

Alan Francoeur's Generator Canada

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This is my writing and development about the Interference disc generator, and the permanent magnet dynamo machine, and other related inventions. I have always been intrigued with electricity and magnetism and aetheric energies starting at a young age. Back in 1980 I wanted to do something to help get my large vehicles better fuel economy. With this goal in mind, I experimented and designed my first heat

exchanger vaporizer system to do my part to clean up our cars and trucks, fig. 1, 2, and 3 are two earlier vaporizer units under construction. For more information about this fuel system, please refer to my vaporizer fuel system report. The main body of this writing is referring the permanent magnet dynamo system that has been in the making since 1987, starting after the development of the interference disc generator.



Fig. 1



Fig. 2



Fig. 3

I invented the Interference Disc generator concept while I was employed at Giant Yellowknife Mines NWT from 1983 to early 1986. The idea of using metal blocking plates to shield magnetic fields stirred in my mind while working around heavy electrical mining equipment, and 1000hp and other electric motors with exposed coils that have heavy metal around the outer casing. I did a search at the time and found John Ecklin's work very interesting with his application of the shielding effect. During my off time in Yellowknife, I was experimenting with the interesting effect of producing induction with a stationary coil mounted beside a stationary magnet with a small air gap maintained between the magnet and the coil. During the construction of my first disc machine, I called it the Interference Shielding effect because of

the interference the blocking disc does to cause induction, thus the Interference Disc Generator fits the description. The first transformer coils I used to test the interference shielding effect were used from old radios, and the magnets were alnico types. Back in 1986 in Calgary Alberta, a friend Bud Johnson and I constructed the first test disc generator model using alnico magnets, fig. 4, and later ceramic magnets were installed. Months later I designed and began construction of another larger Interference Disc machine with horseshoe shape neodymium 35 grade magnets mounted on the outside, and with the N and S magnetic poles facing toward the coils in the center portion of the machine. The coils and magnets in this larger machine are mounted in reverse of the first Interference Disc generator, fig. 5, 6.



Fig. 4

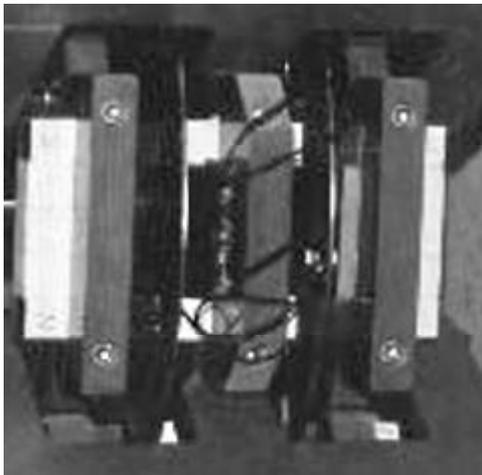


Fig. 5

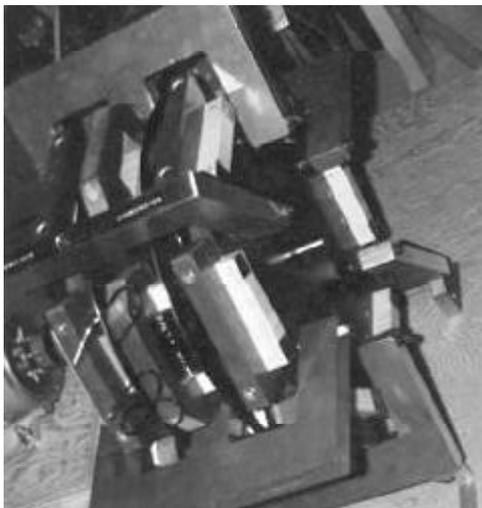


Fig. 6

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. Fig. 7

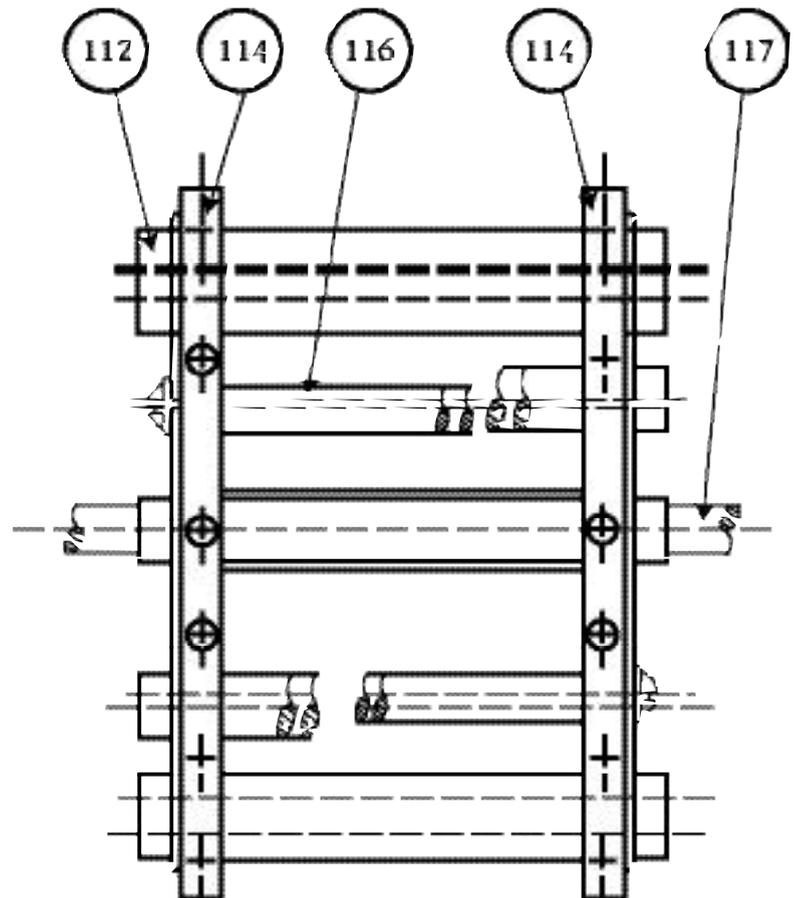


Fig. 7
Magnetic bars assembly (rotor)

Also in the stator fig. 8, (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) Fig. 9, centrally mounted on an axle (107) fig. 7, which is in respect to the array of magnets and coils Fig. 9a.

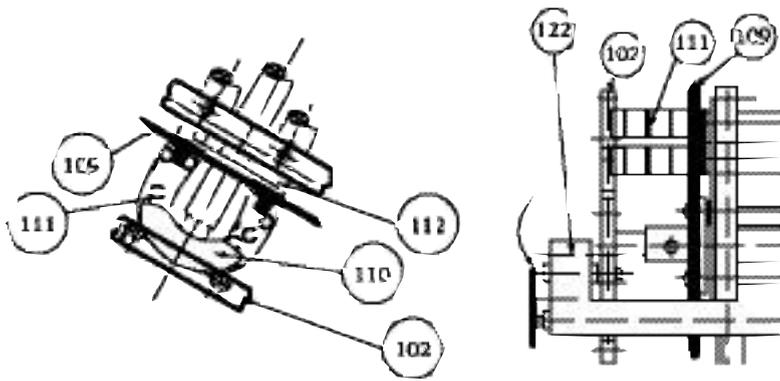


Fig. 8

The interference discs (109A or 109B) are separated from each other so that they can rotate in the airgaps 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).**

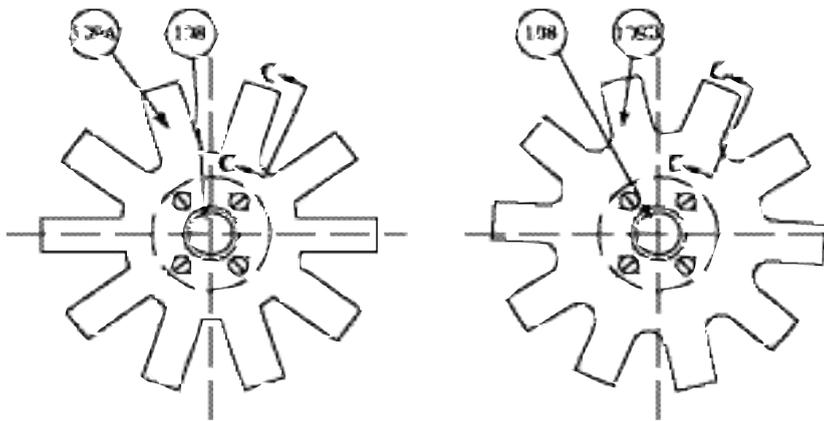


Fig. 9

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 stationary coils (111) fig. 10.

