V. JOSEPH NEWMAN

The recent scientific work of Joseph Newman has to be considered in the "Pathfinder" category since he has made not one, but a number of significant new contributions to advanced electrical technology. While he has now received considerable publicity for his "motor-/thing," during early 1983 and later, the various theories and concept have been developed over the past fifteen years prior to these recent disclosures.

Although the descriptions in the press refer to his unit as a "motor," the most desirable embodiment of his hardware is that of a low-speed motor-generator, as disclosed in his South African patent. In this desirable version of his motor/generator, the first key feature noted is the large field coil length and number of turns utilized. As Newman stated:-It is generally unrecognized by science that conventional copper conductors produce a useful magnetic field, and that the strength of this magnetic field within a field coil is directly proportional to the length/number of turns in these field coils.

The second major contribution to electrical technology is the discovery by Newman that we should be considering other types of metallic conductors for their magnetic field strength levels, rather than by their conductivity levels alone, in regard to their use in motors and generators. This "Newman effect" has already lead to the discovery of plated types copper conductors such as tinned-copper buss wire which produce up to three times the magnetic field strengths, over plain copper conductors.

Another major feature of his "pathfinding" motor/generator design is the introduction of an all-magnetic rotor as the rotor component which provides a very high level magnetic field interchange with the field coil, without any ferrous drag present as in conventional electric motors/generators. Of significant importance to the generator portion of his technology is the application of a second identical, or nearly identical field coil which is inductively-coupled with the first, motor section field coil. It becomes readily apparent that this second field coil in close parallel proximity greatly benefits from being inductively-coupled to the first, motor field coil via the "Newman effect" or increased magnetic field level transferred from field coil to field coil.

Obviously, such an astute combination of beneficial electrical functions can readily produce an "over-unity" output, which the U. S. Patent Office doesn't presently recognize as being possible. The worst point about this present situation with the Patent Office is that they have elected to "stonewall" the Newman patent application rather than consider it on its scientific merits, which are in numerous forms.

As if his motor/generator,-operating on Faraday's principle is not enough, Joseph Newman has introduced two "solid state,"-or Maxwell Second Equation principle units which are noteworthy in their own right. The first of these units is known as the Gas Embodiment Unit, which consists of a series of permanent magnets which react with a gas within a sealed chamber environment. The gas within the inner sealed chamber reacts with the permanent magnets to produce an E.M.F. Since the gas contains an extremely large number of particles which are in continuous, random motion, and these are exposed to a varying magnetic field strength as they are in motion, and E.M.F. is produced, in compliance with Maxwell's Second Equation principles, although the expected E.M.F. output will be quite small.

The second of the "solid state devices is known as the Static Emobidment which consists of a discrete combination of a horsewhoe type of permanent magnet and matched coil unit which interact to produce a small E.M.F. when a correct alignment is obtained between them. This small device also apparently complies with Maxwell's Second Equation pinciples, although the expected E.M.F. output will be quite small.

Joseph Newman has also made enlightening contributions towards the understanding of gyroscopic mechanical action within magnetic fields, ie: These particles consist of a gyroscopic mechanical action which can be operationally (mechanically) understood and predicted. Reference is made to his book: "The Energy Machine of Joseph Newman."

a) The Newman Motor/Generator Principles

Although the new motor/generator art of Joseph Newman has now been proven valid and workable, a considerable amount of practical development effort remains to be done before a practical and marketable machine will be available for private homes around the country.

Since all the operating features are now basically established for Newman's machine, it remains for the individual components such as the magnetic rotor, field coils, commutator to be reduced in size and weight, while the E.M.F. output remains close to the original level. A number of companies have shown interest in producing Newman's motor/generator, but before any of these are selected, they must be prepared to convert Newman's present art to a practical and producable version, as described above.

The present position of the Newman art reminds one of Chester Carlson's dry copier art, before the deal was made with Battelle Development Corp., to produce a marketable end product. After Battelle successfully developed a practical dry copier, XEROX was formed, and the rest of the success story is history!

There are some obvious design improvements which can convert the present Newman technology toward a practical end product, which are as follows:

l)Replacement of the present ceramic (Ba-Fe) permanent magnets with the new N.I.B.-(neodynium-iron-boron) permanent magnets to reduce both the size and weight of the magnetic rotor, while maintaining nearly the same magnetic field level for the rotor.

