it. I mean, you must be getting the drift by now. The water you drink out of your tap is dead, distilled water is dead, tank water from roofs, etc. may be dead and toxic, water you buy from the supermarket is dead, and river and creek water that you may get downstream after it passes through towns and cities is also useless.

I use what I call juvenile or virgin water. By that I mean water that I get at the start of rivers or creeks. Juvenile water is like a child looking out for new experiences as it leaps, rolls, swirls and runs in shady, rocky and self selected pathways. It is the life blood of Mother Earth and a living thing. It has the ability to store these "pleasant "memories, or life-beneficial frequencies. I do not have to tell any reader how cold and how invigorating a mountain stream is.

That is the right water! We do not want the water after it has experienced the memories and thus the frequencies from mankind's help, unless we can remove these detrimental memories.

I have my favourite water catchment area well outside Melbourne, Australia, where all the above conditions are met. There are no roads, powerlines, dams, pipes or any man made intrusions, the water flows how and where it wants to in natural, twisty downhill paths it has created, the whole area is green all year round and you can feel the vitality and Nature at work. Absolutely beautiful! No wonder that village people in mountain areas live so long.

From "Living Water", a book by Olof Alexandersson:

"...Schauberger did not approve of pumped sub-surface water as drinking water. This water forced artificially from the depth was " immature " - it had not yet passed through the whole of its natural cycle, and therefore in the long term would be injurious to man, animals, and even plants. Only the water that runs out from the soil by itself in the form of springs and streams is suitable as drinking water....Water flowing from a natural source, particularly a mountain spring, acts in quite a different way. Schauberger found that if one drank a litre of this water - thus presumably increasing one's weight by approximately a kilo, - the net increase in weight was in fact only 300-400g. The remaining water must have been converted directly into energy to the body, thereby explaining the enormously enlivening quality that this water gives..."

Again, the above shows the difference in the energy content of different waters. If we relate this energy content to negative entropy that the Orgone energy possesses, we can readily see how it thus combats positive entropy or death that all bodies strive for. Put in another way we live, and so does the Joe cell as a result of taking in Orgone energy in many forms, including water. Also, I would like to distinguish between Schauberger's term " immature " and my term " juvenile ". Juvenile water is mature water before it is influenced by the bad memories (frequencies) that good-old-mankind has provided. Immature water is water that has not recorded the essential frequencies that Mother Nature provides. As such immature water is not what you should strive for, if you want quick seeding and breeding of your cells.

# pH

The water I use in its natural state has a pH of 6.5. That means it is slightly acidic and perfect for the negative cells that I make. I bring this water home making sure that I protect it from excessive sloshing and the heat of the sunlight whilst in the car. At home, I store it in 20 litre Pyrex bottles. Do not store it in plastic containers even if the container is marked " suitable for water ". Earthenware or wood containers would also be very suitable.

So the first thing you need when you find your own magic spot is some 0-14 Litmus paper. This is quite cheap and you can get a small quantity from your nearest swimming pool supplier. There is no use in buying a \$1000.00 pH meter that is accurate to zillions of decimal places. All you want to know is, if the water is alkaline or acid.

The water will be either:

- A. Neutral, ie. pH is approximately 7. In this case the ion level is too low for **electrolysis** and you
- will have to add electrolyte. (See Perfect Science note below).
- B. Acid, ie. pH varies from 7 down to 1. As this is what we require for a negative cell, grab some
- and bring it home.
- C. Alkaline, ie. pH varies from 7 to 14. You may make a positive cell with this, as many people
- do. I personally am not interested, and therefore, I do not cover a positive cell construction in

these notes.

Be wary of any juvenile water with a pH of 5 or less, as the natural water acid level is getting too high due to pollutants or a high concentration of minerals. I personally have not used such water and can offer no guidance.

In the section on cell construction, I cover the stages required to bring this water to the right "working strength".

#### **Perfect Science water**

I will give you a brief summary of a talk by Drunvalo Melchezidek, regarding very wonderful news. The full talk can be found on ( http://www.transformacomm.com/)

- "... Some Sufi masters in Turkey have presented to the world with a water that appears to **be alive**. This water has different effects on different things. It seems to have an optimal effect on whatever it touches.
- ... This water is called super-ionised water. A company out of Istanbul Turkey, has been started by Ihan Doyuk, and is called Perfect Science. A 48 million-dollar plant has been built in Turkey to produce 100,000 tons of this water a day.
- ... The only difference is in the number of electrons that are in the outer orbit.... it has three extra electrons in the outer orbit.... all the scientists and physicists and the chemists of the world have been studying this for the past few years and have been keeping it secret. **Not one of them, ... can explain how it is happening.** They don't know! ... it appears as though ... it is alive and it knows what it's doing!
- ... But if you put the wires in super-ionised water, the light bulb comes on. No one has seen that before. That is impossible by everything that we know. And there is a flow of electrical energy through the water, that they are describing as liquid electrons."

What is so exciting about the above extract is that the water is conductive with a pH of 7! This is exactly what the Joe cell experimenter needs for the electrolysis of the Joe cell without electrolyte. The end result is no more deposits, large ion flow, lower cell maintenance and a far superior cell as an Orgone accumulator. A recent quote from Michel Foisy (michel.foisy@transformacomm.com), is USD\$27.00 for one US gallon and USD\$8.50 for air mail shipping. Worth a

thought. I will give at later date, a progress result on the batch that I am testing.

# Gojuice

A typical and very suitable mixture is described in United States Patent 5,231,954 by Gene. B. Stowe under the production of a hydrogen/oxygen cell.

For people without Internet I will briefly quote the relevant section;

"...an electrolyte solution can be made by mixing small quantities of phosphoric acid (food grade), sodium perborate (to supply extra oxygen), and acetanilide as a stabiliser, in deionised water or distilled water. The quantities of these chemicals may be varied between rather wide ranges, the object being to provide reasonable flow of current between the two electrodes."

He goes on (in section 6, 65 onwards), to explain a typical method of making this mixture. I would suggest that if you made the above, you used juvenile water for dilution, and that you leave out the stabiliser as it is expensive and not essential for our needs. The end mixture works extremely well and you will only have to add a couple of spoonful's of Gojuice to achieve 1 Amp of current flow at 12 Volts in you car or test cell.

#### **General notes**

It should now be self explanatory that constructors that use water without knowing the pH and then mix it with various chemistry, eg. " caustic soda ", an alkaline that is popular ( probably because every house has some ) and dubious insulator materials, are doomed to failure. Caustics just loves to chew at insulators. Believe me, stay with mild acids.

You may use vinegar or acetic acid that you use for cleaning the stainless steel and kill two birds with one stone. I personally have made my own mix that I call "Gojuice" as explained above. Acetic acid or vinegar is fine, **but**, please note that if you use vinegar, as the quantity of vinegar added to the cell is quite large, (by volume) you will have to be careful that the vinegar was made with the "right" water. This would be highly unlikely, so it should be used as a last resort. With acetic acid make sure that it is 90% acetic acid and if you obtain it from a photography chemical supplier, make sure that there is no stabiliser or indicator included in the mixture. It is because of the dubious nature of the water that is used for the vinegar and acetic products that I have taken the far more expensive path of using Gojuice.

In closing let me say, that it would be absolutely stupid to get naturally acidic water then electrolyse it with an alkaline and then complain that you are getting sludge formations and the cell does not work.

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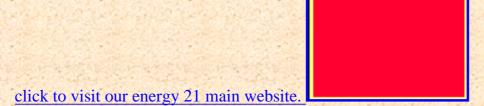
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# Chapter 9

# **CHARGING THE WATER**

"When water is agitated and coiled, radio-axially, with light, heat and air excluded,

diamagnetic forces are generated.

Viktor Schauberger.

You are reading this chapter because, you now have a container of the right water and you are ready to pour it into your test cell, or your car cell.

### Preparation

You will need the following:

\* A multimeter with an amperage range that can read up to at least 2 Amperes.

The same multimeter or a meter that can read up to 20 Volts direct current.

The same multimeter or a meter that can read up to at least 10 Megohms resistance.

- \* A funnel with a built in filter or a normal funnel into which you can place a paper coffee filter.
- \* Your chosen electrolyte.
- \* A battery charger or similar that can supply about 4 Amperes at approximately 12 Volts. Most battery chargers put out much more but, at this stage, it is not critical. You may alternatively want to use a fully charged 12 Volt battery or a power supply. The aim is to have a **reproducible** voltage with an output current capability of about 2 Amperes.
- \* A pair of leads that you can clip from the power source to your cell. I would strongly suggest that you identify your leads and clips, so that you will not reverse your polarity to the cell. We want to <u>always</u> place the negative lead to the bottom of the centre cylinder and the positive lead to the top of the outermost cylinder.
- \* A working area where the cell can be left undisturbed for a period of time, in the worst case, 4 weeks. I know, I know, you are in a hurry! But unfortunately for you, Mother Nature has infinite time and she is in control of this project.
- \* A top, lid, or some way of sealing of the cell from air. Now, I am not recommending an airtight seal, even a lid loosely sitting on top of your test jar is sufficient. The seeding and breeding process is hampered by having too great an

area of the top of the cell being exposed to air. All lids are not the same as regards to being a obstruction to Orgone. If the lid does not seem to be working, place a layer of aluminium foil (as used in kitchen stoves) underneath the lid and use the foil and lid as one unit.

# The charging process

**pH** The aim is to modify the conductivity of your water by the addition of acid, (in this case) so as to get a suitable and repeatable current flow. If we used de-ionised water with a pH of 7.0, we would have a very low current flow for our electrolysis, and would have to add something to increase the conductivity of the water if we wanted observable results in a short period of time. As we change our pH either higher (alkaline) or lower (acid) away from a pH of 7.0, our current flow and electrolysis process will increase together with the resultant heat increase and the stripping and plating of the metals from the cylinders.

We are trying to achieve electrolysis action with the minimum heat generation and also the minimum metal removal from our cylinders. Also please note as mentioned previously, the propagation of Orgone is reasonably slow, thus there is not much to be achieved with excessive current (and thus electrolysis). Slow and steady does it, just like in Nature. For the patient experimenter or one that is using neat water, ie. water without electrolyte, excellent results are achieved with currents as low as 50 m/Amps.

As we are only interested in acid cells in this manual, our pH will be 7.0 or lower. You will find that to get a current flow of 1 Amp at 12 Volts, your pH will be very close to a pH of 2 to 3. The importance of the pH reading was **only relevant during the choosing of the right water** as per Chapter 7. In this chapter there is no further use for pH readings during the charging process.

Whilst on the topic of pH, an experimenter has found that with the use of a very expensive digital pH meter, he is able to tell the state of charge of the cell. This theory is not 100% verified at the moment, but is mentioned for the sake of completeness.

# **Steps**

- 1. Have your cell sitting on a wooden work bench or on a sheet of plastic type material or, as a last resort, on a newspaper. We are trying to insulate the cell from metal paths that may impede the seeding process.
- 2. Now with you meter set to read resistance, preferably on your highest resistance scale, read the resistance from the inner to the outer cylinder of you cell. It should be in the high Megohm range. If not, your insulators are conductive and you did not follow the previous cell construction recommendations. Remove offending insulators, reassemble carefully, measure and move on.
- 3. If all is okay in the above step, fill the cell via your funnel with the enclosed filter. Next, and this is critical, fill it only level with the top of the cylinders and no more! The effect that you want to create is a set of water cells separated by metal cylinders. These are your alternate organic and non-organic chambers. Of course the submerged section of you chambers are flooded, but with this simple cell, the top will be doing all the work. Now you may also realise why the cylinders have to match on the top, as otherwise the meniscus formed by the water would not work and the water would flow from compartment to compartment. This level is only critical during the seeding process, as we require maximum Orgone capture to seed the cell. Naturally, with a charged cell, the water is sloshing all over the place whilst you are driving your car. Joe did say that during charging, the water would find its own level and then use no more. So with long periods of electrolysis, you would find that the above described level is where you would end up with anyway and then the cell would start seeding. With my method, by starting at the right level, you will not waste hours of time creating steam, oxygen, hydrogen and chemical deposits as a result of electrolysis.
- 4. Turn on the power supply, and if it is adjustable, set it to 12 Volts. Connect the positive end of your power source to the top of the outer cylinder. Connect the negative end of your power source to one end of your meter that is set up to

read a minimum of 2 Amperes. Connect the other end of the meter to the bottom of the central cylinder. What we have simply done is set up the meter to read any current flow into your cell from the power source. At this stage, if your water is close to a pH of 7, as previously discussed, the current flow will be zero, or in the low m/Amp region. If you are reading Amps, **you are doing something wrong!** Contrary to what "experts "tell you, it is impossible to draw huge current from pure water (unless it is Perfect Science water). Think about it. To draw even 1 Amp at 12 Volts, the resistance of the water would have to be, by Ohms law, 12 Ohms! No way! You are doing something wrong. Find the problem and then move on.

5. Presuming that you only read m/Amps, you now want to introduce electrolyte to electrolyse your cell. The aim is to get a standard current flow for your electrolysis. To do this, drip a small amount of your chosen electrolyte into the cell water whilst stirring and watching your Amp meter. Use a glass or Perspex or wood dowel rod for the stirrer, do not use your handy paint-stirring screw driver! Throw away you wood dowel when finished as it will absorb chemistry. Do plenty of gentle stirring of the water as you add the electrolyte, otherwise you will add too much electrolyte! Stop adding electrolyte when the meter indicates 1 Amp. Your water level may rise as a consequence of the addition of electrolyte. Remove some water out of you cell. I use a pipette, so as not to disturb the cell. Remove enough water to again just expose the top of the cylinders. At this stage, disconnect your meter and power source and have a bit of a clean up as the next stages are observation.

The charging process is separated in three distinct stages that I call Stage 1, 2 and 3. These stages have some obvious differences and also some subtle ones. With experience you will know immediately if the cell is charged, but in your early attempts you will have to rely on my photographs and description or visit someone with a working cell. Do not listen to armchair scientists. One look is worth a thousand words.

For the rest of your charging process, you will be only connecting your power source to the cell for a maximum of 5 minutes at a time. As Orgone lags electricity by about 30 seconds, you will know the state of the cell in less than a minute. **Do not be tempted to leave the power connected to the cell for long periods!** Yes, I know that you are in a hurry and more is better, but in this case you only generate heat, steam, waste power and overheat the cell. You can pick the failures by seeing their cells running non-stop for days with 20 or more amps turning the water to steam, etching the cylinders and ending up with a barrel full of scum. What else would you expect? After all, electrolysis is time and current related. If you have had the misfortune of having your cell left on for a long period with high current, you have probably destroyed your cylinders. You cannot polish this etching or plating out. Yes, you throw the cell away and start again. I bet you don't do it next time!

<u>DANGER!</u> Do not charge any cell that is totally sealed! The cell will explode, with all the related consequences. Always remove the lid or unplug the car cell before doing any charging. I repeat, an airtight seal <u>IS NOT</u> **REQUIRED!** At no stage do I prescribe any form of airtight container.

Stage 1. This stage is plain old electrolysis. Due to us passing a direct current through a liquid that contains ions, chemical changes will occur. In our case, you will see small bubbles and a cloud of activity that is greater nearest the outside of the inner negative cylinder. The important observation points are that the activity is greatest nearest the central cylinder and gets progressively less as we move outward via the different chambers formed by the rest of the cylinders. Additionally, within a short period of turning the power off, all activity stops, the water becomes clear and the bubbles disappear.

Summary stage 1. Every fool and his dog gets to this stage. The secret is not to increase the electrolyte and thus the current and/or leaving the cell on for days on end. Be patient, leave the cell on for no longer than 5 minutes, turn the power source off, remove the leads to the cell, and put the top on the test cell, or partially block off the exit of the car cell. It does not have to be airtight! Go and do something else. It is like waiting for a tree to grow from the seed. Do this on a daily basis for days or a week or longer until you get to stage 2. You will find that the more " alive " the water is , the quicker is the seeding of the cell. I have found that the storage, age, and source of the water all affect the seeding speed. I have also found that by changing the structure of the water by various means eg. vortexing, shaking, filtering, etc., you can greatly enhance the water quality to make it more " alive ".