By opening and closing the magnetic influx to the core (110) of the coils (111), an alternating current will be generated in the coils

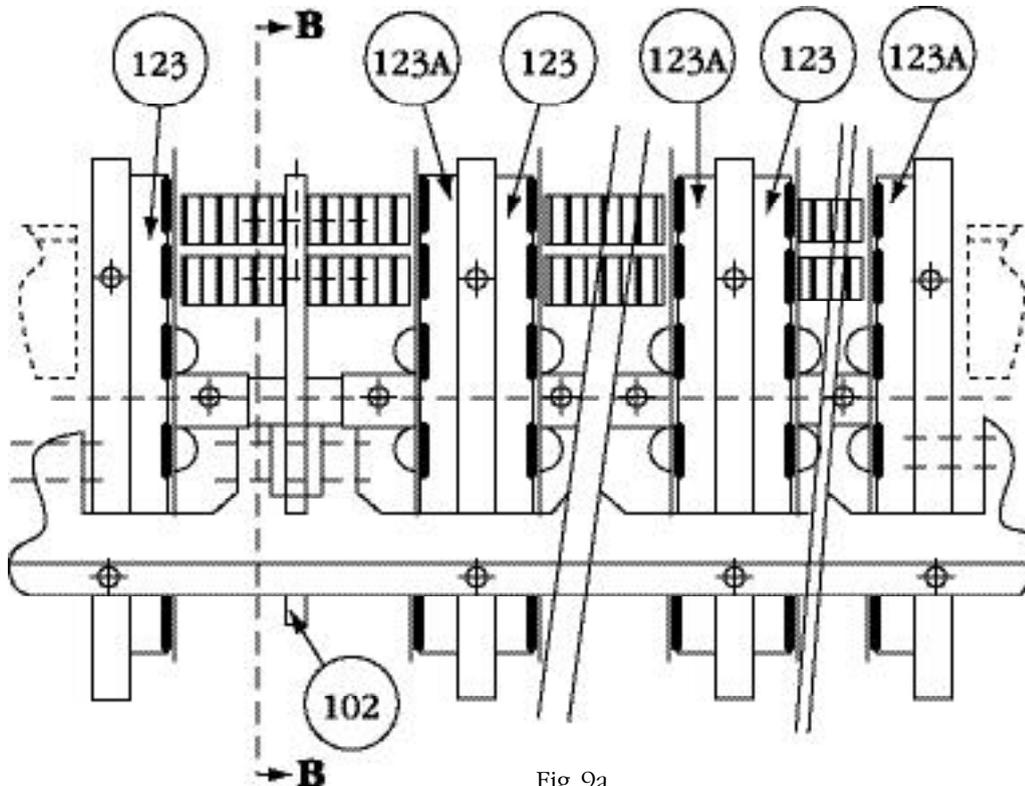


Fig. 9a

Magnetic bars assembly (stator)
Option II: multable magnetic coil-disk assembly

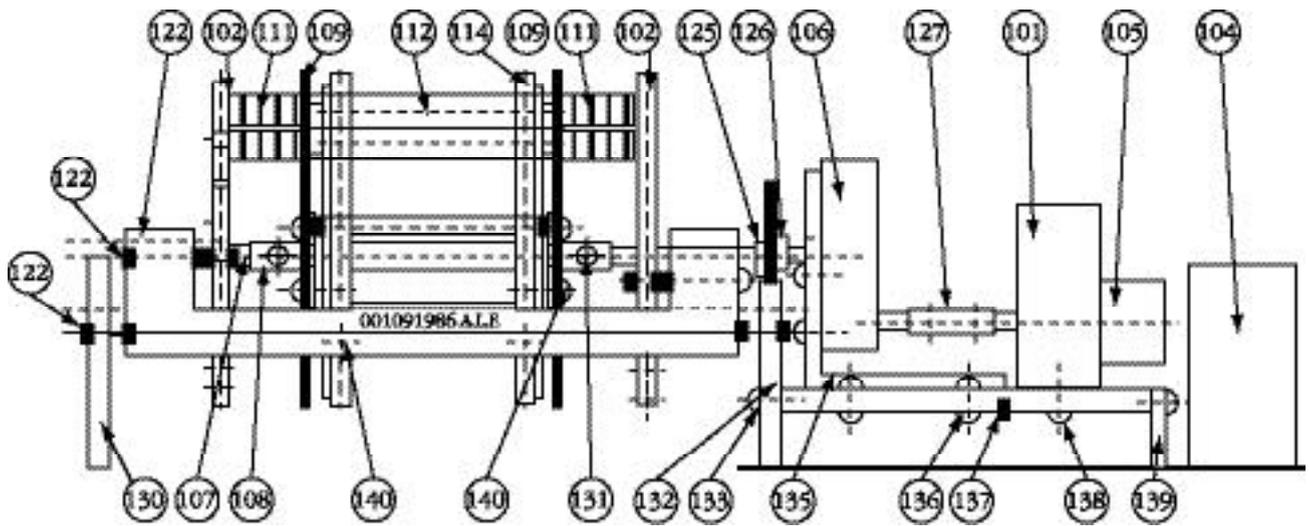


Fig. 10

(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 (Fig. 10).

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 metglass in the coils in both the smaller and larger machines, which as a result, shows greater efficiency as compared to conventional core laminates. Less energy is needed to spin the balanced disc rotor while causing a larger moving magnetic field to cause induction in the stationary coils. With this effect, it is easy to visualize the advantages this design has over conventional generators and motors. New testing of the coils will be conducted after the machine goes through all the upgrades to eliminate the problems with the warping interference discs.

The Interference Discs Generator described in this document **has the potential to produce more than unity effects** by easy turning of a magnetically balanced (non-warping) interference disc. Optimizing the device with closer tolerances and correctly selected materials and incorporating internal magnetic balancing, will add to the success

and improved performance of this unique generator design.

Improvements can be made with this design while the operating principal remains the same. Looking at the photographs included you will see the 1st proof of concept generator frame is constructed mainly from aluminum, this metal was used only because it was inexpensive material and easy to work with fig. 11. Non magnetic and non-conductive materials should be used to construct the generator frame supports to eliminate the eddy current losses. All of the nuts and bolts used to hold the disc generators together worked well for making the test machines capable to have adjustable air gaps, however, they can all be eliminated with design changes that preset the gaps and tolerances to optimize the conditions of the interference disc effect.

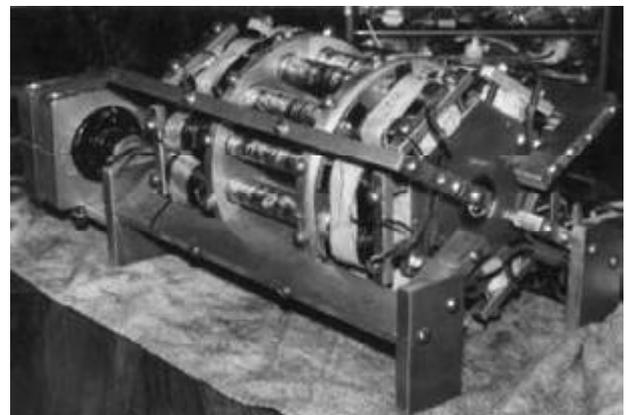


Fig. 11

Many improvements were adopted in the next larger #2 version of the Interference Disc generator fig. 12. Phanolic materials (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 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. Larger more powerful neodymium magnets and I shaped transformer coils were installed and tested in the larger machine which showed an increase in output power over the 1st machine fig. 13. Using more powerful neodymium magnets in this larger disc machine 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, then the air gap can be closed so more magnetic flux will reach the coils allowing for a greater electrical output.