2) The evolution of a new type of combined metallic conductor, which is either lighter (aluminum)/or produces a much higher magnetic field value than conventional copper conductors.

3) The use of TWO inductively-coupled secondary coils, on either side of the main, motor field coil, so that TWICE the magnetic field strength is covnerted into a nearly DOUBLED E.M.F. to drive a larger load!! Reference is made to FIG. 6, of the Newman South African Patent.

A further close study of the various component relationship will probably reveal some other design improvements which can be adopted to bring this excellent, basic motor/generator art closer to practical realization.

b) Electrodyne Corporation - Electromagnetic R & D for FIE Units

The Electrodyne Corporation has been organized to carry out R & D effort in several design areas including dynamic Faraday systems, and solid state Maxwell-type devices.

One of the projects is to design and build a conventional electromagnetic unit, generally similar to Dr. Kenyon's generator and combine this with a Searl effect section, as a hybrid system.

Because of their basic belief in the value of Joseph Newman's new motor/generator art, these researchers are now actively seeking to improve combined metallic conductors, as a solution to Newman's design improvement needs, as per item 2, above.

The project work in this area, to date, has already found that off-the-shelf -tinned-copper buss conductor wire produces approximately three times the magnetic field level compared to plain copper conductor wire.

1) Top coil of ferrous (steel) stranded picture wire, four (4) turns
   for an approximate length of fifteen (15) feet.

2) Central coil of copper,stranded wire,-about fifty (50) turns, for
   a total length of 260 running feet.

3) Lower coil of aluminum ,stranded wire,-about twenty-two (22) turns
   total length of 116 running feet

4) Replaced top coil of tinned copper solid conductor, 24 Gauge,-50 Ft.

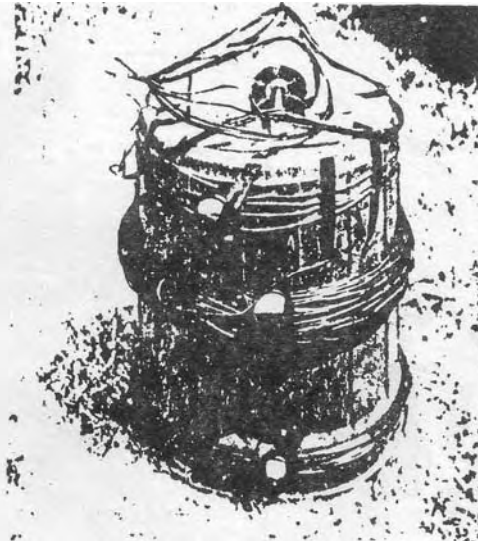   These conductor wire sizes and lengths were used from available
stock on hand,which accounts for the random lengths. Although the wire
sizes and lengths are not equal and not standard, the test results are
never the less useful when general comparisons and interpolations are
made .

Input electrical source:
One 12 volt automotive
battery.-

Load:- One small 12 VDC
Permanent Magnet Motor

Magnetic Test Devices:-
Two Annis 5-0-5
Magnetometers
One Annis ·20-0-20
Medium Range
Magnetometer

One commom coil form,
One ten gallon trash
pail, plastic,as shown.

TEST   RESULTS

1) The magnetic field strength of the copper coil was = 2-1/2 Gauss.

2) The magnetic field strength of the aluminum coil was: 1 Gauss.

3) The magnetic field strength of the ferrous coil was:- 1 Gauss.