Stage 2. You will now notice on your initial powering up of the cell, that the bubbles are getting larger and the white cloud of tiny bubbles in the water are much smaller or more transparent. Also in stage 1, you had the action occurring mainly in the proximity of the central cylinder. Now the bubbles form in a regular fashion irrespective of location in the cell. More importantly, on turning the power off from the cell, the bubbles do not go away immediately but stay there for minutes rather than seconds as in stage 1. Also, the top of the water assumes a glazed look and the meniscus is higher due to a change in the surface tension of the water. At this stage you may have some brownish material amongst your bubbles. Don't panic. It is only the impurities being removed from the cell. I find that if I wipe the top surface of the water with a paper towel, the bubbles and the deposit will adhere to the paper and can easily be removed. Top up the cell, if required, after the above cleaning, so that again, only the top edge of the cylinders are just showing.

<u>Note.</u> All topping up of the cell at any stage is done with plain juvenile water only. No more electrolyte is added! In cleaning the top of the cell as described, it has been observed that some people react unfavourably with the cell. If so, keep that person away, or if it is you, try changing you hand ie. use your right instead of your left or vice verse. If the presence of your hand seems to collapse the surface bubbles, I would suggest you have a friend do the work for you.

<u>Summary stage 2.</u> Very similar to stage 1, but now we have a more even bubble distribution and an increase of surface tension and a longer presence of the bubbles when the power is turned off. If you look in the bottom of your glass test cell, you will have no scum and the water will be crystal clear.

At this stage the Orgone force has seeded the cell, but as yet, is not breeding. With the right cell, water and operator, it is possible to go straight to stage 2 on the first turn on of your new cell. I have this occurring every time with modified juvenile water.

3. Not many people get to this stage, or what is worse, get here incorrectly. If you get here following the above steps, your water is still crystal clear with no deposits in the sump. If you get here by brute force, you will have stripped appreciable amounts of material from the cylinders and this material will now deposit on the insulators and hang around as a colloid and finally form in the sump as a deposit. The low resistance insulators and the metallic colloid will create a more leaky cell that will cause endless mysterious car stoppages or refusal of the car to start etc. Right, the miracle of Nature is now breeding in your cell. Upon turning your power on to the cell, within 30 seconds copious beautiful white bubbles will rise from all the surface area of the cell. Before these bubbles cover the water surface, you will notice a slowly rotating and pulsing front in all cylinders, that is synchronised and has a regular rhythm of about 2 pulses per second and a clockwise rotation speed of about 1 revolution every 2 seconds. These effects are very hard to observe for a first time viewer that does not know what to look for. I find it easier to watch these effects with the aid of a fluorescent light, as the 100 cycles per second pulsations of the light " strobe " the water surface and help the observation.

The bubbles may overflow the container and show great surface tension. But one of the definite proofs that the cell is breeding is that, on turning the power source off and coming back the next day, most of the bubbles will still be on top of the water as opposed to stage 1 or stage 2 where they disappeared in minutes. Please have a look at my photo sequence.

<u>Summary stage 3</u>. There is no way that you can mistake this stage once you have seen it. Some lucky people can feel the living energy and can react with it, Reich's "Y factor ". For the rest of you normal people, the signs are radically different. The bubbles are larger and pure white, the surface tension is greater, the bubbles are pulsating and most importantly the surface tension remains days after the power has been removed.

Additional note for the desperate electronically inclined individual. Please note. I do not recommend any additional tests or measurements, your eyes and brains should suffice, but if you are in trouble, you may measure the voltage across the cell after it has been left standing with the power off for at least 24 hours. A live cell will have a residual voltage, or more correctly, a self generated voltage of around 1 Volt. A stage 1 cell measured under similar conditions will read .1 to .2 of a Volt. Remember, that unless you know what you are doing, these voltage measurements can be very misleading due to probe materials and battery effects that can easily mask your true measurement. As the cell

reaches the maximum density of Orgone that it can hold, the result of the breeding process is the conversion of this excess Orgone into the formation of electricity. As such, electrical measurement with the correct instruments is a very valuable method in the verification of the efficiency of the cell. If you are conversant with Reich's work, you may care to make an Orgone meter and thus remove all guesswork. This meter is fully described on a few web site as mentioned in my bibliography.

#### Final comments on charging the cell

I do not recommend any form of circus type of bubble exploding, ear pulling showmanship. As noted elsewhere, noise and vibration are Orgone-negative. Therefore, in a negative Orgone cell like the ones I make, these explosions applied during the delicate seeding period will kill your cell! Apart from a dead cell, the chance of fire igniting other gasses in the workshop and injuries to the ears etc. makes this childish exercise highly unnecessary. I must admit that I too fell for the "go on, ignite it! "feeling. I had a cell that had been at stage 3 for 7 months. It was my favourite test cell. My hands and matches fought my brain and they won. There was a huge "ear-pulling, implosion/explosion", and yes, I killed the cell. It went back to stage 2 for 4 days. I will not do it again, just showing you that I am also human. On the plus side, my resident garage brush tail possum has not returned!

#### Special stage 3 water, (referred to in chapter 11.)

As all water we are using so far has been electrolysed, this water is not suitable for use in non-stainless steel or glass containers due to reaction with the container and the resultant corrosion, but if you have to, or want to, you can use juvenile water with no electrolysers added and still charge it to stage 3. As the ion count is much lower, the water is not as conductive, ie. you cannot get as much current flow with 12 Volts as you would if you electrolysed the water. However, if you obtain a power supply of approximately 60 to 100 Volts at about 1 Amp, you will be able to charge "plain old ordinary water".

The down side is the additional waiting, in some cases, over 3 weeks, and the cost of the fairly expensive power supply. The advantage as mentioned in chapter 11, is that you will be able to pour it into the radiator of a car with no increase in corrosion as compared to water containing acids.

#### Miscellanea

Do not at any stage short circuit, ie. join any of the cell cylinders to each other electrically with your charging leads, wedding ring, etc. If you do, the cell will " die! ". Your only option, if this occurs, is to connect the cell to your power source and see if you are still running in stage 3. If the cell does not revert to running in stage 3 mode within 1 minute, your only option is to completely dismantle the cell and re-polish, re-clean and re-charge. Huh???, you are kidding us, right??? No, I am serious, that is your <u>only</u> option! So do not do it, do not short out your cell! You will have similar, but not as severe problems if you reverse your leads to the cell.

When the cell is running stage 3, you can tip the charged water out of the cell into a glass container and clean, adjust or maintain your now empty cell. Try to keep all cylinders in the same relation they were in before you dismantled the cell, ie. keep all cylinders the same way round and in the same radial alignment. Mainly relevant when dismantling old cells ( over 6 months old ). This is required as the metal parts develop a working relationship that can be weakened or destroyed by careless re-assembly.

When finished, pour the charged water back and you are back in business. Of course you can pour this charged water into other cells, or use it as you see fit, but, remember, do not leave it out of the cell for periods longer than 1 hour at a time as the breeding has now stopped and you are slowly losing charge.

Remember what you are dealing with. You are not making a toaster! You are dealing with the basic life force itself. As it is everywhere and penetrates all things at different speeds, you cannot imprison it or capture it. If it seeds your cell, it is because it has found the "womb" that you have made, a more comfortable place than where it was before. It has

entered and remained of its own free choice. Similarly, if it decides to breed for you, again it is it's choice. As you are part of the process, the least that you can do is to positively interact with it. There are many accounts of cell dying due to locations and personalities involved. You have been warned!

\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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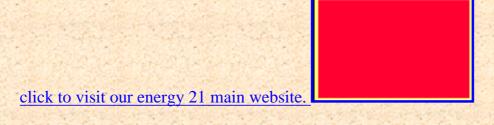
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# Chapter 10

# CELL CONNECTION TO MOTORS AND MOTOR MODIFICATION

"The essential is to get rid of deeply rooted prejudices we often repeat without examining them"

#### A. Michel 1959.

# **Cell location and mounting**

The mounting of the cell is full of compromises, both for the cell and the occupants of the car.

- \* For least vibration and tilt, the center of the car is the best location.
- \* For least heat accumulation, low down in the interior of the car is the best location.
- \* For least electro-magnetic disturbance, the boot is the best (unless there are CD stackers,

radio gear or electric fuel pumps in the boot area).

- \* For best Orgone flow, the cell should be as close as possible to the motor, and the outlet should have only a vertical path to the blind plug.
- \* For cell servicing, it should be in the boot or similar easy access points.
- \* To keep human interaction to the minimum, the rear bumper bar is the best location.
- \* To keep interaction with other cars to a minimum, the center of the car is the best location.
- \* To keep the outlet pipe to a minimum length, right next to the block is the best position.
- \* To minimise interference with the car electronics, a roof location is best.

As you can see, even in the brief list above, there is no one location that is ideal. The very best compromise is placing the cell in the foot-well on the passenger side, and having a hole through the bulkhead with a short tube run to the blind plug on the block. If you choose this position, please note:

\* This may be dangerous in an accident and thus illegal, and you must obtain the approval from

the related instrumentalities.

\* The hole through the bulkhead must be gas-tight as there is a danger of lethal gasses entering

the occupant area. Again, the related permits are mandatory.

- \* The location of the cell may interfere with any car computer that is located in this area.
- \* The passenger may interact with the cell.
- \* It will reduce your resale values due to the holes.
- \* Your insurance company will have to be notified with a logical explanation for your

handwork.

The second, less frowned upon location, is in a cold area of the engine compartment. This is just about impossible in a compact car, unless you have an older 6 or 8 cylinder model.

That is why I have said it is better to choose a car suited to run on a Joe cell, rather that trying to run your modern 4 cylinder front wheel drive compact from it. Your chances of a successful first-up conversion of a fuel injected, variable cam timing, turbo, computer controlled and twin overhead cam compact 4 cylinder car is minimal.

The mounting of the cell, once the position is chosen is not difficult. The simplest and most permanent method is to use the half inch negative bolt as one of the fixtures for the cell. As this bolt is the negative connection, it can be directly bolted through the floor or via a convenient piece of metal plate to a suitable point in the engine compartment. The cell itself should be surrounded by an insulating material similar to a computer mouse mat or diving suit material. Around this you would have two hose clips to hold the body of the cell against some rigid part of the car. The aim is to stop the cell developing its own vibration that is additional to the vibration generated by the engine and the road conditions. All parts of the cell <u>must</u> be well clear of any metal parts at all times as the cell body has a positive potential on it. If you accidentally touch a charged cell body to any metal parts of the car, you will probably have to recharge the cell, and you know what a pain that can be.

To summarise the above, the cell must be firmly fixed in the best possible location and protected from any accidental contact with any metal parts of the car. Any car modifications must have the approval of the relevant government bodies.

<u>NOTE.</u> I am presuming that you have a reasonably modern car that has the negative end of the car battery connected to the bodywork, ie. a negative earth system. If you have an older positive system car, then to the best of my knowledge, you will have problems, and I suggest that you do not attempt a conversion of a positive earth system car. As most of these have gone to car heaven, there should not be too many around. A good indicator is that the car runs a generator instead of an alternator, but this rule only applies most of the time, and there are exceptions.

# Cell electrical connections

#### Negative connection.

The above section has mentioned that we are dealing with negative earth cars. This means that the negative end of the battery is connected to all the metal work of the car. As the inner one inch cylinder and the included bolt are the negative end of the cell, this bolt may be connected to any substantial metal part of the car. Make sure that you remove any paint or sound-deadening material from the hole that you have drilled for the half inch bolt, and use a star washer on both sides of the hole in the metal work to guarantee a long lasting low resistance connection.

#### Positive connection.

All parts of the cell and engine tube are at a positive potential. The best point to connect our positive is at the far end of the engine tube. I connect my positive lead under the four inch long section of neoprene hose (between the aluminium tube and the hose), and secure the cell end **ONLY** of the rubber tube with a stainless steel worm drive clip. This creates a good electrical connection between the lead and the cell-to-engine tube. This positive lead should go via a five amp fuse in series to the "ignition on "power distribution. What this means is that there is only power to the cell when the ignition key is in the normal car running position. As the cell has been made to only pass one Amp, the resultant power consumption of the cell with the car running will be 12 Watts. This is a fairly conservative cell dissipation, but will eventually heat up the cell on a long trip and a hot day. Please read Regulation section below.

When the car is not in use, and depending on the leakage of the cell, you may require a "trickle charge "current to flow through the cell to maintain a minimal breeding condition. Joe employed a 1.5 Volt battery to accomplish this in his early days. I would suggest a current flow of 0.25 Amps to accomplish this. This is a power dissipation of 3 Watts. If you connect a resistor of about 3 Ohms in series with you positive lead, you will achieve the above. This value will vary from cell to cell and you will have to select on test the actual resistor to be used. In all cases a 4 or 5 Watt wire wound resistor of the appropriate resistance value will be adequate. Make sure that this resistor is suitably mounted as it will get warm and you don't want to start a fire.

# Regulation.

As you can see from the above, we already have two values of current flow (a running value and a trickle charge). The simplest way to achieve this would be a changeover switch that introduces a series resistor when the car is not running. But, as most people will forget to operate this switch every time they turn the engine off, an automatic system is far superior and probably essential. This is easily achieved with a relay connected to the "ignition on "distribution. With this method, when the car ignition is off, the relay is released and the appropriate resistor is in series with the positive lead and the cell. The cell now only has the trickle charge current flowing through it. When the ignition is in the run position, the relay now operates, and the resistor is shorted out by the relay contacts. The cell now has the full 1 Amp flowing through it. Obviously, when the ignition is turned off, the cell reverts back to the keep alive current mode.

During the early experimental and development stages, I would recommend a variable 5 Ohm, 5 Watt, wire wound potentiometer and a series 0-5 Amp ammeter. With this system you will be able to optimise you running and trickle charge currents and finally choose the optimum resistors for both modes. Also, you will be able to find exactly how much current you need for optimum cell output to suit the climatic and driving conditions. The reason is, that as the cell heats up it draws more current. Yes, you will have to experiment!

#### Cell-to-engine tube

Previously, I have mentioned that I use 1 inch (24 mm.) outside diameter aluminium tube. The inside diameter of the tube is <sup>3</sup>/<sub>4</sub>", so the wall thickness is 1/8". I am not telling you that this is the only diameter or material that works. It is the material and diameter that others, including myself have standardised on to allow for ease of interchangeability for fault finding and experimentation. The length of this tube should be as short as possible without using sharp bends. All bends in the tube must have smooth and progressive direction changes with no distortions. The tube should be covered with insulation similar to what is used on hot water pipes and car roof racks. Reduce any horizontal runs of the tube to a minimum. Similarly, do not use any U-bends that forces the Orgone to change directions from an upward to a downward run. A good example of how not to mount the cell is seen on the amigo web site ( http://homepages.tig.com. au/~amigo\_s/joe.htm ). In the photographs, this cell is mounted above the car with a severe downhill run to the motor. Although aluminium is a good barrier for Orgone, the energy is still leaking out the tube. As you now know, Orgone has a upward vertical tendency and therefore the best position for the Joe cell is as low as possible, so the Orgone can flow upwards to the blind plug and thus the motor. In most engine installations, you will need some "downward run" of the tube. It will still work, but keep any of these runs to a minimum. The inside edges of the cell end of the aluminium tube must have a radius that reduces gradually from 20 mm. inside diameter to the outside 24 mm. diameter

of the tube. So if we are looking up the inside of the cone towards the compression fitting and the aluminium tube, there should be no sudden change of diameter to upset the flow of the Orgone. This area, where we are forcing the Orgone to create a beam that goes down the aluminium tube, is critical. Keep all inside surfaces polished and do not have any obstructions whatsoever in the flow path.

The engine end of the tube has a section of about 4 inches of neoprene rubber hose pushed over the aluminium tube and the blind plug. If you have 1 inch length of tube on the blind plug and 1 inch length of tube over the aluminium tube, you end up with a non metallic gap length of 2 inches. This gap is vital as the motor is at negative potential and the aluminium tube is at positive potential. We must never let any portion of the cell or tube touch any part of the car or motor. That is why I have suggested that you should insulate your cell and tube.