The wiring of the coils circuit can be constructed by known engineering methods to achieve AC or DC power, and like any conventional transformer, wind the coils with heavy wire for more amps and more turns for more volts. The coils are stationary in this machine which makes it easy to harness AC power directly from the coils without brushes. All coils that are in phase can be wired in series or

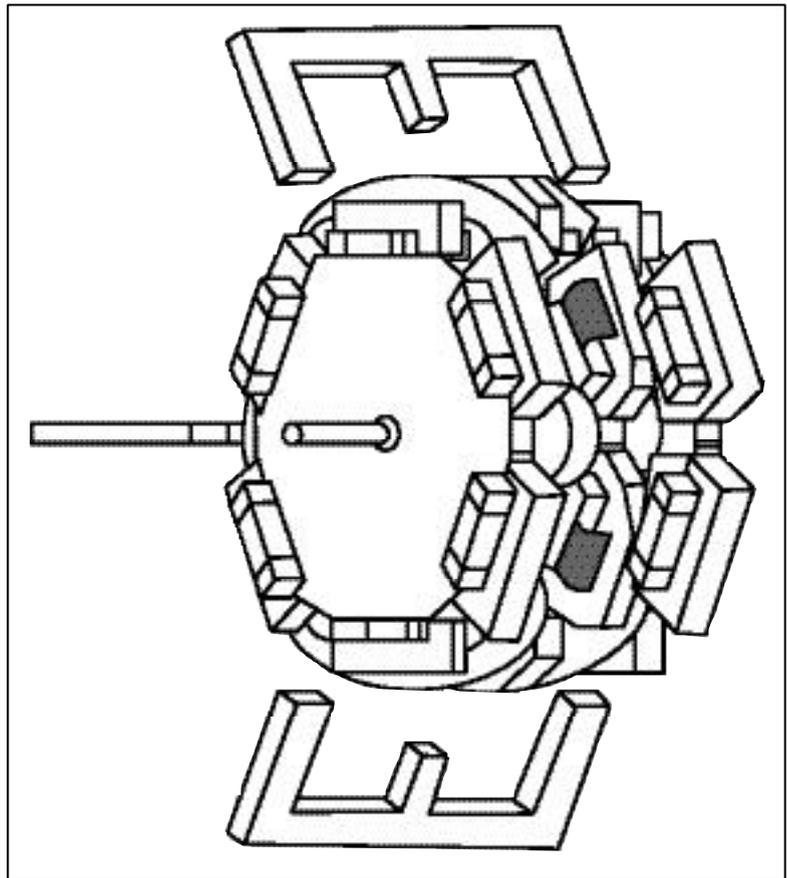


Fig. 12

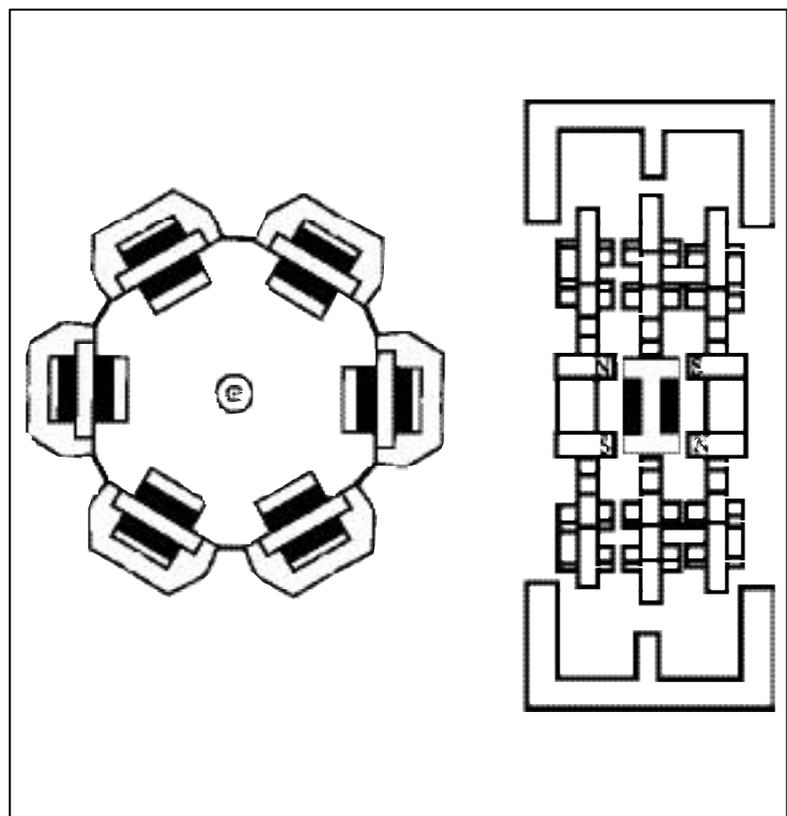


Fig. 13

parallel, the number of the blocking plates on the interference disc determines the phasing of the coils.

The diagram in fig. 14, 14a shows the path of the magnetic flux movement in relation to the position of the blocking plates of the interference disc. The magnetic field in the core/coil is switching polarity as the interference disc fins alternately moves in and out of the air gaps on each side of the coil. As you can see, depending on the position of the disc, positive and negative induction takes place for AC output of the coils. John Ecklin has achieved this effect using rotating blocking plates. I have achieved the same effect using balanced rotating interference discs with multiple stacks of isolated coils and poles mounted in a circle equal distance from each other.