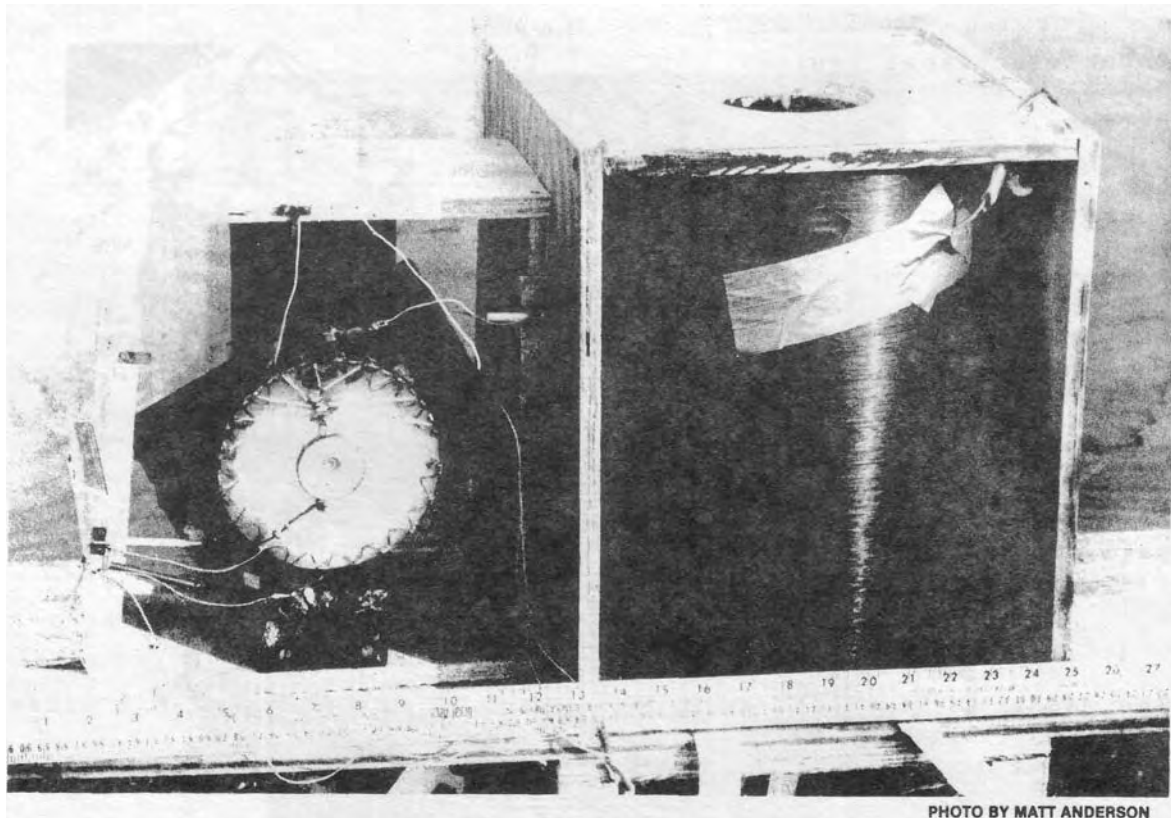4) The magnetic field strength of the tinner/copper coil-1-1/2 Gauss.

While these magnetic field strengths are very low, so are the number
of coil turns,and total wire length,as noted. An important point est-
ablished by these tests is that the magnetic field rating is directly
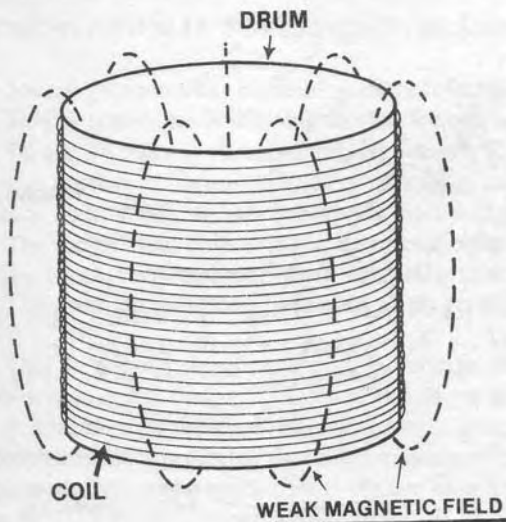proportional to the wire length, as indicated.