I have mentioned previously that our positive lead is under the 4 inch rubber sleeve and is held secure to the aluminium tube by means of a worm drive clip. The blind plug end of the 4 inch tube must not have any form of clip on it! This end of the rubber sleeve performs the function of a one way valve for the Joe cell. When you push the rubber sleeve over the blind plug, please make sure that you cover the inside of the sleeve and the outside of the blind plug with Vaseline (Petroleum jelly). The following will now occur. As a result of electrolysis in the cell, every now and then, the excess cell pressure will vent to the atmosphere via the loose coupling between the rubber sleeve and the blind plug. But when the pressure drops, air will not be sucked back into the cell. I have found that this valve enhances the duration of the breeding process. I repeat, the blind plug end of the neoprene 4 inch sleeve must be free to allow the release of excessive pressure build-up. If you keep your cell electrolysis to 1 Amp or less, this venting is minimal. All the same, the gasses are explosive, so take the appropriate safeguards. Imagine what would happen if the cell could not vent excessive pressure. The pressure in the cell will keep building up until the weakest point lets go. This, in all probability, would be the rubber sleeve. If you were super stupid and really clamped and glued the hose down at each end, the tube will sustain over 100 psi before letting go. This would release a high pressure stream of **HIGHLY EXPLOSIVE GASSES!** This could be ignited by the distributor points, cigarettes, static electricity, exhaust system, etc. PEOPLE COULD BE KILLED OR SERIOUSLY INJURED!!! Please, if you are not competent, don't do it, or seek a professional. Read my disclaimer!

The optimum and smart solution, is to use a 1 psi blow-off-valve that vents the waste gas into the air intake <u>after</u> the air cleaner. The waste gas will now be drawn into the motor and the air cleaner will act as a flame arrester. That is the smart, safe and logical solution. I use a low pressure electrical switch/pressure assembly as used on washing machines to monitor the quantity of water in the wash bowl. I set this switch to operate at 2 psi. When the pressure switch operates, it electrically operates an air solenoid that allows the excess pressure from the cell to be vented into the intake manifold between the air cleaner and carburettor.

The only other danger is that you did not follow my instructions, or you have decided that you know best, or more is better, and you boosted up the electrolysis action. A such, you will have excessive venting, and sooner or later, you and your experiment will part, suddenly and violently. Please, please, put you brain into gear before playing around with explosive mixtures, or better still, leave it to professionals

# **Blind plug location**

First and foremost, the 1 inch long section of the blind plug that the neoprene tube slips on, <u>must have the same</u> <u>outside diameter as the inside diameter of the neoprene tube.</u> Therefore, if you are using 24 mm. outside diameter tubing and the inside diameter of the tube is 20 mm., then the outside diameter of the blind plug must be also 24 mm. The neoprene sleeve (24 mm. inside diameter) must not be a force fit onto the blind plug. Do not economise or compromise this fit. Your life and the life of others may be on the line! The sleeve must be an easy push fit over the blind plug. The blind plug should be made out of aluminium and the final shape will be determined on the mounting location on the motor. The aim is to introduce the Orgone "beam" of energy as centrally as possible on the motor and as close as possible to the water that is circulated around the cylinders. There have been many location employed, and they all work to a degree, ie. a blind plug on the intake manifold, a blind plug on the back of the head, a blind plug on the block, etc. My suggestion for 4 and 6 cylinder motors is to place the blind plug on the block near the head gasket line and as central as possible ( midway between the cylinders ). The V8 cylinder motor design is ideal as the blind pug

can be centrally located on the water heated part of the intake manifold. Be careful with older 4 and 6 cylinder motors as one side may have the push rods, tappets and cam shaft located inside the block. As such, you will not be placing your blind plug against the water jacket. Sometimes you may be able to remove the Welsh plug from the optimum location and machine one end of the blind plug to fit this circular opening. Make sure that you do a professional job of this, as a plug that falls out means a loss of all water and probably the motor! Some individuals claim that they have placed the blind plug on the carburettor or even the air cleaner. I have my doubts, but as I have not verified these claims, they may be adequate, but in my view far from optimised. There is a story of a professor that made a Joe cell as a replacement for the air cleaner and it worked for a while until it collapsed due to the stainless steel being too thin. Again, I cannot verify this story, but it would be an ideal method of eliminating the engine pipe and blind plug entirely. Just some more ideas for the fertile brains that may be reading this manual.

I suggest that you secure your blind plug via two Allen bolts and suitable tapped holes on your chosen location. Make sure that the mounting surface of the blind plug matches the contour of the block or head or manifold at the chosen fixing point.

The blind plug must be mounted on the opposite side of the exhaust system on cross-flow-head motors. This is another reason why the V8 motor or a horizontally opposed motor is so superior in its conversion to Orgone energy. We want to stay as far away from the hot and exit side of the motor as possible. If you have a siamesed exhaust and intake manifold motor, you are really making it difficult for yourself. Unless you know exactly what you are doing and have performed a previous conversion to give you faith in yourself, I honestly think that you will not have any success.

You can again see from the above why Joe's Rover started first up on the cell, yet other motors took weeks to condition before any results were achieved.

# **Ignition timing**

Volumes have been written about this topic by arm chair scientist who try to explain their pet theories on implosion, explosion, both implosion and explosion, or any other pet combination you may care to think of, and therefore have to shift the timing anywhere in the 720 degree engine cycle to make the motor run on their theoretical mind projections.

I will again repeat, forget the theories and **JUST DO IT!** It is really simple. I will again tell you how I do it. Preferably have a car that has an electrical fuel pump and a switch that you can turn the pump off with. If you have a mechanical pump, fit some type of adjustable clamp on the neoprene line that goes from the tank to the fuel pump input. Or you may want to suck the fuel into the fuel pump from a 5 litre metal petrol container.

**NOTE**, this method is dangerous as you are working with exposed petrol.

Whatever system you adopt, all you are trying to do is to control the flow of petrol to the motor.

Next, loosen the clamp that holds the distributor, but **do not** as yet shift the distributor body.

- \* Start the car on petrol and let it warm up. Make sure that your Joe cell is electrolysing.
- \* Let the engine warm up and make sure that it is hot enough so that the choke has gone to the

normal running position

- \* Remove the fuel flow to the engine by your chosen method.
- \* Within a short period of time the car will start to run erratically.

\* Rotate the distributor to advance the spark plug firing until you get the best possible idle

speed.

- \* Keep doing this with progressively smaller and smaller to and fro rotations of the distributor body over the next few minutes. The last adjustment will be very precise as the engine will falter either side of the optimum adjustment.
- \* You will find that the distributor will roughly end up at between 35 and 40 degrees before top dead center (BTDC), which converts to 70 to 80 degrees advance on the crankshaft.

If your cell has taken over, your engine will keep running. If the cell has not taken over, the engine will stop as it will run out of fuel and that is it. Go to the fault finding section. If the cell has taken over, tighten the distributor at its new location. When the excitement wears off and if you are still sober, take the car to a garage with a wheel dynamometer and optimise the engine timing for maximum power Do not let the mechanic anywhere near your exhaust system with a gas analyser, as there will be no reading on his gas analyser and you will really have to do some fancy explaining.

#### Standard ignition timing

I would now like to clarify a few points on ignition timing for non-mechanical individuals.

\* In all spark ignition engines, it is necessary to arrange for the spark to occur a little before the piston has reached the upper limit of its travel of the compression stroke. It is usual to express this ignition advance requirement in terms of degrees of crank angle before top dead center. (BTDC).

The danger of this term is that it can be measured at either the crankshaft or at the distributor. As the distributor runs off the cam shaft and thus at half engine speed, the distributor measurement will be exactly half the crankshaft measurement. So when we talk of 10 degrees BTDC at the distributor, we really mean 20 degrees BTDC at the crankshaft. This misunderstanding has caused huge confusions for the casual non-informed reader. For example, when Joe states that the Escort runs the best at 85 degrees of advance, what is he talking about?

As mentioned at the start of this sub-section, a spark plug ignites once every 720 crankshaft degrees or more simply, every two revolutions. At idle, most motors are set to fire the spark plug at between 5 and 15 degrees BTDC at the crank shaft. As the revolutions or the motor increase, the distributor mechanical advance section or the car computer, advances the timing (or makes it fire sooner) until we reach an advance of about 35 degrees BTDC at the crankshaft for normal motors and normal fuels. With 100 octane aviation type fuels, this advance on racing cars can be as great as 60 degrees BTDC.

So really, when Joe states that 85 degrees of advance is required for an Escort motor running on a Joe cell, it is no big deal as it is very close to a setting required for an engine that is running a high octane, slower burning fuel. It does not even remotely hint at implosion or the like.

To conclude, as we do not know exactly how and what powers the motor, all academic armchair rubbish is exactly that; rubbish. Make your cell, connect it as I recommend, time it as I recommend, get the car running, and then start your analysis and arm chair battles.

### **Motor modifications**

For the initial start up from the Joe cell, an aluminium V8 motor will not require any modifications apart from a change in timing as described in the previous sub-section. Other motors will require a varying time of "conditioning" before being finally ready to run on the Joe cell. Then you will have to change the ignition timing as described.

As the Orgone energy is primarily attracted to the water jacket around the motor, most of the energy will be "stored" in a latent state in this area. That is not to say that there will not be a varying density of Orgone in other sections of the motor or in the nearby vicinity of the cell and of the car.

Joe does make quite a few references to what he call a " sealed engine ", as is the case with the Rover motor and most modern motors as well. Basically if you remove the oil filler cap, you should notice that the idle revolutions of the motor will change, as you have disturbed the positive crankcase ventilation (PCV) path. In older motors, the blow-by gasses that passed the rings and ended up in the crankcase were dumped via a breather pipe directly into the atmosphere. These type of motors were not " sealed ". As the pollution laws slowly changed around the world, these type of blow-by products were frowned upon and the car manufacturers had to come up with an alternative method for their disposal. The modern solution is to collect these blow-by products, and re-introduce them into the inlet manifold via a PCV valve, for their subsequent mixing with the fuel mixture and resultant combustion. If, for example, you remove the dip stick or the oil filler cap, you have effectively opened this system which is under atmospheric pressure, and you thus change the idle speed, as you have introduced an air leak on the engine side of the carburettor or fuel injection butterfly throttle control. You have also interfered with the Orgone density and its relationship with the air! Remember how I have been harping on for you to keep the top on the test cell when it is not in use? Well, the engine is just a larger more complex test cell. We do not want to introduce our Orgone energy to external air until we are ready! And we are only ready, when the piston goes down the bore creating a depression and thus causing an external flow of air to come in via the intake valve.

If you are having trouble in getting the motor to run on a Joe cell and have exhausted all other possible areas of problems, please also consider the internal crankcase ventilation system as explained. You will only have problems in this area with a fairly old motor, or a motor that has been modified or that has developed a fault with the PCV system. Simply try the "remove the oil filler cap trick".

Beyond the initial short term test running of the motor on the Joe cell, each motor and car will develop its own type of idiosyncrasies. As my personal list of converted cars is very small, I have very limited guidance for you in this area. I will mention the little that I know in this area and at least start a list that can be added to when <u>YOU</u> and others give me feedback on your own conversions that I can use for the update of this manual. Sadly, I have found that most converted car owners prefer to guard their knowledge and hope to keep it secret and thus have a longer run on the free energy before the mighty hand of bureaucracy places a ban on such work. So be it, we are all different and they are entitled to their view. I do sometimes wonder why I am giving thousands of hours and thousands of dollars of my personal time and money to such people. Anyway, on with the list of long term modifications:

- \* The engine runs cooler. As such, a winter oil and antifreeze seems to be the logical fix.
- \* The top-end runs hot and dry. The normal petrol motor utilises the incoming petrol/air charge to perform considerable cooling of the intake valve and seat. Similarly a leaded petrol engine uses the lead or its equivalent as a lubricant for the intake valve guide, valve and seat. With modern unleaded or gas motors this problem is taken care of with harder valves and seats and a different type of valve guide. If you are using an older type of motor, it may be beneficial for the long term life of the motor to use one of the many types of upper lubrication kits that are readily available from various auto accessory outlets.
- \* Instruments and sensors burn out. I do not know of a fix for this, as it is very difficult to shield

a breeding cell. Remember that as a result of reaching Orgone saturation in the water, the

excess Orgone is converted to electricity. These potential's can be quite high under favourable

conditions and will happily destroy electrical equipment. One possible fix is to place Zenner

diodes or similar voltage sensitive "trip" circuits across voltage sensitive components to by- pass all voltages greater than 15 Volts. It may work, I have not tried it as yet.

\* The cell interacts with the car occupants. Apart from making the cell non-leaky, I cannot

think of even a possible solution to this one.

\* The cell runs hot after hours of use, eg. a taxi. The cure is to control the electrolysis current

to the minimum possible without noticing a performance change. As the cell heats up, you

have a thermal runaway effect. So as the cell gets hotter, it flows more current, that heats it up some more, that flows more current, etc. As previously mentioned, a variable electrolysis control with an ampmeter would be ideal

There is no reports to hand that I know of, that goes into the long term wear and tear of the motor running on the cell. The highest km's that I personally know of on a cell, is less then 10,000 km's and as such is still far too early for any form of appraisal.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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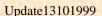
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# Chapter 11

# WHEN THINGS GO WRONG

Do not over analyse or overexperiment.

This will destroy the experiment and it's creative Organomic force.

#### Dr. Wilhelm Reich

Well, my dear reader, you are reading this section for any of a number of reasons, some are:

- A. You always read a book or notes from cover to cover before you start a construction project. Great, good idea, read on.
- B. You are an armchair scientist and you are reading this information to see how it fits in with your own pet opinions on the subject. Good luck and I hope, if you find something to contribute, you will do so freely and in brotherly love.
- C. You are reading this chapter because you have made a cell by other methods and are looking for a quick fix. I would strongly recommend that you read and absorb all the previous chapters, as you may have a borderline cell and it may be better to construct a new cell.
- D. You are here because you have followed **exactly**, all my suggestions, and you car will not run on the cell.

In the above, I am only interested in reader D.

## Approach to the problem

All problems, irrespective of complexity, can be solved in a methodical, rational fashion. If it looks insurmountable, break it down into convenient smaller sections that you can cope with. Have this smaller section cover one topic only. Make sure that you have a working knowledge of the topic. Take your time, and have somebody else to talk with regarding your chosen solution and approach.

<u>It is important that you change one variable at a time only!</u> If you change variables in a haphazard method or without recording you observations, at the end of the day, you will be worse of than when you started. I would suggest that you break up your problem into the following topics.

# **Fault finding topics**

- 1. The water.
- 1a. Cell maintenance.

- 2. The cell construction.
- 3. The charging operation.
- 4. Cell-to-car interface.
- 5. Car modifications.
- 6. Geographic location.
- 7. The Y factor.

## 1. The water

The single most common problem that you will encounter is the water. As Joe remarked on many occasions, the "water goes bad ". Not a scientific explanation, but well said. So, what are some of the problems with the water?

A. Is the water dead or polluted right from the start? If you collected, transported and stored the water personally, you should know its history. Re-read Chapter 8. If you still doubt your water, try the following. Orgone accumulates in water, and as such, when you transfer the water out of the cell, you take the charge with it. Therefore, if you, or an acquaintance has a good, ie. stage 3 cell, the water can now be substituted into the suspect cell. On now powering up the suspect cell, within 1 minute you cell should be at stage 3. If the suspect cell does not come up to stage 3, the water is not at fault! The above is by far the easiest way to test a suspect cell. Unfortunately, you will need another cell or external help. That is why I suggest that a group can keep a test cell at stage 3 indefinitely for the use of the members. All it requires is that the "cell keeper " gives the cell a daily 1 minute " feed ". You could even have an automatic timer that applies 12 Volts to the cell for 1 minute every 24 hours and just leave it alone in a suitable location. I have kept a test cell at stage 3, on the above principles for over a year, and the idea works fine.

Note. Do not leave the charged water outside its cell for longer than 1 hour as it is not breeding.

I have found that when I use water that I have stored for longer than about 6 months, on using it to fill new cells, I get a very light off-white residue in the sump of the cell. All else works okay, ie., a normally breeding stage 3 cell. My 20 litre Pyrex flasks are stored in the garage and are exposed to cars, noise, fluorescent lights, music, etc. I have now modified the flask caps so that the water can breathe. Also the flasks have been made "light tight", with a jacket made of purple 100% wool felt. This may help.