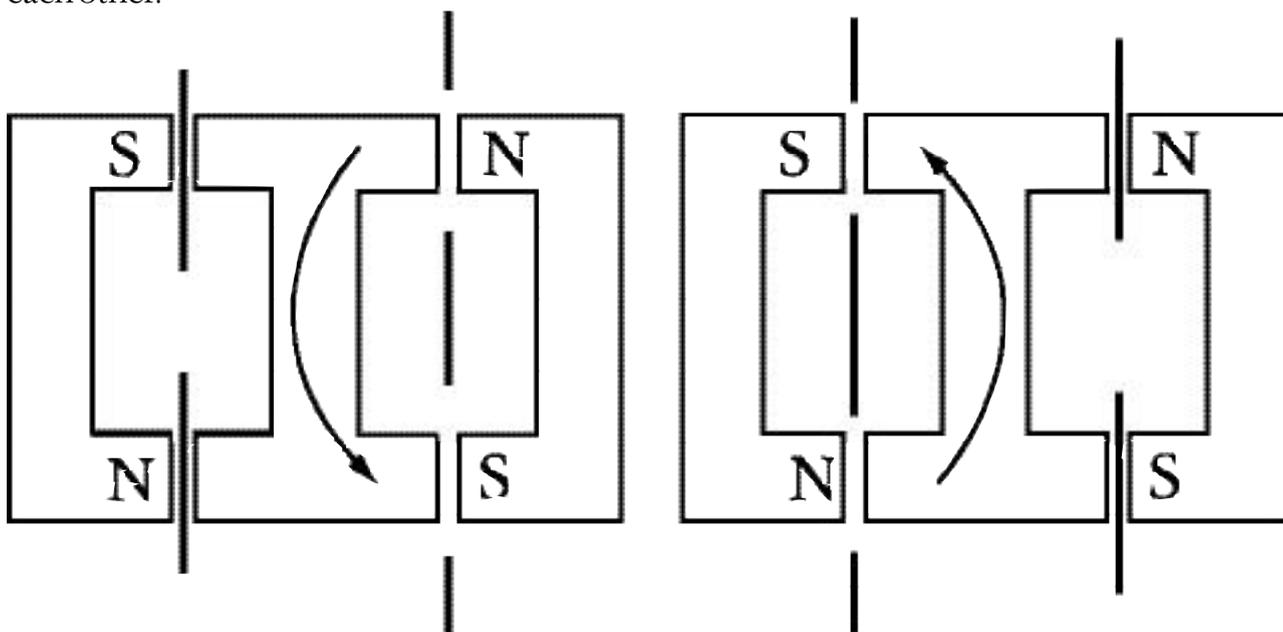


Fig. 14

Fig.14a

The effect I reproduced with Gary Wesley's permanent magnet motor is related to the Interference Disc generator in the fact that blocking plates are used to shield the magnetic field, only we differ on methods to balance the blocking shields. Gary Wesley used springs to carefully balance the blocking plate, and I used a different number of interference fins working with the magnets to balance the blocking plates. The magnets in my Interference Disc machine become the springs.

More photos of both Interference Disc machines are shown in fig.15, 15a and 15b below.

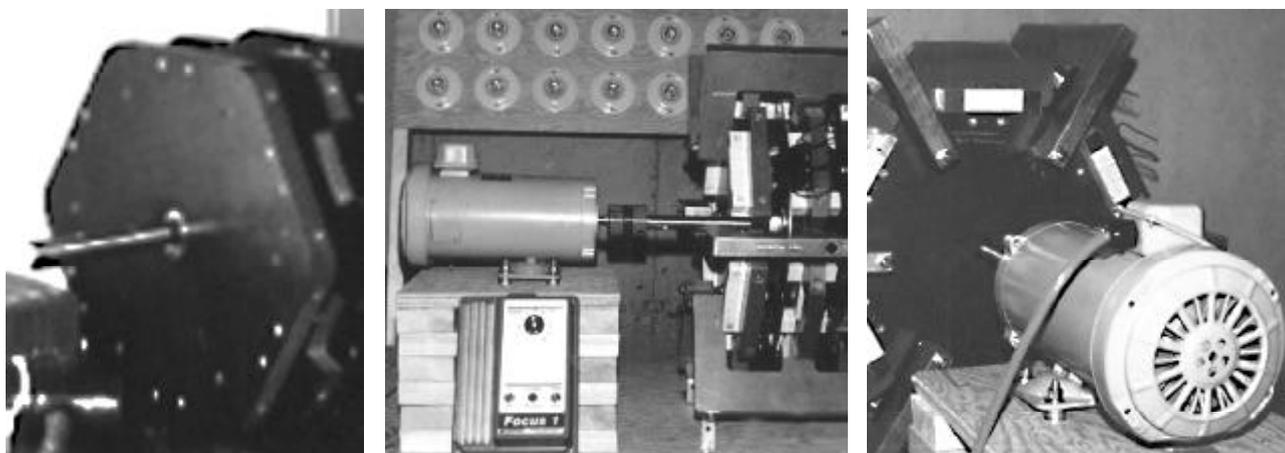


Fig. 15

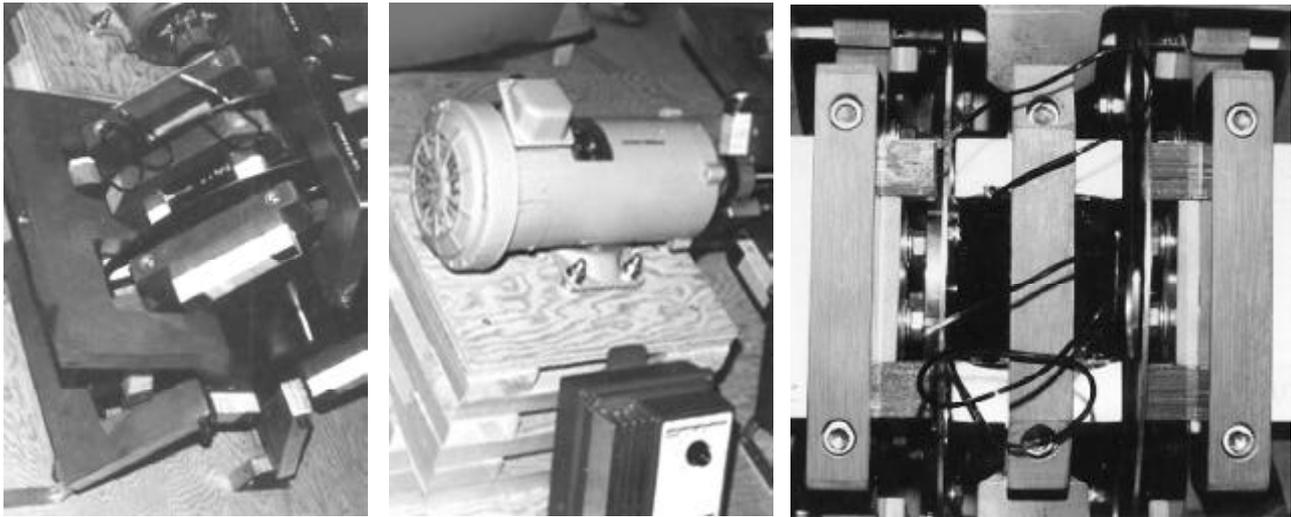


Fig. 15a

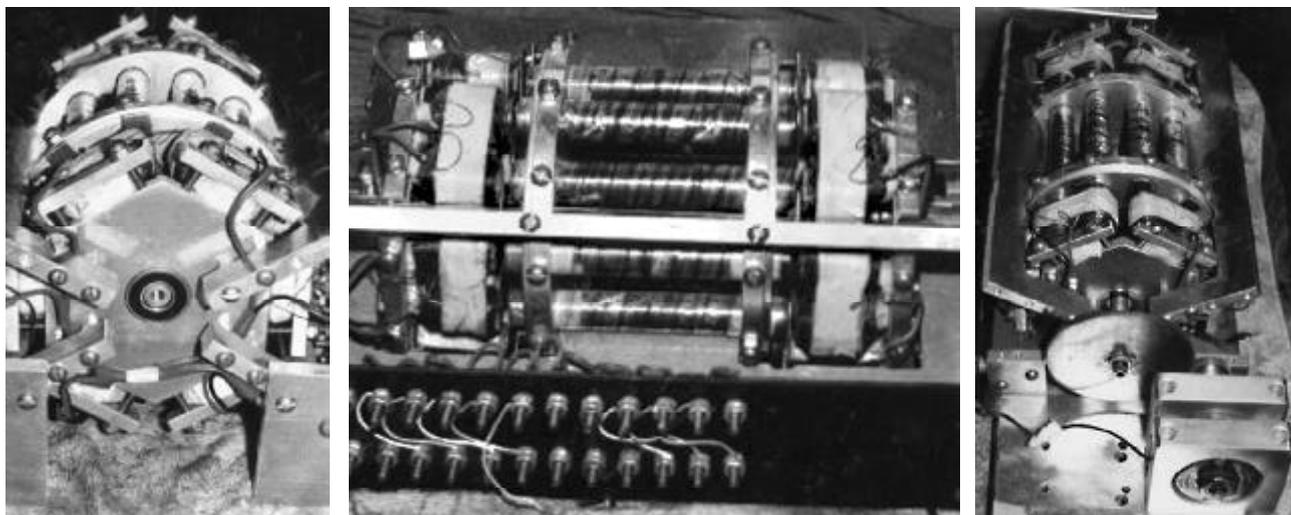


Fig. 15b

Closing comments on the disc generator

In closing this discussion of the Interference disc generator, I would like to go over and point out some of the concepts that I incorporated into the design of my permanent magnet dynamo.