TEST   CONCLUSIONS
   These test results prove that Joseph Newman's contention that a
magnetic field is produced around an electrical conductor carrying a
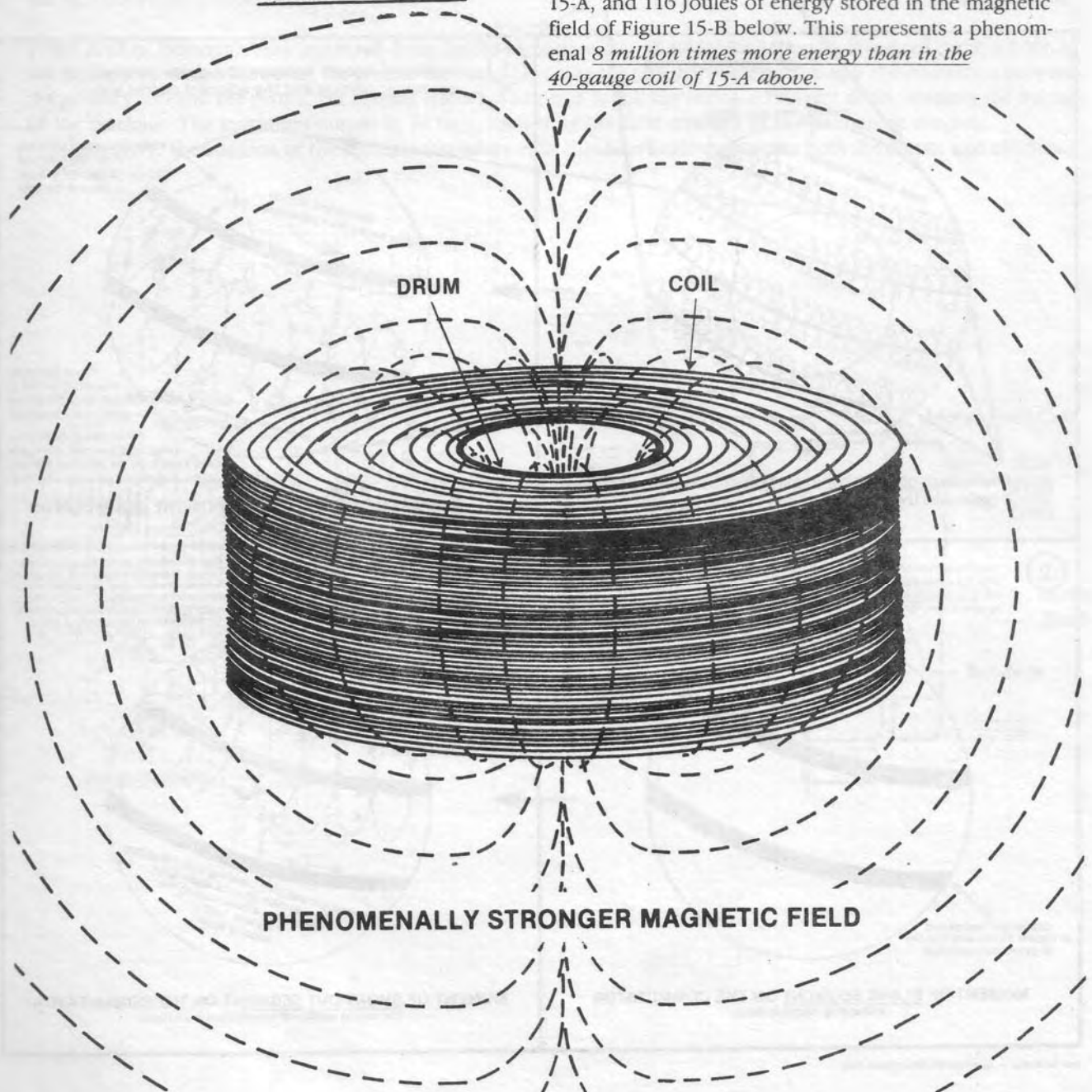small E.M.F. is correct, in all its implications.

DESCRIPTION OF SMALLER UNIT

The following is a smaller unit (see photograph 15-C2 below) composed of 30-guage, insulated, copper wire weighing approximately 145 lbs. (atoms) and having a rotating magnet of 14 lbs. (atoms). This portable unit, with very little current input, clearly demonstates an energy output which is greater than the external energy input. With 300 volts input of pressure, only 1 1/2 milliamps of current (volume of gyroscopic particles) went into the copper coil (of atoms), which is less than 1/2 watt input for an energy output in excess of 10 watts.