I have found that the "old" juvenile water can be reactivated by various forms of water modifiers. I use a special water vortex device and have found that a cell that did not want to go stage 2 for over a week, went stage 3 in 2 days! This is great news for people who have to travel considerable distances to obtain their water. Of course, the bad news is you need a "gismo" like I use, or you may want to try various commercial structured waters to find one that works. I will again say, that it is far easier to let Mother Nature do the work for you, rather than you outlaying hundreds of dollars with no guarantees. I mentioned the above in case you were already using a water "modifier" for health reasons. If so, give it a try, you have nothing to lose.

- B. Has the pH of your water changed? Simply run your pH test on the cell water. The reading should be the same. If not either the cylinders or the insulators are breaking down and reacting with the water and electrolyte. Make sure that you followed charging, insulator and cylinder material type recommendations in previous Chapters.
- C. Is the water clear? As in B., the cylinders or insulators are breaking down. Or the cell has gone into a base matter creation mode. As this topic is highly controversial and not pertinent to this subject, your only option is to completely

dismantle, polish and clean the cell and/or replace the insulators. Fill with fresh juvenile water. Go through charge stages as per Chapter 9.

- D. Is there any residue in the sump? As in B. and C. above.
- E. Are the stage 3 breeding indicators behaving the same? Read chapter 9 and make sure that the behaviour of the bubbles and meniscus are the same, especially the long term bubble retention. Again, if all else fails try the voltage check.
- F. Have you changed locations and the cell is now sitting in a low density Orgone strip? Make sure that the cell is at stage 3. Read Chapter 9.
- G. Have you accidentally shorted out the cell or reversed polarity to it? See if it goes back to stage 3 if you apply power to it for 1 minute. If not dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9.
- H. Have you allowed the seed to die? Read Chapter 9. Go through stage 1, stage 2 and stage 3 processes. The cell may go to stage 2 or even stage 3 within 3 minutes.
- I. Has the cell fallen over at any stage? Try a 1 minute charge and see if the cell goes to stage 3. If not, dismantle, polish and clean all components. Fill with fresh juvenile water. Go through charge stages in Chapter 9.

# 1a. Cell maintenance.

I have found after a cell has been in operation for about 6 months, although there is no external indications of malfunction, ie. the cell is happily breeding, it is a good idea to do the equivalent of an oil change and grease. You may find one or more of the following:

- \* There is a light deposit on the cylinders particularly the outside of the 1 inch and 2 inch.
- \* The cylinders may have sagged from the vibration, ie. they are not flat on the top horizontal
- alignment..
- \* If rubber insulators are used, you will find that they may have developed a set or a conductive path.
- \* Some of the insulators, particularly the inner top ones, may have a light white or grey deposit
- on them.
- \* There may be a slight suspension or colloid towards the bottom of the cell.
- \* There may be slight indications of a brown sediment on top of the water.
- \* The cell metal parts may have become magnetised.
- \* The lower insulators for the bolt may have shrunk and could be weeping.
- \* The electrical connections to the cell may be loose or corroded.

- \* The compression fitting for the aluminium pipe may be loose.
- \* The short piece of rubber or neoprene hose to the blanking plug may have aged.

The cures for the above are self explanatory. The only difficult one is if the cell has become magnetised. You may be able to degauss the cell, or at worst, you may have to have the offending cylinder replaced or heat treated. After you demagnetise your cell, find a better location for it, or it will only happen again!

I do a regular 6 month service on my cells. The steps I perform are as follows: I pour out the charged water into a 5 litre glass container and put it in a cool dark area. Obviously the glass cylinder is clean and only used for your Joe cell work! Remember you have approximately 1 hour to replace the charged water back into a seeding and breeding cell. I next dismantle the cell and clean all surfaces with mild acetic acid. I find that it is not necessary to repolish the cylinders, but you may do so if it makes you feel better. I rotate any rubber insulators 180 degrees so as to use a fresh surface with no set. I lubricate my bolt and associated insulators with Vaseline and reassemble the cell. By this time, the charged water has been sitting for about half an hour in the glass cylinder and most of the sediment has settled to the bottom of the temporary glass container. I now pour the charged water back into the cell using a paper coffee filter to catch any sediment. I stop pouring the charged water into the cell when the first drops of water with the sediments starts to leave the glass container. This water I discard or have analysed to amuse myself. I now top up the cell with fresh juvenile water and connect the cell to the power supply. Within seconds you will see a fine white cloud develop on top of the water. This is the residue of the acetic acid that you used to clean the cell with. I remove this simply by wiping the top of the water surface with a paper towel. Within 1 minute your cell will be back at stage 3. That's it, you have just completed you 6 month service.

<u>Note.</u> I will repeat again in case you have forgotten, that all water, containers, funnel, etc. must have only juvenile water used in the cleaning or transferring of water for the cell maintenance. It requires a very small quantity of tap water that has been "enhanced" by good old mankind to kill the cell. Don't blame me if you have to start at stage 1 again by being lazy.

# 2. The cell construction

Needless to say, you should have followed the cell construction Chapters to the letter. If you did not, you obviously know how to make a different type of cell, and these notes will not be 100% relevant, or you have chosen to be creative, frugal, haphazard, or slap happy at the wrong time. I repeat, you are not making a toaster! You are trying to induce the life force to work for you. You cannot capture the life force as in a cage. It will enter and exit as it sees fit. It can penetrate all materials! So to contain it you must use natures geometry and mathematics, some dimensions are not critical but other dimensions have to be "spot-on".

If the cell was working at stage 3 and now will not work.

- A1. A common problem is that the cell cylinders have moved due to rough handling, vibration, or the wrong diameter insulators. The fix is a dismantle and re-alignment. Make sure that you hands are clean!
- A2. Another common problem is the covering of the cylinders and insulators with various residues. This can be seen on the dismantled cell, as an easy removable film on the cylinders and insulators. In this case treat as a dead cell and dismantle, polish and clean all components **after** finding the cause of the problem. The usual causes are wrong welding material or flux, wrong cylinder material type, wrong insulator material type, or water problems as in section **1.** above. Fill with fresh juvenile water and start at stage 1.
- A3. The cell material has been magnetised by locating the cell near starter cables or other high current-carrying wiring eg. Hi-Fi wiring, fog lamp or other types of ancillary lights' wiring, winch wiring, etc. In this case, find the magnetised component or components with you test magnet and replace, heat treat or de-magnetise the affected components. A hot

under bonnet location will cause similar problems. After fixing the cell, relocate the cell or the offending items.

A4. The insulators or the cylinders are eaten away to some degree. You will pick this up in the discolouration of the water. If you followed my instructions, this will not occur. The problem is incompatible steel or insulators with the water electrolyte combination. In any case, treat the cell as dead, replace faulty components, etc. as in A2

## If the cell never worked at stage 3.

- B1. The cylinder material type. As mentioned in Chapter 6, the material that you use is **critical** in you early learning stages. **All 316L is not the same!** Re-read Chapter 6.
- B2. The cell cylinder dimension is wrong. Re-read Chapter 6 and 7. The cylinders must be level at the critical chamber separation area which are formed by the tops of the internal cylindrical tubes. Re-check that the cylinders are level. You should see no light when measuring with a straight edge.
- B3. The cylinder finish. As the top and bottom cuts are finished in a lathe, they should be absolutely smooth, ie. no file or cutting marks. Similarly, there should not be any heat bands where the cylinders were cut. The surface of the rest of the cylinder does not have to be mirror smooth, but make sure that there are no longitudinal marks or scratches. If you followed Chapter 6, they will be okay.
- B4. Make sure that the welding is done as per Chapter 6. Make sure that all internal irregularities caused by the welding process are removed, without causing excessive localised hot spots.
- B5. Make sure that all threaded couplings from the cell to the engine is metal to metal joints and the threads are not covered in sealants or Teflon tape, etc.
- B7. Make sure that the cell is airtight. If you apply your power source for a minute or two to the cell and block the outlet of the aluminium pipe with **you finger only**, you will feel the release of pressure on removal of your finger. Do not do this near flames and/or explosive gasses! This will also check that your cell is not open circuit or shorted and that it is electrolysing.
- B8. In B7 above, the most common electrical problems are the push fit of the ½ inch bolt into the 1 inch tube, and the insulators between the 1 inch bolt and the lower cell exit point.

# 3. The charging operation

The failures can be sub divided into 3 sections:

A. Failure to get to stage 1. If you cannot get the water to electrolyse at all, you have not read Chapter 9. Even blind Freddie and his dog can do this. Hang you head in shame and take up another interest! Seriously, not many things can go wrong. If your power source is putting out about 12 Volts and if you have added the electrolyte as described, then you must have some bubble activity (even tiny ones that look like a white mist,) in the water. If there are still no bubbles in the water, connect a 12 Volt car globe of any wattage or type to the very ends of the leads that you are connecting to the cell. The lamp will light if your power source and your leads are okay. Now remove the lamp and put the positive lead to the outside surface of the cell and the negative lead to the ½ inch bolt that connects to the 1 inch cylinder. If you still have no bubbles, the ½ inch bolt connection to the 1 inch tube is faulty, but highly unlikely. Recheck the insulators that insulate the 1/2 inch bolt from the outer container. As there is now water in the cell you will not be able to do your insulation test but you should still read more than 10 Ohms resistance from the bolt to the case. Be careful of misleading readings if the cell is acting as a battery, as you Ohm measurement will be useless.

B. Failure to get to stage 2. By this I mean that the cell has not seeded and remains at the electrolysis stage. This is a

**very common stumbling block!** As explained, if the cell will not seed, the indication is there is no change in bubble size or surface tension. Boy, oh boy, I have been here many a time myself and I suggest the following:

- B1. The first and most common is the covering of the cylinders with a coating of various chemicals. In my early days, when I took the lazy way out and brazed or silver soldered my casing joints, this compound ended up all over the rest of the cell due to electrolysis. As the positive is the donor surface and in our case the outer casing including welds, sealants, etc., this fact aggravated the plating process.
- B2. Another failure and resulting contamination, was the use of the wrong type of sealant on the central insulator for the sealing of the ½ inch bolt where it passes out through the bottom of the cell.
- B3. Likewise, when I decided to press fit my outer cell components, I used an automotive silicon gasket cement on the joints. This also ended up plating the whole cell.
- B4. If the water smells unhealthy or there is scum floating around, the water has gone bad. Replace with fresh juvenile water and go back to stage 1.
- B5. Check that your insulators have retained the original manufactured colours. That is, if red rubber, make sure they are still red, if silicone tubing, make sure it is still clear, etc. The insulators may be fine for stage 1 electrolysis, but may be very leaky to Orgone.
- B6. You working area or you may be detrimental to the seeding of the cell. See 6. and 7.
- B7. You are not covering the cell overnight and/or between experiments. As previously explained, we want to keep a very mild air seal on the cell. This is easily done by placing a lid on the test cell or by having a spare aluminium plug in the end of the hose where it fits onto the engine blanking plug fitting. Again, I must repeat, **DO NOT** use worm drive clips on both ends of the rubber coupling sleeve. The rubber sleeve must act as a one way exit valve for any pressure in the cell. The internal cell pressure must remain very close to atmospheric during operation.
- B8. You are just too impatient! It may take 4 weeks to seed the cell! Just spend a few minute a day with it and go and do something else.
- B9. You have used the wrong materials. This has already been covered. Please read 2.
- B10. You have used the wrong water. Ditto. Please read 1.
- B11. You are using the wrong charging method. Ditto. Please read 3.
- B12. You are the wrong potential. See "Y factor "Sect. 7 and chapter 13.
- <u>Note.</u> For all problems in this section due to contamination of the cell by deposits, water or materials, dismantle the cell, polish, clean and refill with juvenile water.
- <u>C. Failure to get to stage 3.</u> This is the failure of the cell to breed. Again, to repeat, this is the failure of the cell to keep increasing the initial seed density to a greater, but still finite, Orgone energy limit. Indicators will be a lack of long term bubble and surface tension retention and an obvious non-operation or marginal operation. Usually you will get to stage 3 very soon, ie. within days of stage 2. Another way of describing the failure of running at stage 3, is that the cell is leaky to such an extent that the Orgone force cannot accumulate sufficient density in its present location for your needs.
- C1. The most common fault of the cell's in not breeding, or insufficient breeding, is caused by marginal water,

construction dimensions and materials. Please make sure that you have followed these notes to the letter. If you have modified or substituted components, etc., you obviously know something that I do not know and if your cell had worked, I would love to hear from you, but as you are reading this and if your cell is not working, I suggest you follow my instructions to the letter, or try somebody else's, "how to build a Joe cell " manual.

C2. You, or your working area, may be detrimental to the cell's operation. Read 6. and 7.

# 4. Cell to car interface.

If you are looking for faults in this area, you **know** that you cell is at stage 3, but the engine refuses to run from the cell.

## A1. Outlet pipe from cell.

A lot of different diameters and materials will work. I would suggest, like Joe that you use 1 inch outer diameter, 1/8 " tube thickness aluminium pipe. Due to electrolytic action, copper will either pollute the cell, or pollute itself. The short piece of rubber or neoprene must not have any clips on the end that attaches over the blind aluminium plug. The idea is to let any pressure " burp " out, but not to let any air in. The fitting should act as a one way valve to pressure from the cell caused by the electrolytic action. The engine end of the aluminium pipe should have you positive electrical connection secured to the pipe by means of the same short piece of hose being slipped over it. This end should have a clip to squeeze the hose and the electrical fitting to the pipe. What you are doing is providing your positive connection at the very end of the outlet pipe. You negative as previously described, will go to the cars body, ( we are presuming a modern car that has a negative earth system ). The pipe fitting to the top of the cell must be air tight without the use of sealants or Teflon tape, etc. The compression or threaded fitting will do a good job of this. Try to twist the aluminium pipe out of the compression fitting. If tight, you will not be able to budge it. Your pipe should also have some form of insulation around it to prevent contacts to the rest of the metallic parts of the car. Ideally, the cell should be similarly protected. Remember, just one short circuit and the cell is dead!

A2. Electrical connections. The positive wire coming from the end of the aluminium pipe should go via a 5 Amp fuse to your "ignition on "wiring. By this, I mean that the cell should only have the car power connected to it when the ignition is on. Some people prefer to run this wire via an off/on switch that is located in the car. When you connect your negative to the car, it is preferable to connect it directly to the block if you earth straps from the motor or gearbox are suspect. Either way, with the ignition on, you should measure 12 Volts positive on the cell body and 12 Volts negative on the central bolt fitting. If not, check you wiring, fuse, any switches, etc. The most probable cause of no voltage is a blown fuse because you have shorted the cell. Find you short, replace the fuse and make sure that the cell goes to stage 3. If not, pull the cell out, clean, polish, new water, etc. ie. start again. The other most common problems are the use of sealants on the compression fitting. This is easy to find and fix. If you have 12 Volts across the cell, that does not mean necessarily that you have your 1 Amp current flow. To check this, temporally disconnect the negative end of your cell from the car body or motor and put you Amp meter in series with the central bolt and the car connection. You should read your 1 Amp current flow. If not you have some high resistance connections or wiring, or the cell is faulty. As you are reading this because you know you cell is not faulty, the problem is either you aluminium pipe connection or you wiring. Locate the problem step by step, making sure that you do not short out or apply reverse polarity to the cell. As mentioned in Chapter 10, the 1 Amp is a nominal figure. At 1 Amp the cell is dissipating about 13 Watts and the cell may eventually heat up on an extended journey and a hot day. Check Chapter 10 for recommendations.

A3. Cell design. If you have made a cell with the wrong taper to you cone, the Orgone will focus before it gets to the motor and the cell will work brilliantly on the bench, but it will not run the car. The only reason this has occurred is that you did not build a cell as described in these notes. To quickly summarise cone angles, any apex cone angle of less than 45 degrees is highly suspect.

A4. Cell location. Check as previously explained, that the cell is located in a favourable location in the car. Is it in a cool place? Is it level? Is it located as far as possible from high current wiring? Is it located in a low vibration area? Not

like some rocket scientist who strapped it to his engine!!! As Orgone has a vertical preference once it leaves the cell, reduce horizontal and "down hill "pipe runs to a minimum. A cell located in the boot, with a 4 meter run to the engine is not a great idea. Again, a non-leaky cell can run 60 meters or more into a horizontal tube, but why tempt fate? As far as the cell (but not the passenger) is concerned, for you first cell's temporary location, the passenger foot well, with a pipe through the bulk head and a short, (less than a meter) pipe to the blind plug located at the rear of the engine (non V8) works well. Please note! A cell in the passenger foot area will be illegal in some areas!, so you are obviously using this car on private land until you have it legally approved.