As I made further progress and completed the later stages of the Interference disc generator, it became clear to me to use certain concepts of the machine and incorporate them into the design of my multiphase permanent magnet dynamo. Some of these concepts are explained here.

I have constructed several interference discs that have a different number of blocking

shields, some with 10 blocking fins and some with 11 blocking fins and others with 12 blocking fins. They are all interchangeable on the machine to change the phase relations between all the isolated coils. The 12 finned disc will produce a single-phase dynamo with all the coils in phase, and the 10 finned disc on the machine will produce a three phase dynamo. One phase represents four groups of isolated coils, and the second phase represent the other four coils, and the four coils left are the third phase, for a total of twelve coils. All just by changing the number of fins on the interference disc and or adding more layers. Using 12 magnet poles and the 10 or 11 interference fins on the disc, the rotor discs becomes magnetically balanced and easy to rotate in spite of the load on the coils. The 12 finned disc has a larger holding force because

of the same number of fins as magnetic poles. However, it can be reduced to almost nil by adding more layers of interference disc and balance them against each other. Many in phase coils can then be added in series or in parallel to build your power levels to any desired potential.

Both machines have stationary coils, and the disc generator has 12 magnetic poles (6N and 6S), and the permanent magnet dynamo also has 12 magnetic poles (6N and 6S). The disc generator uses 10 or more fins on the interference shielding plate per rotor, and the permanent magnet dynamo has 10 or more coils around each rotor. There is the same number of interference blocking plates as there are induction coils on each of the two difference machines and the number of blocking fins and or coils are interchangeable. The back emf effects are different on both machines, the Interference disc generator demonstrates easy turning of the discs while the stationary coils are loaded, and when producing alternating current the permanent magnet dynamo rotor slows down when a load is placed on the stationary coils. Both machines produce AC power out of the coils and the Interference Disc generator has a closed magnetic circuit through the coils, and the permanent magnet dynamo has open magnetic circuit through the coils.

The Permanent Magnet Dynamo

I would like to begin this topic at this point by describing my permanent magnet dynamo machine.

I designed this machine to be completely interchangeable into

many different motor generator combinations. These combinations involve different number of magnetic poles and different number of interchangeable coil poles in the same machine, two versions are possible, one with isolated coils and another with the coils that share a common core fig. 16.

We can change the magnetically balancing effect (*holding force*) by changing the number of coil poles or (*interference disc fins*) in relation to the magnetic poles. This turns the machine into a multipurpose, multiphase, variable output, and variable frequency ac dc permanent magnet motor generator system. I first designed this unique multi purpose dynamo in 1987 after I built my third Interference Disc generator.

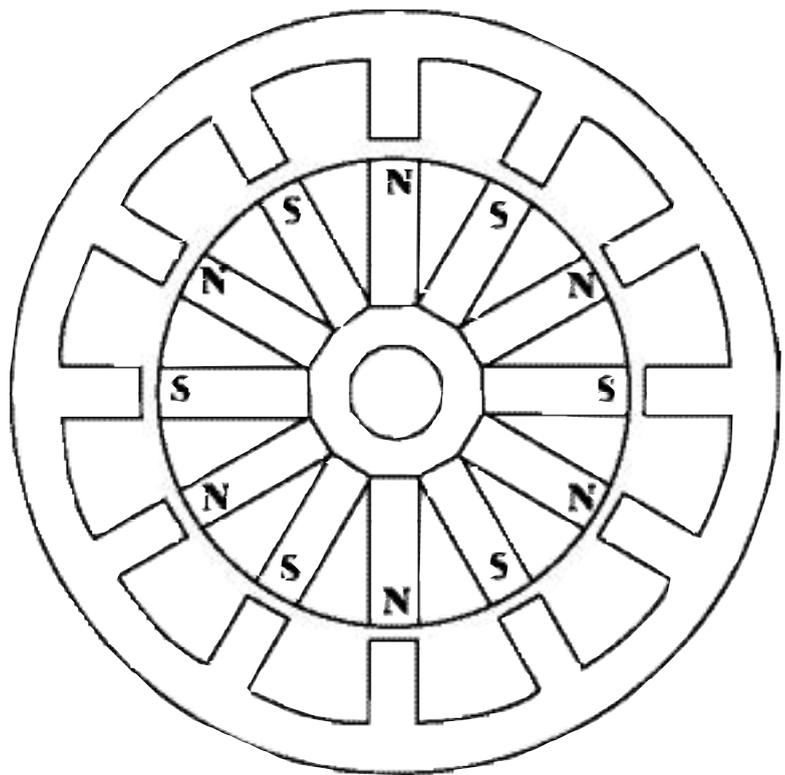


Fig. 16

Dynamo description:

Rotor:

It is well known that a bar magnet has its magnetic field concentrated at the N and S pole ends, and the half way line between the poles of a magnet is the neutral zone, this is the region where the magnetic field is canceled or neutralized. The *ferrous* keeper ring I designed for this rotor is mounted near the axle and it has machined flat decks so the magnets attach flush to the deck of the

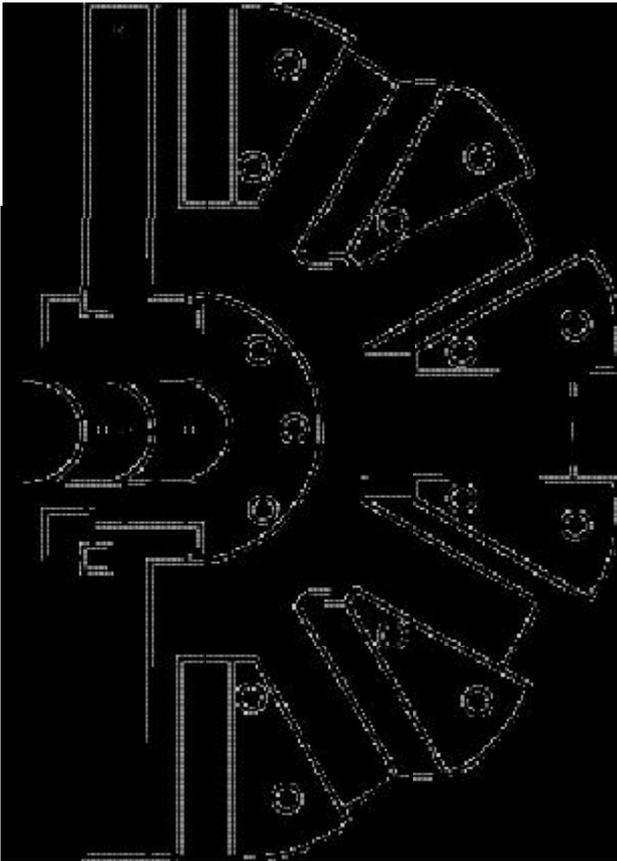


Fig. 17

keeper ring. Because of this feature, flux leakage is reduced at the keeper ring and the magnetic field concentrates at the rotor poles. With the poles of the magnet positioned near the axle and attached to the keeper ring in the rotor, the magnetic field that was there is now forced to add magnetic field density to the outer magnetic poles on the rotor rim. The density of the magnetic field at the poles is now greatly increased which makes a very powerful small size rotor. The *ferrous* inner keeper ring (*active iron*) that is installed inside this rotor design, is also the *neutral zone* of the magnetic field when viewing all the combined permanent magnets in the rotor. Shown is a cut away view diagram of the rotor, fig. 17.