PHOTO BY MATT ANDERSON

DRUM

COIL   WEAK MAGNETIC FIELD

Now, conduct another test with 5-gauge copper wire which has a resistance of .3133 Ohms for 1000 feet. However, to equal the same resistance as in 15-A above, one must now use 3,348,000 feet of 5-gauge wire with a massive, total weight (of atoms composed of gyroscopic particles moving and traveling at the speed of light, *i.e.,* the mechanical essence of Einstein's Equation $E = MC^2$) of 335,469.6 lbs. or 16.77 tons. Such wire is turned into a coil with a 10-foot interior diameter and 8.32-foot height. This structure would have approximately a phenomenal 90,000 turns of 5-gauge (copper atoms). If 100 volts were now connected to coil 15-B (see drawing below), then a current flow of approximately 95MA could occur with a total power input of 9.5 watts and a resulting, phenomenally larger magnetic field of 23.7 Gauss, or 1,905 times larger for coil 15-B than for coil 15-A, and 116 Joules of energy stored in the magnetic field of Figure 15-B below. This represents a phenomenal *8 million times more energy than in the 40-gauge coil of 15-A above.*

DRUM   COIL

PHENOMENALLY STRONGER MAGNETIC FIELD

INTERACTION OF COIL STRUCTURE AND ROTATING, CYLINDRICAL, PERMANENT MAGNET

WIRE FROM
BATTERY TERMINAL (−)

FIGURE 22-D

The expansion and collapse of the *coil's magnetic field* can also be considered independently of the cylindrical permanent magnet. In addition, the cylindrical permanent magnet could be placed inside the coil structure. If this is done, then to avoid a "cancellation effect" the width of the opening on the coil structure should **exceed** the end width of the cylindrical permanent magnet.

WIRE TO
BATTERY TERMINAL (+)

MAGNIFIED VIEW OF COPPER WIRES

TOP
(looking down from above)

input current direction

spiral-helix path of gyroscopic particles (only a few depicted) which generate the magnetic field around the coil

---

(1) "collision" occurs between the **upper periphery** of the gyroscopic particle and the adjacent copper wire

some gyroscopic particles "miss" the wire and physically expand beyond the wire

gyroscopic particle now travels in (−) direction

expand

expand

expand

input (catalytic) current direction to initially align the atoms within the copper coil

input direction

[When this happens, the gyroscopic particles physically expand away from the atoms of the wire from which the gyroscopic particles emanate.]

MOMENT OF <u>FIRING SEGMENT</u> ON THE COMMUTATOR
(**expanding** magnetic field)

---

(2) now the gyroscopic particle "collapses" to return to the atom from which it emanated — but now the **lower periphery** of the gyroscopic particle first strikes the copper wire causing the gyroscopic particle to now travel in the (+) direction

collapse

copper coil composed of copper atoms with trillions of gyroscopic particles

MOMENT OF <u>BLANK SEGMENT</u> ON THE COMMUTATOR
(**collapsing** magnetic field)

---

(3) The process below is fully repeated with step (1) physically thrusting the expanding, magnetic field even further beyond the coil structure. [This expansion and collapse of the coil's magnetic field mechanically interacts with the magnetic field (gyroscopic particles) of the cylindrical magnet to create a "push-pull" effect which causes the cylindrical magnet to rotate and also add some of its gyroscopic particles in interaction with the copper coil, thus adding further to the external output energy.]

expand again

gyroscopic particles traveling in (+) direction after reaction (2) once again align the copper atoms causing the magnetic field to expand again

MOMENT OF <u>SHORT OUT SEGMENT</u> ON THE COMMUTATOR
(cancelling additional current from the battery)

---

not to scale — qualitative depictions only

48

Joseph Newman has something more to teach us with Figure 6, below, of his South African Patent!!

Simply stated, he is showing us that we can use our input E.M.F. and apply it too!!

To clarify this above statement, Newman's S. A. patent art discloses that the initial E.M.F. can be used to run the motor portion of his unit (300) in the drawing, below, while the electrical field effect increases the magnetic field of the motor coils, (303), as was previously discussed and illustrated.