<u>Note.</u> At this point of the trouble shooting list, you <u>know</u> that you cell is at stage 3 and that it is connected correctly to the car. So if things are still not working, leave this area alone! Do not undo what you know is working, ie. don't dismantle your cell or associated connections to the car, they are okay! Leave them alone and look for problems in the only remaining areas you have not covered, ie. Section **5**, **6**, **and 7**. Unless you keep a systematic approach to the installation and troubleshooting procedures, you will never get the cell to run the car.

## 5. Car modifications.

For a start, I will again state the obvious, some cars will be easier to modify than others, or more importantly, not all persons will be able to modify all cars! So unless you are masochistic and want to make your friend's life a misery, **choose an easy car!** This, of course, may not be old faithful that is sitting in your garage. You should also have followed Chapter 10. before you read this.

You are reading this because you <u>KNOW</u> that your cell is still breeding, ie. running at stage 3, your car connections are okay and you electrical connections are okay. You have started your car on petrol and after it has warmed up, you either have turned off the electrical fuel pump, or you have turned off the fuel to, or from, the mechanical pump. Now as the fuel is used up in the fuel bowl, or bowls, the engine falters and stops, (at this stage, I am not talking about fuel injected motors). That is how I would expect you to test the change over phase. You are really pushing your luck, if you walk up to a stone cold car, remove the fuel to the engine and start cranking! I hope you have plenty of fully charged batteries!

# The car will either run, run erratically or not at all.

Al. Car shows no sign of running from the cell. By this I mean that as soon as the motor runs out of fuel, the car stops. A lot of people get here, but blame the wrong components. As stated above, you are here because you know all sections up to here are working okay. This only leaves this Section 6 and 7. So let's presume that the car is at fault as that is the present topic. I can tell you for a fact, that a 1971 V8 Rover will start first shot and run like a dream. On the other hand, a 1100cc Mini Minor will not even think of staring first time. Why? There are a lot of pet theories floating around, but as these are my notes I will give you my theory based, on logic.

**Note.** The following is a theory and eventually may be proven wrong, but the way I see it is that the water and the cylinder bores in the motor act as a single layer Orgone accumulator, ie. an organic material (water) surrounding a non-organic cylinder (the bore). As such, an engine with a bore that is fully surrounded with water will be far superior than an engine that uses siamesed bores or casting methods, without the benefit of the totally water-surrounding cylinder. Now as most aluminium blocks have metal sleeve cylinders pressed into the aluminium block for bores, this feature allows for a full water circulation and completes our single layer Orgone accumulator. It also makes it less leaky and more conducive to conversion to a Joe cell system. Remember, Orgone loves water. This is also (in my opinion), the reason why a person that chooses an air cooled motor will have more problems than one that uses a water cooled motor.

The above gives me a reason why some motors start first shot and others may take weeks to kick in. Two other effects hinder or help the above. The first is, that Orgone seems to "like" to travel in aluminium or it finds aluminium more difficult to penetrate, so it would have a tendency, on leaving our aluminium pipe to either prefer the aluminium block, or once it was inside the block, it may have a greater difficulty in "leaking" out. I would be the first to admit that I do

not understand this effect, but it is definitely there. As more information comes to hand, I will update these notes. The second is the easier conversion of V8 motors. As our blanking entry plug is located in the vee formed by the two banks of 4 cylinders, the Orgone distribution from the cell is ideal, ie. it is a central entry, nearly equidistant and close to all cylinders. Another important feature is that the entry point it is on the cold side of the motor, ie. the exhaust system is on the "other side " of the cylinders. This also give a cross-flow motor an advantage.

So what is to be made from the above? I would suggest, like Joe, to start on an easy conversion until you build up your own confidence and hence the "Y factor". Either go and see a converted car so you can believe, or convert an old Rover or Leyland V8 as a group effort. I cannot see why the different clubs and interest groups cannot pool together and purchase an old wreck.

If you insist in converting your cast iron, or air cooled whatever, be prepared to wait for the molecular changes that seems to occur to cast iron, siamesed bore and manifold type motors. As Joe stated, this may take 3 or 4 weeks. I have personally installed cells that are stage 3 and left them " running " on the car. The car was driven normally on petrol or gas, until the idle or engine operation noticeably changed. This was the indicator that the " molecular " changes have occurred and the car was ready. What you also may want to try is to replace the normal radiator water with **SPECIAL**, charged stage 3 water ( see Chapter **9** regarding the special stage 3 water ). This should speed up the acclimatisation process. As most modern motors run some form of inhibitors and anti freeze additives in the water, you will have to consider the consequences of playing around with this mixture. The down side of dumping the additives may be increased corrosion on alloy components, ie. head, manifold, water pump, etc. Due to the tendency of the motor to run much cooler on the Joe cell, I would recommend that you leave the Glycol in the water. Obviously, you throw all new car warranties out the window the moment that you add the Joe cell and its related conversions to you car.

<u>A2. Fuel injection cars.</u> The simplest way to treat these cars is to perform a full conversion to gas. In this way you have a duel fuel system, ie. Joe cell or gas. Plus you pick up the advantages of a longer life span for your engine as per Chapter **10**.

Section summary. So really, all that I can suggest in this section, is that if the car will not start at <u>ALL</u> and all other sections have been covered, you should give the conversion a maximum of 4 weeks for the cell to take over. If the cell does not kick in that period, the chances are indeed slim that it will ever work. You have only a few chances left. A few people have surfaced in Australia that can tune your car and cell by the application of correctly located specifically made crystal packs. This has emerged as a new and not well understood science, but it just about guarantees that the cell will run in some form or other on the car.

A recent discovery by an avid alternative energy experimenter from Adelaide, (Aust.) was that the car only ran on his cell after the car was up to a road speed of 80 kph. Obviously if he only tried to run the car on the cell in a start-up, stationary situation, he would not have discovered that the cell was partially working. So, as he is a great lateral thinker, he took the car for a drive on petrol and then turned off the electrical fuel pump when the car was up to speed. As the car would not idle on the cell, he simply turned on the fuel pump before the engine returned to idle speed. I would guess and say that his cell was very leaky or the Orgone transfer to the engine was poor and thus marginal for engine requirements, and that the forward motion of the car caused a charging effect from the Orgone that the car was travelling through.

With the above example, I am saying that you should not give up too easily and that with a bit of experimentation and patience, your car will also run on Orgone.

All cars, including fork lifts, dragsters and diesel motors that Joe converted eventually ran! If your car will not run, consult your favourite "expert ", or drop me or the publisher a line, <u>only</u> as a last resort when you have exhausted all other avenues. Please be reasonable, realise that I am only one person, I have a life and family, I do not get paid for my time by you or the hundreds of others requiring help. Irrespective, I will do my best to help.

A3. Car runs erratically, or does not reach maximum power, or starts and then stops.

This could be caused by many things and you will have to logically fault trace, by elimination of one suspect cause at a time. Some causes ( not in any specific order );

- \* The cell is marginal. Check that it is still at stage 3.
- \* The cell contains too much water. Rectify.
- \* The air flow into the motor is " wrong " at that particular engine operating range. We are working on this problem, but as a temporary cure, some cell operators have modified the fuel system to supply a slight petrol flow into the engine at the troublesome operating range.
- \* The cell is marginal due to bad design. Read Chapter 6.
- \* The cell is too small. Read Chapter 6.
- \* The cell to motor tube is the wrong shape, material, or diameter. Read Chapter 10.
- \* The blind plug is location is not optimised on the motor. Read Chapter 10.
- \* The cell has become magnetised. See previous section.
- \* The day is hot, or the cell is too hot. Feel the cell!
- \* The cell is too hot from excessive electrolysis current. Wait for the cell to cool down and

then readjust current.

- \* The cell is mounted in a bad location in the car. Read Chapter 10.
- \* The day is wet or humid. See section 6.
- \* You, your passengers, or animals, or location, are interacting with a marginal cell. See section

7.

- \* Your ignition timing is not optimised. Adjust!
- \* Your water has gone " off ", or you water level has gone down. Rectify!
- \* Your cell cylinders are polluted. Dismantle and clean.
- \* You are in a high DOR area with a marginal cell. Hopefully you can drive out of to before the cell dies.
- \* You are in a strip of low or reversed Orgone. As above.
- \* Sun or planetary activity is detrimental to cell output. Change over to " normal " fuel and wait for more favourable times.

- \* Your electrolysis rate is down or not sufficient to run the motor.
- \* Your wiring or the cell have gone high resistance. Check with an Amp meter to make sure that you chosen "running current" is still okay.
- \* The air flow into the motor is wrong at that particular engine operating range. We are working on this problem, but as a temporary cure, some cell operators have modified the fuel system to supply a slight petrol flow into the engine at the troublesome operating range.
- A4. The car runs. Great! Good for you, but please remember that it will not run all the time and will stop unexpectantly and with no warning signs, so always have a duel fuel system set up and ready to "kick in ". It would be highly embarrassing to be thousands of kilometres from home and having to ask the local mechanic to fix your Joe cell conversion! You should see an interesting look on his face.

The performance of your car will be determined by the reserve of Orgone density you have on demand. A leaky or under-capacity cell will not give you maximum power. A good cell will give you at least the same and usually a greater power range with a sweeter running and more tractable motor.

## A5. To return the car back to normal fuel.

If for some reason you have now decided that you want to convert the car back to normal for reasons best known to yourself, you should perform the following steps:

- \* Remove the cell, wiring, brackets, etc.
- \* Seal, in a professional manner <u>ALL</u> holes that you have made in the floor or bulkhead. If the holes are left, moisture may enter the vehicle and thus cause rust. <u>More importantly, some holes may allow the entry of gasses that may kill you or some other occupier!!!</u>
- \* Return ignition timing to normal manufacturers recommendation.
- \* Replace all special oil and water that was used to run the car on the cell.
- \* Remove any vortex air cleaners or mufflers unless you still want these for fuel saving reasons.

Now the fun will start. As there may be a residual of Orgone charge in the motor/car bodywork, the motor may refuse to run at the normal ignition timing. It may return to normal running after weeks, but during the intervening time the engine will run rough, refuse to idle at the normal idle speed and be a real pain to drive. A suggested solution is to use a thick lead, (a jump-start lead is perfect) and connect one end to the positive end of the battery and flash the other end very briefly against the engine at or near where you placed the blanking plug for the transfer tube from the cell. This will cause a momentary massive current to flow through the motor and back to earth (metal parts of car) and finally back to the negative end of the battery and thus reverse (hopefully) the charge from the Orgone and thus clear the motor. Make sure that you first disconnect any cables that are on the positive terminal of the battery before attempting the above!

**NOTE!** The above operation is a last ditch effort by **competent** mechanics. This is due to the very expensive and lethal damage that can occur to you and the car ie:

\* You may destroy your car computer/s, alternator, regulator and/or diodes, car radio, gauge's, and any other electronic

device on the car.

- \* As you are creating massive currents, you have a fair chance of melting any thin cables connected between the motor and earth.
- \* Also as you are creating sparks near the car battery, ( if it is located under the bonnet ) you have a fair chance of igniting the hydrogen gas in the battery thus causing a large explosion with a liberal spray of sulphuric acid. This may **MAIM OR EVEN KILL YOU** or the onlookers and of course destroy the front end of the car.

Again, I do not recommend the above unless you know exactly what you are doing. I merely mention this method for completeness as it is employed by some individuals.

# 6. Geographic location.

As mentioned, Orgone is not a constant, or even density cover on this planet. Some of the resulting problems are:

- \* The density varies seasonally.
- \* The density varies with the time of day.
- \* The density varies with planetary motions.
- \* The density varies with the Sun's cycle.
- \* The density varies with altitude.
- \* The density varies with geographic location.
- \* The density varies with the "users" of the Orgone energy eg. a nearby car.
- \* The density varies with the weather.
- \* The density varies with the introduction of pollutants.
- \* the density varies with the Earths and cosmic magnetism.

As you can see from the above, it is a wonder that we can use it at all, with our crude knowledge and even cruder cell. The main solution is to have a cell that is not too leaky. This means that the cell is always over-producing thus giving you some valuable time to drive out of the unfavourable locality. This is why I have suggested that you should have a duel fuel system and at no stage rely on the cell alone. It is one thing to have it fail on your garage bench, and a completely different thing to have it fail in the outback. Orgone has a very big disliking for any form of man-made electromagnetic radiation. So any large high voltage power line, transmitters, airport radar, military installations or radioactive sources will set up a reaction with the Orgone to create DOR. This may be so severe, that as Joe says, " the water has gone bad ". Unfortunately, as you are probably already anticipating what I am going to write, this requires a clean of the cylinders and insulators, fresh water, etc. That's right, back to stage 1.

## 7. The Y factor.

For the rational, proof only, and died-in-the-wool scientific types, you are going to hate this one! Normally anything

that cannot be explained in the framework of existing theories that are known as "facts", are place under the category of, "experimentally observed phenomena". The following fits that category. Basically, as Reich discovered, the Y factor simply stands for **you**. Yes, unfortunately when you get to the grey areas where known science merges into the unknown, you enter areas that will stretch your belief system if you so allow it. I could have very easily left the so-called non-scientific mumbo jumbo out of this book and so given myself at least a little "scientific credibility", whatever that means. Luckily, as I am self-funded and do not live on grants by writing "selected papers, no multinational can conveniently shut me up or rephrase the above to suit their needs. In actuality, it is immaterial if you believe or do not believe in the Y factor, either way it exists and you really should consider the concept of all creation being intimately linked permanently and instantly.

The Y factor will make your Joe cell either not seed at all, or not breed, or breed poorly, or behave in an intermittent fashion, depending on the living energies around it at any one time. This is not a fable coming out of my demented brain, but an observed fact, recorded from all over the world for countless centuries.

I, with many others have had individuals walk up to our cells and watch our cell suddenly breed, (Stage 3) or worst, watch with dismay as our cell drops back to Stage 1 (die). My favourite test cell was a Stage 3 cell for over 10 months and I was stupid enough to let it be observed by all and sundry. One day it was observed by an individual who by his own admission was out of energy and run down. Within seconds of this guy looking at my cell, it dropped out of Stage 3 to a weak Stage 2. Next morning it was absolutely dead. I pulled it apart and cleaned all metal parts hoping that this would fix it as the charge is in the water. No Joy! I then completely rebuilt the cell, added fresh water and I am still waiting for it to go to Stage 2! As in Chapter 8, you have been warned, keep your living cell to yourself. A friend reported to me a similar experience, namely that a cell that would not go to Stage 2 sprang to life (Stage 3) when a friend of his was 20 meters away from the cell, and then the cell went into a frenzy as he approached it. When his friend left, the cell died again! True stories.

The best procedure with the cell, or for that matter any endeavour is to treat it with an open mind. You do not have to believe that it will work, but similarly, you should not doubt that it can work. Do not analyse too much or apply blinkers to your thinking process by presuming that you have learned all that there is to know and with your " vast knowledge " can categorically say that, this Joe cell concept could never work. Unless you are the Almighty himself, you will learn new things every day for the rest of your life. I have talked to many, many intelligent individuals that simply refuse to believe that a car can run on what they see as nothing, nor how this nothing can get into a " solid metal " engine through no openings operate the motor and produce no measurable pollution. Yet, these same individuals who consider themselves sane ( with reservations for my sanity ), are quite happy to spend large sums of money or follow some outlandish new age fad in medicines or self-healing techniques with even less proof or science!

## **CLOSING COMMENT.**

"They call me deranged. The hope is that they are right.

It is of no greater or lesser import for another fool

to wander the earth, But if I am right and science is

wrong - then may the Lord God have mercy on mankind.

## Victor Schuaberger

My dear patient reader. At no stage have I said that the Joe cell is similar to making a bread toaster. As you are dealing with a little known, mass-less life force, you are behind the 8 ball right from the start, your battle is uphill and lonely, with jeering and laughing "experts " on both sides waiting for you to fall. Similarly, at no stage have I said that all people can convert all cars. Likewise, once you have converted your chosen car, there is no guarantee as to how long it will run before the breeding stops and/or the seed dies.