I utilize rare earth rectangular shape neodymium grade 35 bar magnets with the dimensions of 3" long and 1"x1" on the end poles. There are 12 bar magnets mounted 30 degrees apart in NSNS configuration, and the bar magnets are attached to a precision

machined inner keeper ring which makes the active iron the region of the middle of the magnetic field (the neutral zone). Another way to view this is to imagine two 3" long bar magnets attached together, you now have a 6" long magnet. Bend this magnet in half and install iron at the U and it now becomes a horseshoe magnet with two 3" long pole ends. It's a powerful rotor design in the fact that each of the 3" long bar magnetic poles has the field strength of a 6" long bar magnet. More poles on the rotor will allow for higher frequency ac generation at lower rpms, twelve magnetic poles on each rotor is shown in fig. 18, 19.



Fig. 18

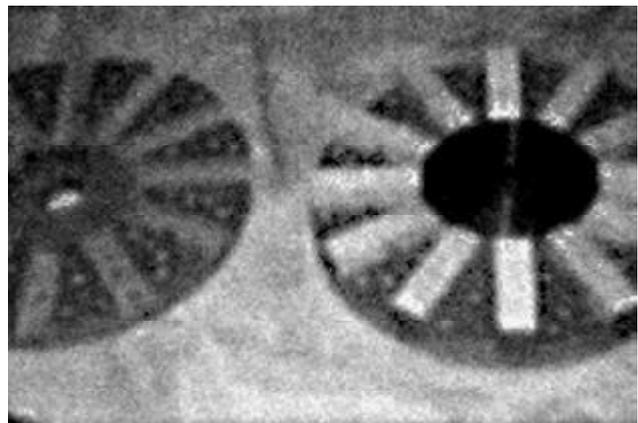


Fig. 19

The drawing in fig. 20 and picture in fig. 21, shows twelve magnet poles in each rotor in relation to the position of the coils. Ten *amorphous* cores are shown mounted around each of three rotors before they were wound with magnet wire fig. 21. The machine I have constructed houses a total of three rotors side

by side that are mounted 10 degrees apart in relation to their *magnetic poles*, each rotor has twelve magnets installed for a total of 36 magnetic poles shown infig. 20. This dynamo concept can be constructed to any size with unlimited numbers of rotors and coil combinations to fit any power requirements.

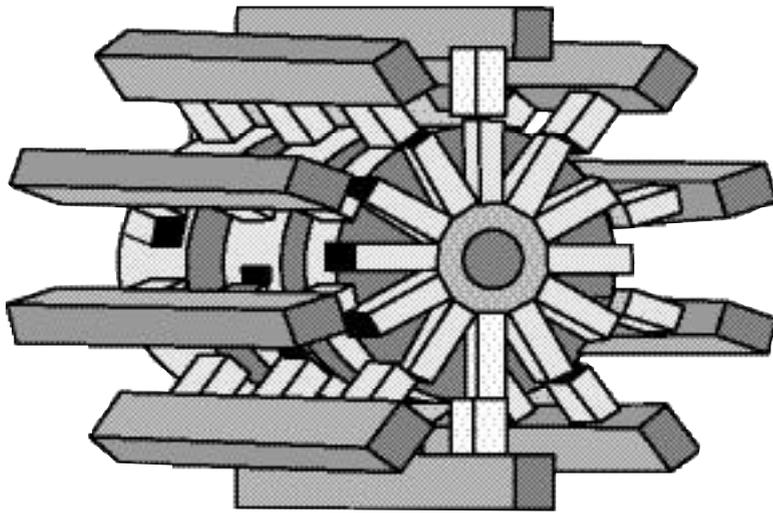


Fig. 20



Fig. 21

It is well known that a magnet exerts a force of attraction to iron bringing them closer together, after they have come together, they are in their **static position**. A force must be exerted to either the magnet or the iron in order to pull the magnet and the iron apart, removing them from their static position. The term **static position** is used to describe the point

when the magnet and the iron bar are at their nearest point.

As in the Interference Disc Generator, this Permanent Magnet Dynamo I am describing also uses an internal magnetic balancing effect which reduces startup torque on the rotor.

In this system, one set of magnets is in their static position in relation to the coils, such as the impulse coils. Another set of magnets on one side of the rotor is not in the static position, and there is another set of magnets that is not in its static position on the opposite side. One side is half in to the coils, and the other side is half out the coils, allowing the rotor to have minimal start up torque in turning the rotor. The magnets function in two jobs, the first with its velocity is to cause induction into the transformer coils producing ac power.

The second function, is the opposite pair magnetic fields on the rotor balancing each magnet out of their static position in relation to the coil positions at any given time, they cancel their holding force which puts the rotor at equilibrium. This reduces the amount of start up energy required to rotate the rotor resulting in higher efficiency. It allows the rotor and or multiple rotors to turn easily and efficiently despite the inherent powerful holding force of the rare earth neodymium magnets. With the three rotor machine configuration, I have connected 6 impulse coils in three phase to function as the motor impulse circuits with a hall effect brushless motor controller fig. 22.

Star wound three phase motor impulse coils.



Fig. 22
Star wound
three phase motor impulse coils

Two more pictures of the one rotor dynamo option are shown with a 1hp dc motor turning the rotor with an 800 watt load on the coils, six 100 watt AC light bulbs, and two 100 watt 12 volt DC light bulbs, Fig. 25, 25a.

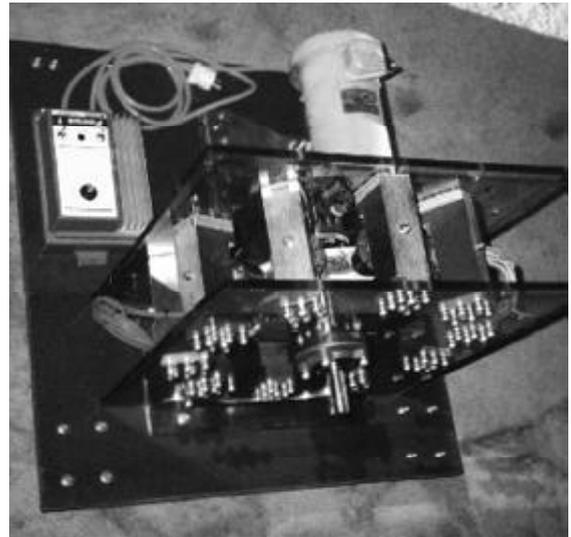


Fig. 23

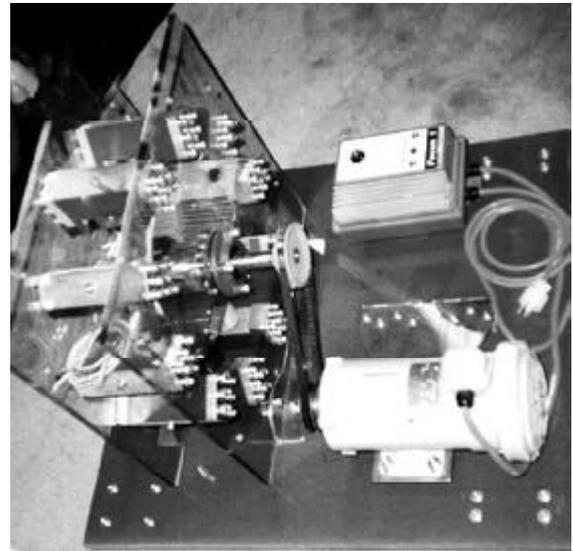


Fig. 24



Fig. 25

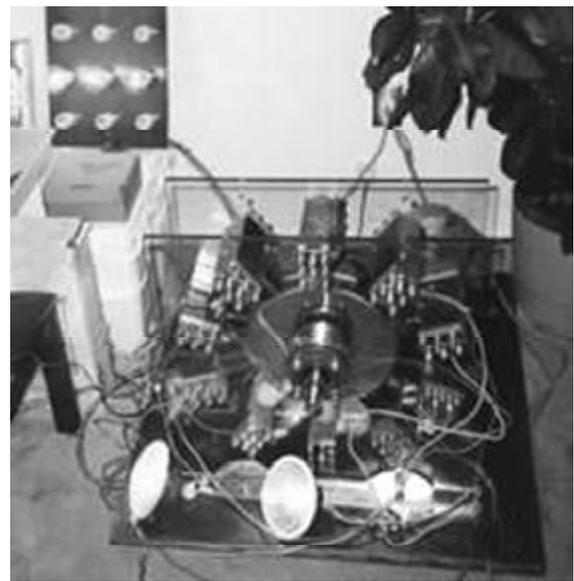


Fig. 25a

The efficiencies of this dynamo are so far inconclusive with regards to producing an endless self running machine. Our research is continuing to improve the efficiency by eliminating all conventional type ac and dc motors from this dynamo, and incorporating high voltage dc impulses of very short time duration's as Ed Gray did with his technology years ago. However, a description of my early self running attempts is included near the end of this dynamo report. These tests have manifested an abundance of heat in the 24 volt dc drive motor.