The motor field coils (305) in turn, can be inductively coupled to one, two, or as an optimum of three induction coils, which then become E.M.F. generators, as (306) which will operate with no back-EMF involved.
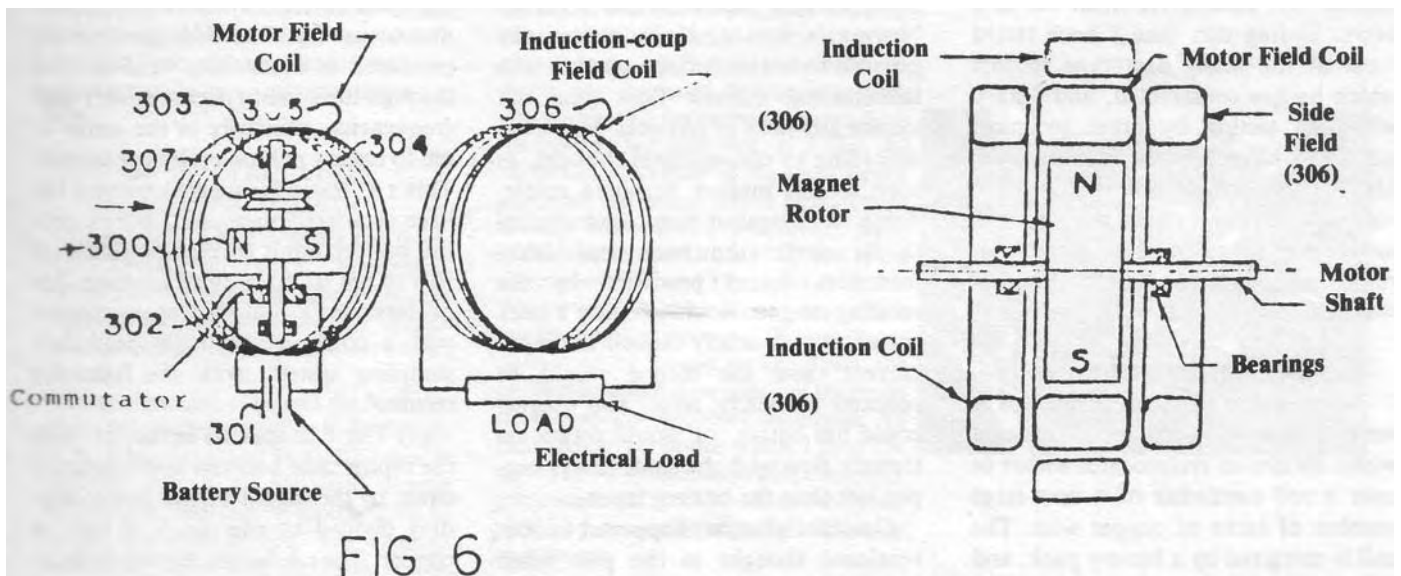
The multiple induction field coils (306) are illustrated below in schematic form.

This is a very significant and momentus development in electrical engineering and specifically in electrical motor/generator design, which has not as yet had its full impact in the o/u/o field.

A minimum of threefold electrical output over unity ratio can easily be expected with the maximum ratio yet to be determined. It is projected that the maximum output to input ratio could be as high as twenty-five to one, by the use of optimum field coil design, that is the use of at least three secondary field coils, as indicated, and the idealizing of all the functional components of the unit.

From Bruney Research:- Any increased drain on the secondary coil windings will cause an increased current drain in the primary windings. However, the greater the current drain in the primary coils, the stronger the interaction between the primary coil and the permanent magnet (rotor). The result is that the increased current drain increases the output of the machine. The maximum output is, in turn, limited by the field strength of the permanent magnets.

In summary, the addition of the multiple secondary coils should effectively increase both the output and efficiency of the machine.

FIG 6

Statement of Roger Hastings, Ph.D.
Before the Subcommittee on
Energy, Nuclear Proliferation, and Government Processes
Dated July 30,1986

THE NEWMAN CONTROVERSY

My name is Roger Hastings. Thank you for the opportunity to address this Committee. Before I discuss Dr. Newman's device, let me tell you something about my background, how long I've known Joe Newman, and then I'll make my observations about Newman's device, and repeat my criticisms of the recent N.S.B. tests of Newman's device.

I. BACKGROUND

My education, through the Ph.D., is in physics. I have served as a Professor of physics for four years, and for the past five years I have worked as a physicist for the Sperry Corporation in St. Paul, Minnesota. My current title is Senior Staff Scientist, and I am the manager of Sperry's Superconductive Electronics Technology Center. I have known Mr. Joseph Newman for five years. During this time I have tested most of the many prototype motors which he has constructed, and I have witnessed testing by other technical people. I have become familiar with Mr. Newman's theories and attitudes. I represent myself in this matter, and have never represented Sperry Corp. regarding Mr. Newman or his machine.