With the right mindset, all the above are minor problems and enjoyable challenges, but if you approach this conversion in a rush, not really believing in your heart that it can work, or with the intention of making lots of quick money, the Y factor is going to bite you! Don't even start, you are wasting your time and money. Think about it! If it was so easy and if all and sundry could exploit the life force, why is it not in mass production out in the real world? The answer is simple. It is exactly the mind set of these type of individuals that prevents them from utilising Mother Nature's secrets.

May aim has been to show you a method of cell construction that works for me. Obviously, there are many different ways to encourage the life force to enter an accumulator, storing it, increasing the stored density and finally utilising the force as you make it work on its release, similar to a dam wall and a water turbine. I have read all materials available to me relating to the life force and its utilisation. Over 6 years, I have compiled, analysed and experimented with the combinations that showed the greatest potential. I am not infallible, nor do I claim I make the best cells. I only claim that I make cells that work! You are reading some of this work. As I give you this information freely, I hope that you will also distribute it freely. What you do with this knowledge is your decision. Hopefully, as a result of your efforts you will share any new knowledge or short cuts with the rest of us, so we can all grow together as a brotherhood.

\*\*\*\*\*\*\*\*\*\*\*\*\*

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of Earth from that of Fire, the Subtle from the gross.

" Begin by forgetting what you have learned about the Joe orgone Cell."
With great sagacity it does ascend gently from Earth To Heaven.
Again it does descend to Earth and untieth in itself
the force from things superior and things inferior.
Thus thou wilt possess the glory of the brightness of the
whole world, and all obscurity will fly far from thee.
This thing is the strong fortitude of all strength, for it
overcometh every subtle thing and doth penetrate every solid substance.
Thus was this world created.
Hence will there be marvellous adaptions achieved,
of which manner is this.
For this reason, I am called Hermes Trismegistus,
because I hold three parts of the wisdom of the whole world.

That which I had to say about the operation of Sol is completed."

\*

## Cone angle calculations.

I must warn the reader that this section is, like Chapter 7, a creation of my brain, mind, or imagination. As such, treat it with caution, **Prove all things; hold fast to the truth!** 

The cone has to perform a very difficult task. As Orgone cannot be held captive against its will, somehow we have to execute an impedance transformation from the containing cylinder assembly, to the restriction of the outlet fitting and then to the Aluminium cell-to-car tube. The scientific problems are challenging; firstly, because conventional science, in general, denies the existence of Orgone. Secondly, this mass-less, hard to measure and invisible force does not lend itself to easy analysis.

So some "loony" must be prepared to at least make an effort to explain the unexplainable, and stick his reputation on the line, with at least some form of a theory that may be eventually corrected and built upon, and thus finally producing concrete facts. So here goes:

As we are ultimately dealing with frequencies and the resultant harmonics, all atoms and molecules must have an individual signature. Thus the cone material harmonics can play a large part in containing and guiding the dual pulsating Organic vortex field.

This calculation of complex harmonics of frequencies is very difficult. So I have chosen to take the easier path of working from a know parameter and thus obtaining the unknown details. As there is a relationship between the

" Begin by forgetting what you have learned about the Joe orgone Cell."

frequencies and the atomic weights, and as we have a fair tabulation of these, I will base my cone angle calculation on the atomic weights of the elements concerned. At all stages I am referring to the angle formed inside the apex of the cone.

\* You may readily look up for yourself the related atomic weights, but to save you some work, I will list some of the ones that are related to my explanation.

# **Element Atomic weight Element Atomic weight**

Hydrogen 1.00794 Carbon 12.011

Magnesium 24.305 Aluminium 26.98154

Silicon 28.0855 Phosphorous 30.97376

Sulphur 32.06 Titanium 47.88

Vanadium 50.9415 Chromium 51.996

Manganese 54.9380 Iron 55.847

Cobalt 58.9332 Nickel 58.69

Copper 63.546 Zinc 65.38

Molybdenum 95.94 Silver 107.8682

Tin 118.69 Gold 196.9665

\* Now let us analyse the chief constituents of 316L stainless steel.

## Element weight %

Iron 72%

Chromium 16%

Nickel 10%

Molybdenum 2%

As the rest of the elements are 1% or less, I will them out of our calculations. Similarly the above percentages are variable and I am using the minimum values that can carry the 316L name. If you want a more precise cone angle calculation, use my methodology and tighten up your own figures. You will find that the final manufacturing tolerance will absorb you numerical perfection.

The next step is to add up the related element based on the percentage existing in the final product, thus;

" Begin by forgetting what you have learned about the Joe orgone Cell."

#### Element % in 316L Atomic weight Total % in 316L

Iron 72 55.84 40.21

Chromium 14 52 7.28

Nickel 10 58.7 5.87

Molybdenum 3 95.94 2.88

Manganese 1 54.94 0.55

# **Total 56.79**

So let us round of to 57 and now call this our cones internal apex angle in degrees.

Okay, you say, a great play with numbers where, at one moment we are dealing with apples, and the next moment you are calling them oranges! Yes, I agree, but let us see if empirical data gives the same result.

\* Remember from Chapter 7, as to how we derived the outer casing height from two methods. One was my theory and the other one was the dimensions of working cells, both Joe's and my own. We will do the same here. Now, I suggested that for a 5 cylinder cell, an inner length of 8 inches and an outer length of 10 inches worked very well.

I have also previously explained, that the seed centre is in the center of the vertical height of the cylinder assembly, as dictated by the magnetic and electric forces. As the height is 10 inches for the outer cylinder casing, half this height is obviously 5 inches. So the nodal points would be at 5 inch intervals. Therefore, the perfect cone would have a vertical (not diagonal) height of 5 inches. If we do some basic geometry, you will find that this works out at about 54 degrees. and a cone height of 4.5 inches would give us 58 degrees. In passing, a perfect (isosceles) triangle has 60 degrees internal angles.

Remembering that we are trying to capture the vortex at the nodal point, thus the 4.5 inches would bring the apex of the vortexial crossover nicely into the outlet fitting. Bear in mind that the actual apex of the cone is missing and that instead we have a 1 inch hole. This 1 inch hole is at the 4 inch vertical height of the cone, so you want a 5 inch to 1 inch 316L reducer with a 4 inch base-to-hole vertical height. The 57 degrees falls very close to the 4.5 inch vertical height, which is midway inside the compression outlet fitting. Exactly where you want it.

Okay, what about the 4 cylinder cell, how does this fit in with the theory? Lets have a look at it. As an average inner cylinder length is 7 inches, the outer casing cylinder would be 9 inches. As before, the nodal points are half of this, thus a vertical height of 4.5 inches. At a vertical height of 4.5 inches, the cone angle would be 48 degrees, 9 degrees short of what we want for 316L stainless steel.

So unless we used a 7 inch outer casing and recalculated the seed diameter and the inner cylinder lengths, the 316L cone would not be optimum.

But what is to stop us using a cone made from a different material? For example a Titanium cone at an atomic weight of 47.88 or 48 would be perfect, and perfectly expensive. So forget that one. A lot of experimenters world wide have had good results with Aluminium cones. From the above table, the atomic weight for Aluminium is 26.98154, or for my calculation, an angle of about 27. degrees. As we are dealing with harmonics, the next upper harmonic is 54 degrees ( close to 57 degrees as in the 5 cylinder cell ) and thus only a fraction higher than the 4 inches vertical cone height. The end result is that an Aluminium cone would work better than the same cone in stainless steel of the same aspect ratio. The 1 inch outlet hole is on the 3 inch vertical height of the cone, so you want a 4 inch to 1 inch

Aluminium reducer that has a base-to-hole vertical height of 3 inches. The 54 degree falls on about the 4 inch vertical cone height, which will be fair way inside your compression fitting. As this cone cannot be welded to the stainless steel casing by many welders, a press fit is required. Also, remember that we want a seamless interior transition and finish. It has been done and it works very well, but for the general experimenter, it is far easier to use a stainless steel cone and suffer the extra leakage.

The above two examples may help you with your experiments on cone angles. There are many number games that you may play with Nature's mathematics and the above is only one. For example, you could use the Fibonacci series, ie. 1, 2, 3, 5, 8, 13, etc. and use it for your cell design, thus inner cylinders diameters are, 1 inch, 2 inch and 3 inch, an outer diameter of 5 inches, an inner length of 8 inches and a outer casing length of 13 inches, with a cone vertical height of 6.5 inches, or half again, ie. 3.25 inches. I have not tried this as yet, but I am very tempted to do so when time permits.

<u>Note.</u> Most cones work to some degree or other, what I am trying to do is to optimise the ideal shape and its related dimensions. From a person who could actually "see "the Orgone flame, (Verne Cameron) the following broad guidelines are worth their value in gold:

\* " If the cone is less than 90 degrees, the beam is shortened and brought to a focus."

You may use these angles at you discretion, taking overall tube length into consideration.

\* " If the cone angle is 90 degrees, you will have a concentrated 1 inch beam, which will travel great distances."

A 90 degree cone for the 5 inch cell is 2.5 inches high to the apex and 2 inches high to the 1 inch outlet. A 90 degree cone for the 4 inch cell is 2 inches high to the apex and 1.5 inches high to the inch outlet. I find these angles too "flat "for cones and prefer a focussed beam cone construction. Of course, a dome in some geometric shape would favour this flat layout but, with the added complication of tuning the dome shape, ie, elliptical, parabola, circular, etc.

\* " If the cone angle is more than 90 degrees, the beam will tend to disperse."

Do not use these angles. They will tend to reflect the Orgone energy back into the cell and thus make the cell a great table-top model, but they will not run a car.

From the above, it can be seen, as to why some experimental cell perform brilliantly on the bench, but will not run a car; namely the cone angle is too small and the Orgone beam reaches a focus point before reaching the water jacket of the motor. Again, you have been warned! If the cell is a stage 3 cell, and the motor will not run, the cone angle is one of the primary suspects.

# **How does it work?**

The inspiration, for this section belongs to Walter Russell a truly amazing being. I have used his great brain to allow me to explain to you how I think the Joe cell functions.

# From Beyond the Atom.

There is a neutral ether consisting of countless myriads of inconceivably small particles per cubic centimeter having no electric charge and no mass. Universal mind places electrostatic charges on these particles when there is a suitable magnetic field so that the become charged particles. The complexity of the charge determines the type of charged particle and its behaviour.

" Begin by forgetting what you have learned about the Joe orgone Cell."

The above nicely explains several points to the average reader;

- \* As ether, (Orgone) has no mass or electric charge it makes it very difficult to measure. If you read about the efforts that science has gone to, to measure gravity waves and neutrinos, you will more fully comprehend the problems of measuring these forces. Suffice to say that just because scientists cannot measure Orgone energies does not mean that Orgone does not exist.
- \* As our Joe cell geometry, chemistry, electrolysis, location, materials and experimenters vary from cell to cell, the Joe cell will thus produces a whole series of different effects for different experimenters. The cell can lose weight, cause rain, heal people, make people sick, create various elements and even do what you want it to do ie. power an internal combustion motor.
- So, how does a Joe cell run a car? Again I will stick my neck out and suggest an answer that makes sense to me. Obviously it is a theory and is only in place until a reader suggests a better theory, in which case I will remove mine and insert his with full credits.
- Have you ever considered exactly what occurs when you use a battery for your radio, torch, etc. I mean what is in the battery that makes your device work and why does it go flat?
- There is many chemical and electrical ways of explaining the process, but I would like to explain it to you from a slightly different perspective. Lets set the stage:
- 1. Every unbalanced action must eventually be balanced no matter how long it takes. Remember that I have mentioned in another section of this book the great clue, **Rhythmic balanced interchange.** All things in creation including our battery and the Joe cell obey this fundamental rule.
- 2. Electricity is dividing a pressureless condition into two opposite pressures which desire release and thus a return to a state of balance. So our 1.5 Volt battery for example, does not want to have a positive and negative pole and is trying to return to a state of balance ie. eventually the battery will go flat the duration depending on how much work we ask it to do.
- 3. Work is the result of unbalanced matter seeking a rest in balance. Notice how we make our battery work for us by letting it return to a state of balance. **JUST AS IN THE JOE CELL!!!**
- 4. So the charge of the battery, (or the Joe cell) is a pressureless condition separated into two opposite pressures.
- 5. A charged battery is dually unbalanced by the opposite pressures which desire release, exactly as in the Joe cell. Opposites oppose, they never perform any other function than to oppose. Opposites are not things; they are conditions.

Okay, if we look at the above clues and using the car battery as an example, we can readily see that the electrolysis that occurred in the battery when we charged it via the car alternator has created an unbalance that is frantically trying to return to a state of balance. If you do not believe me and if you are foolish enough, just put a spanner across the terminals of a charged battery and watch it melt and disappear. Please don't do it, take it as fact. In like manner, when we charged the Joe cell, ( which is also acting as an accumulator ) we have created an unbalanced condition that is also frantically trying to return to a state of balance.

A car battery reaches a state of balance by finding an electrical path either in the battery (self discharge) or outside the battery in a resistive load ie. turning your lights on. The Joe cell reaches a state of balance if you accidentally short the cell when it is charged, or in the combustion chamber of the car by using the timed spark plug spark or a similar electronic trigger to allow it to drop to a lower or balanced density (the state it was in before you forced it to do work).

The result of the Joe cell working is translated into an expansion of the intake air charge and thus the forcing of the piston down the bore to turn the crankshaft etc.

Now a few words of mine should fall into place for you. A stage 3 cell is charged ie has sufficient unbalance to do work. A leaky cell is a self discharging cell. A balanced or stage 1 cell cannot perform work. To make the cell work, we must have an efficient transfer to the point where the work is required, ie. we must contain the unbalanced condition until it is in combustion chambers by using the right type of cone, tube, blind plug, motor and electrical connection.

The Joe cell accumulator is constantly trying to return to a state of balance and given the slightest excuse will return to balance and thus be useless to you. As you build up you familiarity with your cell, you will find that the cell is constantly giving you small clues as to what it is doing. As such working with the Joe cell is an interactive exercise and developing the skills of a good observer will be highly beneficial.

\*\*\*\*<mark>\*\*\*\*\*\*\*\*\*\*\*\*\*\*</mark>

## Electrolysis process.

A lot of experimenters have tried in different ways to electrolyse water, and thus as a result of electrolysis, utilise the liberated hydrogen and oxygen as a fuel to run a car. This was the original intention of Joe when he planned to run his car on " steam ". This was, and is, also the intentions of individuals right up to the present time. They have all forgotten, or never knew, the fundamental principles of electrolysis, as formulated by Faraday. His first law is:

The quantity of any element (or radical, ie., group of elements) liberated at either anode or cathode during electrolysis is proportional to the quantity of electricity that passes through the solution.

This simply states that you cannot get something for nothing! All around the world, different groups and individuals are constantly claiming that you can run a conventional car motor from water with basic electrolysis and still have power left over ( over-unity ). Well is you believe that, pigs might fly.

Think about it! Let's say that one horse power is 750 Watts. Let's also say that you require ten horsepower to propel a vehicle at a reasonable rate. So we require 7,500 Watts. Now, by Ohms law, 7,500 Watts divided by 12 Volts, (our conventional car power source voltage) is equal to 625 Amps. As a normal car alternator produces a maximum of 50 Amps, you may start to realise the magnitude of the problem.

- 1. For an ideal case, to cause current to pass through a solution, no minimum potential difference is required. Irrespective of the liquid in the Joe cell, a certain (although at times, small) current, will flow through the solution in the cell if any potential difference, however small, is maintained between the anode and cathode. This current that passes corresponds to Ohm's law. So if you connect the Joe cell across a 12 Volt car battery, a current will flow that is determined by the resistance of the electrolyte. Now if you connect two car batteries in series (24 Volts) across the Joe cell, you would expect it to obey Ohm's law and that twice the current would flow. But as the Joe cell is a liquid and highly complex resistance and potential source, what actually occurs is that the current nearly triples. This has been verified with extensive experiments by Barry Hilton. Conversely, if you reduce the voltage across the cell, the current will be reduced. Using this fact, you can adjust the cell electrolysis current from minimum, as when the car is not in use, to maximum during use, as required. This is simply done with one resistor, or as previously mentioned, you can have a fancy system that is constantly adjustable. I optimise my cell as I said, by the addition of electrolyte, until a cell is flowing 1 Amp at 12 Volts for a running engine and ¼ of an Amp (250 m/A) for a breeding idle cell, ie. not running an engine.
- 2. The above conditions only apply if there is no appreciable polarisation at either anode or cathode plates. By

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polarisation I mean the change in potential at the actual electrode surface that occurs as a result of the current flow and thus chemical action. In our case, as we use 316L stainless steel, ( the anode is thus considered insoluble ), this is not a major problem.