Another picture of the three-rotor dynamo configuration is shown with 12 regenerating ac to dc coils, and with the motor impulse coils removed fig. 26.

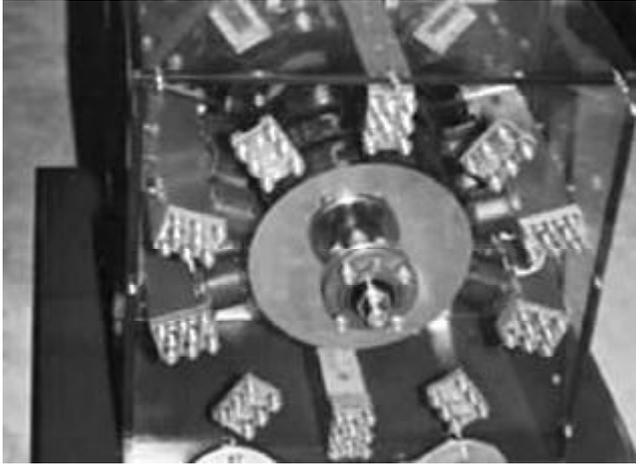


Fig. 26



Fig. 26a

Another close up of the regenerating coils and three phase motor impulse coils is shown on the dynamo fig. 27.



Fig. 27

Tests to produce an abundance of heat

I have testing the machine so as the output coils are connected to regenerate a 12 volt battery as the motor is turning the rotors. I used a brand new conventional permanent magnet 1/4 hp 24 volt dc motor that is running on 12 volts to turn the 110 pound 3 balanced rotors, and or the 35 pound 1 balanced rotor version.

The regenerating output coils produce AC to DC power with no noticeable ripple on the scope. The generated direct current from the coils is connected to go back into the battery, in which the motor uses to produce the torque needed to rotate the rotor. As this happens, the regenerated dc power from the coils is again going back into the battery first, and then to the motor. The result is that the battery supplies less power to the motor when the regenerating DC current is going into the battery. The motor takes on a load from two sources, one is from free wheeling the rotor with out loading or drawing current from the coils, and the other is the load induced on the motor when the coils are loaded to produce current.

The dc permanent magnet motor has shown that during one of many switch mode tests, it consumes 15 amps at 12 volts from the battery while a chosen number of regenerating coils supply the amount of current going back to the battery. The battery supplies 50% of the amps and the regenerating coils supply the other 50% amps. This effect can be changed depending on how many open isolated regenerating banks of coils are activated and loaded.

This test shows a 15 amp draw the motor while it is turning the rotors under load while regenerating current from the coils. It may be they balance each other and both battery and coils supply 7.5 amps each that make the total 15 amps draw on the motor. This accounts for the 15 amps total load that is shown on the dc drive motor. It produces an excessively large amount of heat in the dc motor that is useable output energy. On a larger scale the heat generated in a given motor can be enormous. More accurate measurements are needed to determine the true energy in verses energy out.

However, this electric heat pump effect can be altered to produce more or less heat depending on the size and type of the drive motor, and the amount of regenerating coils that are placed under load. Cooling tubes wound around the motor with water flowing through them is a way to pull the heat out for useful applications. Hot water from the drive motor and electric power from the coils at the same time.

After running the machine, the amorphous regenerating coils remain cool to the touch whereas the conventional dc motor gets very hot with higher amps going through it. The machine also has a longer running time when the coils are regenerating the battery, as compared to running an outside equal load with the same amp draw, in that case the battery drains much faster.

This sheds light with the observation of high heat build up in the motor side (less efficient side) of the circuit while being cooler on the generator side (amorphous side) of the circuit. After hours of run time the battery

begins to drain, when this happens, the battery begins to show tangible temperature changes from one side of the battery to the other. The whole negative side of the battery remains cool to the touch (temperature drop), while the whole positive side of the battery gets warmer to the touch (temperature rise). The effect is repeatable and only happens when the regenerating coils are connected to charge the battery as it is running. It may be approximately 20 degrees difference in temperature, depending on how many regenerating coils are activated sending its current to the battery. There must be exothermic reactions and endothermic reactions going on inside the battery motor generator combination that is causing this temperature difference. The load and heat generated can be changed the on the motor from the flick of a switch that activates and loads the output coils, which in turn dumps it's energy back into the battery pack or outside load. The efficiency ratio of the machine changes depending on how many and which banks of regenerating coils are activated, which again also effects the temperature difference manifesting on each side of the battery, motor, and amorphous coils.

Other tests

An Automotion dc brushless 3 phase motor controller with hall sensors was used to test the machine in fig. 26a. Tests have shown the 1hp dc motor and the three phase brushless dc motor controller will not be the answer to closing the loop on this motor generator machine. The brushless controller has a 50% duty cycle which will not manifest the electro radiant effect, and it also has a constant draw on the battery as a regular dc motor does. It is much less efficient than using very fast and short unidirectional dc impulses in the motor impulse coils to kick the rotor around. This brings the subject of Nikola Tesla's magnifying transmitter and Ed Gray's radiant energy impulse motors to light, and a possibly answer to closing the loop for a real auto-rotating machine.

Before I go further with this, I want to point out the many phase possibilities this dynamo has. If you look at the coil arrangements in the 10 coil machine, you can clearly see the coils that are in phase with each other. When a second and third rotor is installed with all the coils attached, one pair of coils on the first rotor is in phase with another pair of coils on the second rotor, and another pair of coils is in phase on the third rotor. With the ten coil to twelve magnet pole rotor assembly, the machine has five phases of isolated banks of coils. If twelve coil mounting bars are attached around the three rotors, and the three rotors are spiraled off set by 10 degrees, you will have a powerful three phase dynamo. If the rotors are not off set by 10 degrees and are lined up in phase with each other, all the coils on the machine will be in phase for a powerful single phase dynamo. The volts and or amperage can be tailored for an application by the winding of the transformer coils, and the machine produces 60hz at 600 rpm. This dynamo machine concept is also interchangeable into many other motor generator combinations, and sizes, and any volts or amps requirements, it all depends on the needs of the end user.

Cooling tubes wound around the motor with water flowing through them is a way to pull the heat out for useful applications. Hot water from the drive motor and electric power from the coils at the same time.

It is possible to have super efficiencies with this system using unidirectional hv dc impulses of very short duration's at the make brake contact at the closure of the switch.

I have acquired two of Ed Gray's radiant energy impulse motors #4 and #5 to revive an almost lost technology. I am proposing to combine a special permanent magnet dynamo with less back EMF that is tailored to produce 5kv dc under 2000rpm. This dynamo

will energize a 5kv dc capacitor bank and replace Gray's 12 volt to 5kv dc converter. The energized capacitor bank will discharge through the conversion tubes in the very same manner as in Gray's original circuit, only the capacitors will get energized from the high voltage dc dynamo instead of from a battery through an inverter. This version of a high voltage dc dynamo will be connected to and turned by Ed Gray's EMA motor, a starter motor will disengage after it begins running.