A test for polarisation with other materials is to check the voltage across the cell on turning off the power. If there is polarisation, you will read a reverse voltage to the normal potential polarity. The magnitude of this reverse voltage is the amount of polarisation. This voltage falls off quite rapidly and should be measured with a high impedance voltmeter.

- 3. The conductivity of a solution depends upon the ionic concentration, rather than the total or molecular concentration, as the undissociated molecules do not conduct current. In our case, with acids, the degree of ionisation <u>increases</u> with dilution. This explains why, for example, dilute sulphuric acid has a higher electrical conductivity than a more concentrated form. So greater concentration is not better for you electrolyte in the Joe cell.
- 4. The pH of a solution, is a convenient way of expressing the free hydrogen ion concentration and thus the acidity or alkalinity of a solution. The normal scale is from pH 1 for completely hydrated strongly acid solutions, to a pH 14 for a strongly alkaline solution. A pH value of 7 is considered neutral. In neutral solutions, the hydrogen and hydroxyl ion concentrations are present in equal amounts. Acid solutions cause an excess of hydrogen ions and alkaline solutions a deficiency of hydrogen ions, ie. an excess of hydroxyl ions.

For example, pH 4 = 0.0001 gramme ions per litre, and a pH 5 = 0.00001 gramme ions per litre, etc.

It is important to realise, that the pH is a measure of the free or active acidity or alkalinity of a solution, and <u>not</u> of the actual acid or alkali concentration.

More on pH if the above is too simple (Courtesy ETI magazine).

All acids have at least one hydrogen atom that tends to break away from the molecule when the acid is dissolved in water. In doing so it leaves behind an electron and becomes a positively charged hydrogen ion. It is these free hydrogen ions that are responsible for the chemical properties of acids, and their relative numbers determine the strength of the acid in question.

Alkalis are extreme examples of a class of substances known as bases. Bases are like converses of acids. When they are dissolved in water they tend to break up in a negatively charged hydroxyl ion and a positively charged residue.

Bases and acids in the same solution tend to neutralise each other. The free hydrogen ions from the acid combine with the free hydroxyl ions from the base to form molecules of water.

The reaction between hydrogen and hydroxyl ions can also proceed in the other direction. That is, water molecules can break up again into free hydrogen and hydroxyl ions. There is only a slight tendency for this to happen, however. In pure water at room temperature only about one water molecule in ten million dissociates into ions. In other words, the concentration of free hydrogen ions in pure water is one part in ten million. This concentration of hydrogen ions is known as a **neutral** solution.

If an acid is dissolved in water, the solution will no longer be neutral, there will be more hydrogen ions because of the dissociation of the acid. Dissolved bases will initially result in a solution that has more hydroxyl ions than neutral water, but these hydroxyl ions will tend to combine with any free hydrogen ions to form water molecules. The net result is that the number of free hydrogen ions in a basic solution is **lower** than neutral water.

Clearly if we can measure the number of free hydrogen ions in a solution we can find out if it is acidic or basic, and to what extent. Actually what we will be interested in is not the absolute number of hydrogen ions, but their relative

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numbers ie. their concentration.

For reason of mathematical convenience and logical purity, chemists prefer to work with a quantity known as the activity of hydrogen ions. Since the activity is generally proportional to the concentration, the exact distinction between the two terms need not concern us here.

The range of possible values for hydrogen activity is very wide, from 10 for the strongest acid solution to 10 to the minus 14 for the strongest alkali. This leads to numbers that are awkward to writer and even more awkward to speak.

The pH notation which was introduced in 1909 by the Danish chemist S.P.L. Sorensen, makes things a bit easier. It defines pH as the negative logarithm of the hydrogen ion activity ie. pH - logA.

As mentioned above, low values of pH indicates acidity, high values alkalinity. Neutral water is pH 7.

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# Rotating fields.

Over countless years, various experimenters, professional and otherwise, repeatedly reported the discovery of unusual phenomena that could not be explained, or that did no fit in with the known laws and theories that existed at the time of the discoveries. The easiest method employed was to shelf the idea until more became known while scientists " came up to speed " on the subject. In Chapter 3 is a list of the different names given to one of these mysterious group of forces.

Although all the various scientists were working on the same type of force, due to a lack of formulated and written characteristics of this force, each scientist re-discovered the same force and gave it a new name. Well, nothing has changed. Orgone as a name, is not the flavour of the month, but torsion and axial fields are. It really does not matter what name you give a rose; it still smells the same. Similarly, our cosmic life force behaves the same, no matter what some scientist decides to call it. I am only belabouring the point to make you aware that torsion and axial fields are not a new discovery, but the same old force with a different coat.

Some properties of torsion fields, as presented recently by Yu. V. Nachalov and A. N. Sokolov: (Try web site www. amasci.com/freenrg/tors/doc17.html):

- \* They exhibit phenomena associated with the fifth force.
- \* They cannot be shielded with metal screens.
- \* They have velocities billions of time greater than the speed of light.
- \* They can affect the of weight of objects.
- \* They can propagate in the future as well as in the past.
- \* They can transmit information without transmitting energy.
- \* They propagate through physical media without interacting with the media.
- \* They cannot be shielded by most materials.

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- \* They can be shielded by materials with a certain spin structure.
- \* Any nuclear spin-polarised object is a source of torsion fields.
- \* The interaction of a spin polarised particle with a spin polarised object, results in

the appearance of anomalous forces which depend on mutual spin orientation of the

particle and object.

\* Each physical objects, in LIVING or NON-LIVING Nature, possesses its own characteristic

torsion field.

- \* They can be observed by Kirlian methods.
- \* Any permanent magnet possesses its own torsion field.
- \* Pyramids, cones, cylinders, flat objects, triangles, etc. are torsion field generators.
- \* Aluminium is an effective shield for torsion fields.
- \* Aluminium mirrors will reflect torsion fields.
- \* A combination of geometrical shape and high voltage will cause a reduction in gravitation.
- \* Many effects remain up to four days after the torsion field is removed.
- \* They are identical to the transverse spin-polarisation of the physical vacuum.
- \* They are shielded by **artificial** materials possessing orthonormal topology of structure.
- \* Torsion field has a cone shaped spatial configuration.
- \* They significantly alter the oscillation of quartz crystals.
- \* Torsion fields can alter the process of radioactive decay.
- \* The charged object must not be subject to any shocks, otherwise the torsion field charge
- will disappear, as torsion fields are closely coupled to inertial forces.
- \* They can be generated as the result of the distortion of the geometry of the physical vacuum.

Torsion field references amount to over 10,000 articles belonging to about 100 authors. Over half of these work in Russia. So dear reader, if you want to track down the properties in detail. you have more than enough to keep you busy for a long time.

To summarise the above, all these so-called new torsion and axial field properties <u>match exactly</u> the properties as given to you in this book and that were known for hundreds of years. At such, apart from a change in name, we have additional irrefutable and current verification that the Joe cell is a simple Orgone (or life force) accumulator.

For the astute reader, I am sure that you can think, ( with the use of some of the above newly mentioned effects ) of methods of improving your basic cell to make it less leaky, thus acting as a better container of Orgone.

# The past.

A.

A very old warning states that Cosmic fire can consume the unready; man is warned that to tamper with the energies of the Universe is forbidden until he is prepared through inner transformation.

As this transformation is far from completion in the majority of mankind, we have a sorry state, where critical information on Cosmic energy and its utilisation have to be carefully guarded. As all energies can be used both for good and bad, the end result is that a few have used these powers for the control of the majority. As such, information on the Cosmic forces is very hard to come by at the grass root level, where we, the minions reside.

Throughout history, various scraps of information have been published that has given the inquiring researcher enough data to enable him to piece together at least the rudiments of the power source and the related construction.

As Walter Russell said, "Everything which seems at rest depends upon violent motion to make believe it is at rest." So, this seeming stillness that surrounds us is a seething sea of violent motion. By unbalancing this rest and balance, we have endless power at our fingertips.

Also, as quoted by Walter Russell from The Divine Iliad,

" Great art is simple. My universe is great

art, for it is simple.

Great art is balanced. My universe is

consummate art, for it is balanced simplicity.

I have but one law for all My opposed

pairs of creating things; and that law needs

but one word to spell it out, so hear Me

when I say that the one word of My law is

#### BALANCE

And if man needs two words to aid

him in his knowing of the workings of that

law, those two words are

#### BALANCED INTERCHANGE

If man still needs more words to aid

him knowing of My law, give him

another one, and let those three words be

#### RHYTHMIC BALANCED INTERCHANGE

So, dear reader, as you can see in the above, the energy is a rhythmic, balanced interchange of two streams as is our Orgone force, a pulsating, dual expanding and contracting vortex. All expressions of energy seek a point of rest, and return to a condition of rest. Our Joe cell concentrates this rest energy and in this concentrated, unnatural state, the energy is desperately trying to return to its base or rest state. We allow this to occur in the combustion chambers of our motor, and the resultant return to rest of the Orgone energy creates the work that powers the motor.

I will now mention other quotes regarding the Cosmic force, from far less authoritative individuals than the Almighty.

# B.

The following is a communication received and written by Carlos Zelaya in 1971:

"In Cosmic Energy, or the energetic action of Cosmic Rays, we find it is in itself an undrainable energy source within the reach of all the Universe. To take advantage of it at any experience we must use as departure point some elemental concepts based upon Cosmic laws.

This energy moves itself within certain fields or strips, both at infinite space as within the geomagnetism of heavily bodies. To achieve tapping and concentrating it, it is necessary to make geomagnetical study of the planetary area, as a deep study of astral or astrological motions, according to your language. .......Considering that these rays move and behave in a given way according to solar and lunar motions, and with the combination of both and of planet Mars, which is the main reflector of this solar system for Cosmic rays, they are the most fitting for the experiences of exiting the atomic nucleii. "

Additionally, the following was received by Carlos, also in 1971.

"To condense cosmic energy it is needed a device somewhat different to the ones presently used on Earth.

It is not only different but its variations lies upon concepts and principles related to its construction, on Earth are taken as principles physico-chemical phenomena, etc.. We take as principle the ELECTROCOSMIC phenomenon, which is the energetic manifestation of the WHOLE's Elemental Laws.

Therefore, for energy-accumulation, we take into consideration that;

Any directed energy within an inert space tends to form a field

## because of the seeking an equidistant balance with respect to

# the field's axis properly. "

Also, the following was received by Carlos in 1971.

- "The phenomenon because of which cosmic energy is condensed is:
- 1. Because its natural atoms are ACTIVE MATTER.
- 2. Because it is "active matter", it is possible to condense and fix it.

To fix its condensation it is necessary that the energy levels be active enough, for the later, with the polarisation "shock ", be formed the layers of matter, which only through their atom's excitation it is active and generates, by reaction of impulses, a given wavelength.

With this simple principle, but highly positive, it is attained the concentration of (cosmic) energy into layers of NATURAL matter and its generation of regulable fields according to the excitation it is made to undergo, for the natural matter of the Cosmos is an energy source."

I have left the translations as received, you may want to manipulate it into more "correct "English.

# C.

You may want to read an article by Rick Anderson and his explanation on the Poynting vector and the Lorentz force. See his article at ( http://www.tricountyi.net/~randerse/lgf.htm ). This article will explain to you the reason for the rotation of a suspended magnet that is placed near a charging vat. Also, it will partially explain to you the reason for the concentric, cylinder within cylinder design of the basic Joe cell. In brief, if you do not have Internet access, I will quote the main paragraph:

"The third vector ( Lorentz/Poynting force ), then , must appear at right angles to BOTH the electric and magnetic vectors, at all points around the perimeter of the subject; and so it manifests as a CIRCULAR ORBIT OF FORCE AROUND THE SUBJECT WITH A PREFERRED DIRECTION, similar to a rotating energy field or vortex. The direction of this circular Lorentz can be switched between clockwise and counter-clockwise simply by reversing the polarity ( or physical connections to the coils ) of the amplified signal driving the coils. A North pole at the top, with a South at the bottom, will cause the Lorentz force to circle counter-clockwise, and a S-N clockwise."

This has been explained in earlier chapters, of this work.

#### D.

You may want to read "An Analysis of the Joe cell from a Biodynamic Perspective ", By Guy McCarthy. Although I disagree with a fair portion of his conclusions, nevertheless, there is a lot of good background information for the Joe cell experimenter. It is available on web site:

( http://www.twelvestar.com/Sourceworks/JoeCell.html ).

# E.

Orgone in relation to some other energies. By Lawrence Barth.

"In the late 1950's, Gaston Burridge published an article on "cone" energy. He discovered a form of energy which, he states, his and others' experiments show come in a beam from the apex of a cone or pyramid made purely of metal, or cardboard or wood covered on the outside with metal foil, especially brightly polished foil. Here one is reminded of the organic accumulator, especially the funnel accumulator, but we must notice that the metal is on the outside of the organic material, not the reverse; nor need there be any opening at the apex, as is the case with the funnel. To the best of my knowledge, the radiation comes in a <u>beam</u> from the apex rather than equally from every surface of the metal. The beam is as intense at night as at daytime, this seems to eliminate sunlight as the direct source of the energy."

# <u>F.</u>·

The research of Karl Von Reichenbach. By Kenneth Strarz, (quoted in selected parts).

"Baron Karl Von Reichenbach was a nineteenth century scientist whose amazing researches have been almost totally forgotten. He discovered the fundamental new energy, odyle, the same in major respects to Reich's organe. in support of his discovery he performed literally thousands of controlled experiments, publishing the results over a twenty year period. Reichenbach did not reckon with the terror and hatred that the human being feels when confronted by life specific energies.

Reichenbach was born in 1788 in Stuttgart. In chemical research he discovered creosote, paraffin, eupion and pittarcal. from 1845 until his death, he tried fruitlessly to convince his colleagues of his discoveries. he did a huge amount of research in the unseen properties of magnets and crystals. Crystals and magnets observed in the dark showed flames rising three inches from the ends, shaped like a tulip. They were very beautiful and moved constantly. He named the new energy odyle.

In addition to magnets and crystals, Reichenbach described eight other sources of odic energy: living organisms, the sun, moon and stars, heat, friction, artificial light, chemical reactions, electrical charges, and the material world in general. He discovered that the odic processes in the human body interacted with other sources of odic energy. Reichenbach discovered that a strongly charged body could alter the natural charge of another substance by contact.

His final conclusion is .....that the odic force is a universal adjunct of all matter in variable and unequal distribution and that this force is one which extends over the entire universe. "

As stated above, there is a vast amount of recorded data, but unfortunately not easily available, as most of his work has been out of print for over one hundred years. His work is vital to any reader that attempts a thorough understanding of the Orgone force.

# G.

The work of Georges Lakhovsky.

Lakhovsky states that every living being emits radiations. If you read his book "The secret of Life", you will easily see that the experimental results obtained with various shaped spirals is a direct tie-in with our Orgone energy topic. Similarly, you will see how the "Y factor" ties in to the body's emitted radiation. Again, good reading for the researcher.

## H.

Some very interesting comments from the great Erwin Schrodinger one of the founders of quantum mechanics and well respected by his peers. The comments nicely tie in with the Orgone force and living organisms:

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"...Today it is believed that living organisms feed on energy and various kinds of foods have different energetic values. This is an absurdity. ...in any point of the universe entropy increases and the living organism continuously produces **positive entropy**, too, and so everyone is drawn towards a state of maximum entropy, ie., to death. To avoid this state and so to be alive, the living organism decreases his entropy continuously extracting the **negative entropy** from the environment, including food..."

What a lovely way of stating that we require Orgone (which has negative entropy) and thus by logic we will interact with any Orgone source, including a Joe cell! Again, the Y-factor.

# <u>I.</u>

To finish this very brief section on past information, I will mention some important research information from Reich.

The effect of Deadly Orgone Rasdiation. (1961) Compiled by Charles R. Kelley in Radix institute bulletins.

"Dor is an abnormal life-inimical form of orgone energy. it is present recurrently throughout the Earth's atmosphere, is present chronically in large regions of it, and is increasing.

Dor is an immobilised stagnant energy that seriously interferes with normal orgone energy metabolism, both of atmospheric and of living orgone systems.

Whereas orgone energy normally gives the sky a light blue or blue grey appearance, DOR-infested regions of the atmosphere appear dark, sometimes blackish or purplish black. Normal orgone energy is in constant motion, flowing, flimmering, or pulsating, while DOR is still and oppressive.

The stillness of DOR-infested atmosphere makes them especially subject to pollution of all kinds. Urban smog appears principally and most seriously in atmospheres immobilised by DOR.

Animals or plants exposed to heavy or chronic dor concentration are seriously disturbed in their orgone energy metabolism, which is dependent on the external orgone energy field in which they live. Continued exposure can result in grave disorders and eventually, even death for plant and animal alike.

A tree exposed to a DOR infested atmosphere dies in a particular way. DOR is attracted down onto the tree from above. The top of the tree therefore is usually affected first, the leaves curl and die, and the bark disintegrates and peels. The tops of outstretched branches, usually near the top of the tree, are next affected. The bark on the tops of the branches turns dark and disintegrates. The tree dies from the top down and from the outside in.

In areas of extremely high DOR concentration, exposed rocks begin to turn black. The black usually begins in small spots, and expands to cover more and more rock surface.

When DOR is removed by the use of the Reich apparatus, it becomes concentrated around the equipment. This concentration can become so serious as to be a hazard to life."

## The Core men.

I have no intentions of boring you with any conspiracy theories or my phobias. I will quote Reich directly:

"1. The CORE men (Core = Cosmic Orgone Engineering), as I came to call them, apparently were thoroughly conversant with the laws of functioning in the cosmic Or energy ocean, especially with gravity as a function of superimposition.

- "Begin by forgetting what you have learned about the Joe orgone Cell."
- 2. They use cosmic Or energy in propelling their machines.
- 5. The CORE men were obviously riding their space ships on the main Or energy streams of the Universe."

There is much more on the above in the Orop Galactic Stream publication.

# The Orgone Energy motor.

I will mention in brief, some references from Dr. Reich's work, in relation to a method of utilising Orgone energy to power a motor. The full details were published in 1948 and 1949, and the reader may refer to these for full details.

For his radioactivity work, Reich used a Geiger Muller counter. As a result of many experiments, he noticed reading anomalies with some of his experiments. Basically, he noticed increased reading with the counter dependent on Orgone concentrations. This eventuated in Reich eliminating the normal Geiger Muller tube and replacing it with his own specially made tubes. He named these **Vacor tubes**.

These tubes were evacuated to .5 of a micron, which is below the level that normal ionisation would occur. As a result of charging these Vacor tubes with Orgone energy, he discovered that they would produce a high pulse rate on the GM counter. This led Reich to further experimentation, resulting in the modification of the standard counter circuit in such a way that a small motor could be made to rotate directly from the Orgone energy.

This motor was a small AC type made by Western Electric, with a type number of KS-9154. It would run when Reich connected an antenna and/or earth to the modified GM counter. It would also rotate whilst under the influence of a field enemating from a living creature. The rotation of the motor was quite unusual as it could reverse direction spontaneously without significantly slowing down and speeding up again as if the motor had no inertia. The rotational speed also varied unexpectantly and could be made to run faster or slower, depending on the person that had his hand near it.

Reich explained the above idiosyncrasies, by referring to a force he called the "Y factor." He refused to divulge what the Y factor was, and mankind will have to wait till the year 2007 AD, when his sealed archives will be opened. As already mentioned, I am very confident that the Y factor simply stand for YOU, meaning that the individuals Orgone field interacts with the experiment. This has occurred over and over with experimenters interacting with the Joe cell.

For the more dubious reader, I will quote directly some of the comments of witnesses that were present, when Reich was demonstrating the Orgone motor:

# Myron Sharaf.

"....it involved the use of an accumulator attached to a motor; concentrated Orgone energy was triggered by a small amount of electricity, an amount insufficient to rotate the motor without the accumulator......When powered by the combination of Orgonotic and electrical energy, it ran smoothly and quietly; but the speed varied depending upon the weather....more rapidly on dry, clear days, more slowly when the humidity was high."

#### Elsworth Baker.

"Reich first used vacor tubes in series attached to a small accumulator and connected to a transformer to build up an electric charge to excite the Orgone energy. He used four or five vacor tubes. All were connected to a 25 Volt electric motor.....Reich took away one vacor tube after another until all were taken away, and still the motor ran. The important ingredient was the so-called Y factor which Reich did not divulge. .....On Orgone energy, the motor was practically noiseless and ran smoother and faster. At times, it would change direction. In damp weather, it would not run."

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Lois Wyvell.

"The one I saw was about the size of a large orange.....It was hooked up to a special Orgone accumulator with the Y factor that Reich did not divulge as he felt mankind was not ready to use such a potentially boundless power rationally.....But the motor ran on atmospheric orgone energy fed to it through the accumulator and also from the human energy field.....It ran erratically, as no motor with a mechanical energy source does: It slowed down and speeded up without any interference. Also, if one curved his hands over the motor, it picked up speed, and with one's hand over it, it speeded up and slowed down....It reversed itself every once in a while without slowing down, even without a jolt."

As you can see, there is a large and undeniable link between the atmosphere, living organisms and the Orgone motor. In a movie sequence that Reich made, the is a demonstration of the motor not turning until Reich placed his hand in the vicinity of the motor. The motor then ran until Reich removed his hand. So if we are not dealing with a living force, I would challenge the reader to offer me a logical, scientific reason to the contrary. Please, don't bother replying with references to tricks with mirrors, RF transmitters or any other circus act type explanation.

Again, let me state that the above is a very, very small sample of the vast amount of recorded data in our historical archives.

## The present.

The present lies with you. There are many teams spread all over the world, that are experimenting with Orgone accumulators. These teams are working with the Cosmic energy for many and varied applications. The Joe cell and its application, is a very small section of the overall research work. The majority of the effort is in four main areas:

- 1. Weather control. There has been a vast amount of knowledge gathered in this application. Reich himself has written hundreds of pages on his cloudbusting operations. A more recent individual is Trevor Constable. The book, "Loom of the Future", by Thomas J. Brown from Borderland Science Research Foundation, is a fair overview of the present state of the art.
- 2. Water modification. This area has a smaller following, but is amply covered on the Internet. Basically, it involves the use of either egg shapes or vortexes or both, (after Viktor Shauberger's work), to modify the water structure and the enclosed Orgone energy. The end result is a living water more suited for all living organisms. There is a lot of literature on this. Check the Internet.
- 3. Health uses. This is the one that caused the demise of Reich and his works. He, and many others that have since copied him, have discovered that the Orgone accumulator can have wondrous curing abilities, with many claims of cancer cures. A lot of literature on this. Check the Internet.
- 4. Covert uses. Since recorded history began, secretive groups have exploited the majority by withholding huge advances in technology. This has not changed, and will not change in the near future. It is indeed very frustrating experimenting with your pieces of stainless steel tubes and your Joe cell, when the chosen few are laughing their heads off, watching you trying to recreate the wheel.

So, as far as the present is concerned, we have basically two groups, one covert and way beyond any technology that the average person can imagine, and the other a huge team of back yard and academic

experimenters, stumbling and bumbling their way through the fog.

"Begin by forgetting what you have learned about the Joe orgone Cell."

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#### The future.

To quote Walter Russell directly, regarding a future new source of power (written 1957):

"The first stage to be transmutation of the atmosphere into free hydrogen, then, generations later, by transforming solar radiation into solar generation as man's ultimate fuel. This would not only free him from dependence upon earth's resources, but give him complete power to cause rains wherever he desires, on desert or meadow, and to dissipate cyclones while forming."

A chief source of Orgone, is solar radiation.

The future depends on us all. If we interchange our research for the good of all, (which is so easy now with e-mail and the Internet ) we will be able to make quantum leaps in our knowledge, thus the gap between covert and freely available information will close. The end result is a better world for the majority and not just for the chosen few.

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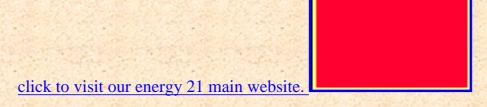


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# DISCLAIMERS.

# Irremissible reading for the practising experimenters and constructors.

As the author of this book titled, "Experimenters Guide to the Joe cell ", I hereby make the following formal declarations and give the following advice:

- 1. I make no recommendation to anyone to construct a Joe cell. I am merely giving an account of my own learnings, experiments and the results obtained thereby.
- 2. I do not urge and do not recommend the alterations to the fuelling of registered motor vehicles or other engines which are to be used on public roads or other places.
- 3. In the event that a person, who by his/her own decision endeavours any, or all parts of my experiments, I strongly suggest, that the operator must be well versed beforehand, in the arts and knowledge requirements of the above tasks, for a safe and successful construction.
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Melbourne, Australia-1999. The author, Alex. A. Schiffer.

# Like all potentially dangerous devices, use at your own risk.

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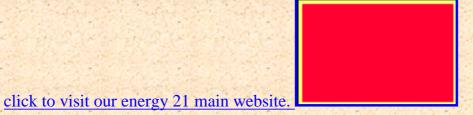
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# **GLOSSARY**

"To obtain real knowledge, we must feel the truth of a thing, and understand that it is true,

and know the reason why it cannot be otherwise.

#### Max Heindel.

**Acid** A substance which releases hydrogen ions when it is added to water. The hydrogen ion is solvated ie. a water molecule adds on to it, to give the oxonium ion.

Acetic acid The common name for ethanoic acid.

Accumulator In our case, a rechargeable Orgone concentrating container

**Alkali** A base which is soluble in water. They are usually metal hydroxides eg. sodium hydroxide, but ammonia solution is also an alkali.

Alloy Is a mixture which is made up of two or more metals or which contains metals and non-metals.

**Aluminium** The most abundant metal in the Earth's crust, (approximately 8% by mass). It is obtained by electrolysis of Bauxite

**Ampere** The unit of electric current. It measures the rate of flow of charge. 1 Amp = 1 coulomb/second.

Anion A negatively charged ion.

**Annealing** A process of heating a material for a given time at a given temperature, followed by a slow cooling. It is a common form of heat treatment.

**Anode** When a solution undergoes electrolysis, the electrode with the positive potential is called the anode. In the Joe cell, it is the outer casing.

**Atom** The smallest indivisible particle of an element that can exist.

Battery A device which converts chemical energy into electrical energy.

Brass An alloy of copper and zinc.

**Bronze** The combination of >90% copper and <10% tin.

Capillarity The tendency of the water in a Joe cell to move up the sides of the cylinders depending on the relative

attraction of the water molecules to each other and to the cylinder walls.

Cathode The negatively charged pole in a battery or electrolytic cell.

Cation A positively charged ion.

Cell Defined in our case as an accumulator of Orgone energy.

**Conductor** An electrical conductor is a substance which allows an electric current to flow through it.

Current Electric current is the movement of electrons through a conductor. It's measured in Amperes.

**DC** Direct Current. The type of electrical current produced form a simple cell or battery.

**Diamagnetic** A repulsion by a material from a strong magnetic field. It will try to find its way to the weakest part of the magnetic field.

**Distilled water** Tap water and rain water are not pure. They contain salts and dissolved gases. Water is often distilled to increase purity. Most of the salts are left behind but the water may still contain dissolved gases. The presence of carbon dioxide reduces the pH of the water considerably.

**DOR** Deadly Orgone. An "unhealthy "form of Orgone energy in the atmosphere.

Under agitation by materials that act as irritants to Orgone, the Orgone

energy eventually becomes immobilised and " dead ".

**Electrode** An electrode is a conductor which dips into an electrolyte and allows the current ( electrons ) to flow to and from the electrolyte.

Electrolyte A solution which contains ions.

**Electrolysis** When a direct current is passed through a liquid which contains ions (an electrolyte), chemical changes occur at the two electrodes.

**Electron** A fundamental negatively charged particle, part of an atom. If an atom loses an electron, it becomes positively charged ie. a cation, or if it gains an electron, it becomes negatively charged, ie., an anion.

**Element** A pure substance which cannot be broken down into anything simpler by chemical means.

Ethanoic acid It is one of the simplest fatty acids. Vinegar contains 5% or more of ethanoic acid.

**Fuel** A fuel is a substance that releases heat energy when treated in a certain way. In most fuels, the energy is released by combustion. So, strictly speaking, when the car is running on the Joe cell, it is not using any fuel.

**Heat treatment** The subjection of metals and alloys to controlled heating and cooling after fabrication to relieve internal stresses and improve the physical properties.

**Hydrogen** A gaseous diatomic element. The atom consists of one proton and one electron.

**Insulator** A substance which, in our case, is a poor conductor of both electricity and Orgone.

**Ion** An atom which possesses an electrical charge. When an atom gains or loses an electron, it becomes an ion.

**Ionisation** The gain or loss of an electron in an atom.

**Iron** The most widely used metallic element. One of the main problems with iron is that it rusts.

**Leaky** The inability of our cell to retain the Orgone charge over a period of time.

**Litmus** This is extracted from lichen and used as an acid-base indicator.

Mass This is how much material a substance possesses. It is usually measured in grams or kilograms.

**Magnetic material** One of a number of substances that are strongly attracted by magnets and can be magnetised. These include iron, nickel, and cobalt, and all those alloys that contain a proportion of these metals.

**Meniscus** The curved upper surface of the water in the Joe cell, caused by capillarity action.

**Molecule** The smallest particle of an element or compound which exists independently.

**Nucleus** The part of an atom where the mass is concentrated. It contains protons and neutrons.

**Neutron** One of the particles which are found in the nucleus of all atoms except hydrogen. It has approximately the same mass as the proton but no charge.

Nitrogen An unreactive diatomic gas which forms about 78% of the atmosphere.

**Orgone** The cosmic life force. See section on Orgone in book.

**Oxonium ion** The loss of an electron from a hydrogen atom leads to the formation of a hydrogen ion. This is a proton.

**Oxygen** A gaseous non-metallic element. It makes up approximately 21% of the atmosphere.

**Paramagnetic** A material with a <u>slight</u> attraction towards the region where the magnetic field is strongest is said to be paramagnetic (As opposed to a diamagnetic material).

**Petrol** A mixture of hydrocarbons which is used as a fuel.

**pH** pH scale from 0 to 14 used for measuring acidity or alkalinity. A pH of 7.0

indicates neutrality, below 7 is acid, while above 7 is alkaline. Strong acids such as those used in car batteries, have a pH of about 2; strong alkalies such as sodium hydroxide are pH 13.

Acidic fruits such as citrus fruits are above pH 4, fertile soils have a pH of about 6.5 to 7.0, while weak alkalis such as soap are 9 to 10.

The pH of a solution can be measured by using a broad-range indicator, either in solution or as a paper strip. The colour produced by the indicator is compared with a colour code related to the pH value. An alternative method is to

use a pH meter fitted with a glass electrode.

For our Joe cell work, the paper strip indicator is more than adequate (and cheap).

**Pipette** A piece of glassware used for measuring and transferring a volume of liquid.

**Polymer** A large molecule in which group of atoms are repeated.

**Proton** A positively charged subatomic particle found in the nucleus of the atom.

**Rubber** A natural polymer. It is a hydrocarbon. Rubber is a good insulator.

**Seeding** The initial capture of the Orgone force in our cell.

Steel An alloy which contains iron as the main constituent.

**Sump** The lower 1 inch area under the cylinders in a Joe cell.

**Suspension** When a solid is added to a liquid and the solid neither dissolves in the liquid nor sinks to the bottom, the mixture is referred to as a suspension because the solid is suspended in the liquid.

**Vinegar** A solution which is made by the action of bacteria on wine or cider. It contains about 4% ethanoic acid. It is used widely in the food industry for preserving foods.

Water An oxide of hydrogen. It is one of the most common compounds on the earth. It does not conduct electricity in its pure state although it can be electrolysed if small amounts of acid or alkali are added. The products are hydrogen and oxygen. The water which we drink is never pure.

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