There are three banks of high voltage coils that are connected 120 degrees out of phase from each other, each bank represents 12 - 100 watt coils for a total of 1200 watts per phase. All isolated coils in each phase are wired in series to produce the high voltage dc potential to energize the capacitor bank. The isolated capacitor bank will discharge their potential through its conversion tubes in 120 degree increments each time the impulse coils are at their closes point toward each other. One isolated capacitor bank will discharge through the conversion tube with it disconnected from the dc dynamo circuit. The second isolated capacitor is at this point beginning to receive its charge from the dc dynamo, while the third capacitor phase is fully energized just before the switching circuit disconnects it from the dc dynamo for it discharge phase. This fully aligns all the isolated 3 coil phases in this permanent magnet dynamo system to the 120 degree three phase radiant energy impulse system of Ed Gray's EMA motor #5.

The plan is to eliminate all the batteries and converter and use a rotating high voltage dc dynamo in its place. Nikola Tesla used high voltage dc dynamos with capacitors as part of his magnifying transmitter to produce radiant electricity. So it seems logical to do the same thing, merging Ed Gray's radiant energy motor and our version of a high voltage dc permanent magnet dynamo. Could it regenerate a car, or power a home, and or a factory?

Shown below are pictures of Ed Gray's motors in fig 28, 29.

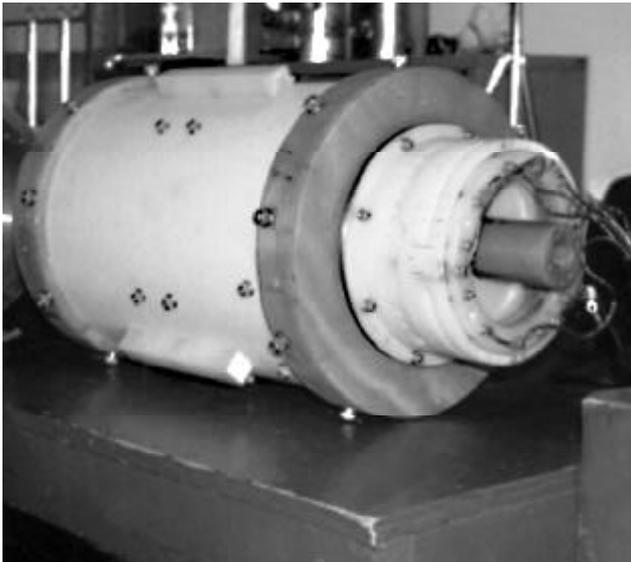


Fig. 28



Fig. 29

I would like to acknowledge two friends of mine who have helped make the Interference Disc machine possible, Bud Johnson 1986 shown in fig. 30 and the late Dr. Carl Reich shown 1987 in fig. 31. I would also like to acknowledge Wilbert Griffith and Brian & Rose Langan for their contribution in helping us make these projects possible, and there are others who wish to remain anonymous. Bud Johnson also an inventor, was one of the first people who I met after relocating to Alberta from the NWT, he made arrangements for us to construct the first disc machine in a machine shop.



Fig. 30
Bud Johnson



Fig.31
Dr. Carl Reich

Dr. Carl Reich was a pioneer in the alternate medical field and he published a book along with Robert R. Barefoot called "The Calcium Factor", copyright 1992. Through Carl's dedication and hard work with alternate health and energy, Dr. Carl Reich contributions have also helped made the Interference Disc machine and our Permanent Magnet Dynamo possible.

I also would like to thank my wife Jan Francoeur for being part of making this research possible, she has spent countless hours to prepare this report and assist in the reconstruction of these machines.

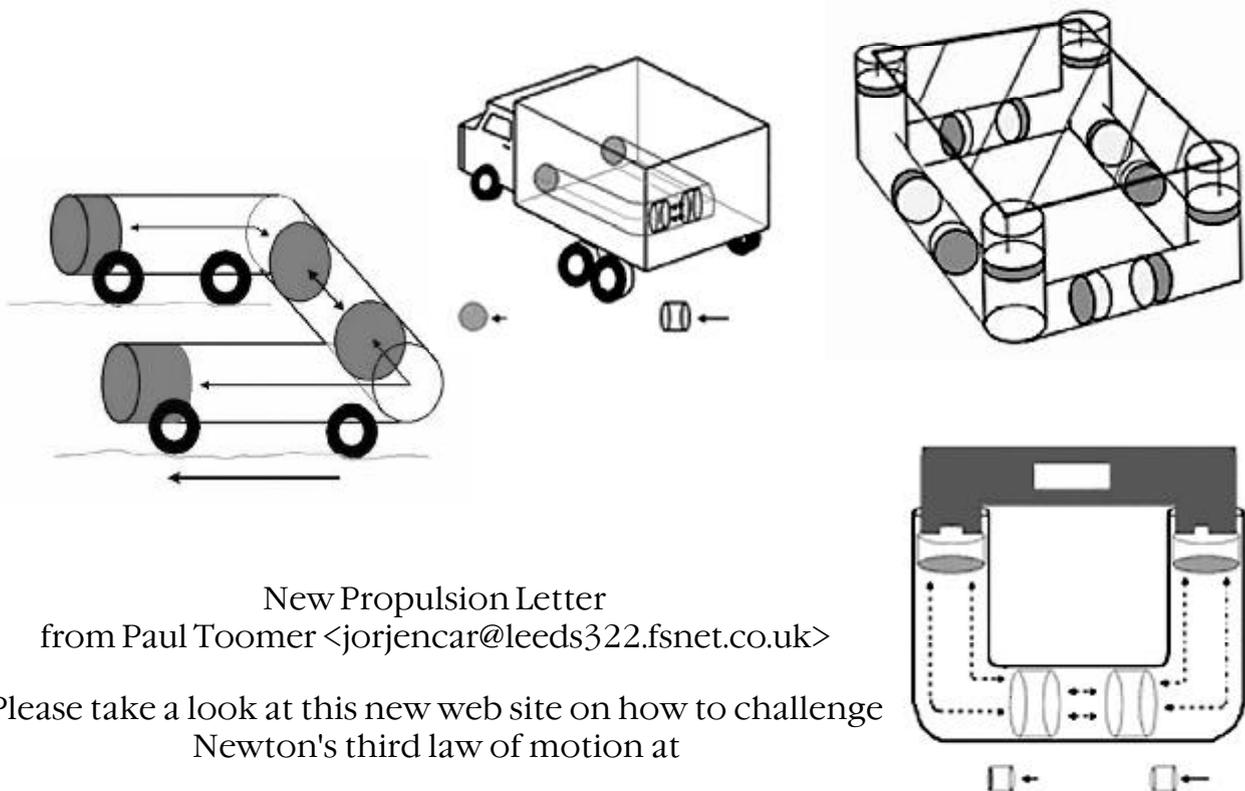
The test results and hypothesis I have written are not complete, and the research and development of the described magnetic energy machines is on going, and as such, the potential and performance and true efficiencies of these machines are still yet to be determined. This author knows that the aether is real and free energy systems are possible, and I will continue to work until I have completed the integration of Ed Gray's

radiant energy motors with our larger version dc dynamo machine. When this happens, a new round of testing will begin with our attempts to run the two machines together in closed loop regenerating mode.

I hope I explained these energy machines in a way that you all can understand, and more information will be released as progress is made. ***You may find this information useful with your quest to be energy independent. However, if you profit from any of my ideas I have described in this writing, then in all fairness, please remember to reward the inventor so research and development can continue.***

This is my gift to humanity.

Interesting Information



New Propulsion Letter
from Paul Toomer <jorjencar@leeds322.fsnet.co.uk>

Please take a look at this new web site on how to challenge
Newton's third law of motion at

<http://magnetic.propulsion.mysite.freemove.com>