II. NEWMAN'S DEVICE

Newman's motors all consist of a very powerful permanent- magnet which rotates or reciprocates within or near a coil consisting of a very large number of turns of copper wire. The coil is energized by a battery pack, and the magnetic field produced by the coil provides the torque or force required to rotate or reciprocate the permanent magnet. A mechanical commutator reverses the direction of current flow through the coil each half cycle, and in some models also chops the current input between current reversals. Technically, the motor may be described as a two pole, single phase, perma- nent magnet armature, d.c. motor. The difference between Newman's design and the prior art is one of scale: very large magnet and very large coil. Newman's large motors contain con- ventional ceramic magnets weighing up to 700 pounds. His smaller motors use powerful rare earth magnets. The coils typically are wound with more than 100,000 turns of copper wire. Since the coil resistance is therefore high, the machines operate on battery voltage which is sufficiently high (hundreds to thousands of volts).

The torque applied to the magnet in these motors is proportional to the pro- duct of the strength of the magnet, the number of turns of copper wire, and the current flowing through the wire. In Newman's machines extremely large torques can be developed with very small current inputs. If we scale up Newman's motor, it is theoretically possible to obtain infinite torques with infinitesimal current flow (and not violate any laws of physics). However, according to conventional thought, as soon as this magnet began to rotate, doing work against some load applied to its shaft, the back emf (elec- tromotive force) produced by the rotating magnet would produce a back current which nearly cancels the input current, and the torque would be reduced to nearly zero. The magnet could not rotate, or would rotate ex- tremely slow with the shaft power out- put less than the battery input.

Consider what has happened to con- ventional thought in the past when people have experimented with the limits of very high speeds (relativity), very small dimensions (quantum mechanics), very low temperatures (superconductivity and superfluidity). Newman's motors probe the limits of very large torque with very small cur- rent input. And they do rotate at relatively high rates. For example, witness Newman's latest prototype (on demonstration following this hearing today in an auditorium in this building), which runs on 0.0008 amps at 3000 volts and turns a 16-inch fan blade at more than 500 r.p.m. How much torque can this motor produce? Try to stop the motor by holding the two-inch daimeter shaft. This will not be possible for a normal human, although the motor will never draw more than 0.003 amps or nine watts. This motor is a scale model of a motor which Newman intends to build to power an automobile.

Newman's motors are unconven- tional in other ways. One notices the flourescent tubes which are placed across the motor coil. These tubes are lit by the coil's collapsing magnetic field occuring when the battery voltage is switched. They are used to protect the mechanical switch from damage due to arcing. The additional power produced in these tubes (and flowing through the system) occurs at very high frequencies, prim'arily in the range of ten to twenty million cycles per second. This r.f. (ratio frequency) current has been accurately measured, and exceeds the battery input current by factor of five to ten in the various motors. One of Newman's motors was monitored with a computerized high-speed data sampling system, with the following results:

(1) The r.f. appears in bursts, with the repeat time between approximately equal to the length of the motor win- ding divided by the speed of light in copper. The r.f. bursts showed little at- tenuation during their travel through the coil, maintaining their shape and amplitude.

(2) The r.f. current and voltage were in phase, representing the real power.

(3) The r.f. current and voltage wave-forms were offset from ground, indicating a net d.c. component.

net d.c. component.

(4) The net r.f. power at the battery pack represented a negative power which exceeded the d.c. input power from the batteries.

The last statement may explain why Newman has been able to demonstrate the charging of dry cell batteries placed in his system. Battery failure has occurred through internal, shorts which develop within the batteries rather than by depletion of the energy stored within the batteries. When you witness the demonstration of Newman's latest prototype, if you attend the demonstration following his hearing, bear in mind that the batteries will last many times longer than expected for a drain of 0.0008 amps. A prominent battery company is working with Newman to develop batteries which will stand up to the r.f. power levels, and perhaps last even longer.

Newman's motor design is based on his theory of gyroscopic particles which he explains in his book "The Energy Machine of Joseph Newman." Full utilization of his machine will require a detailed mathematical representation of the phenomena based on a thorough understanding of the atomic processes at work. This will require a parallel program of experimentation using the finest resources available. Application programs have already been conceived (for example, the car motor), and will require prototyping and manufacturing efforts. Newman should be immediately awarded a patent and become recognized in the scientific community for his accomplishments to date.

III. AN EVALUATION OF N.B.S. TESTING

I have been asked whether the recent N.B.S. tests alter the opinions I've expressed before and I'm repeating here today. The recent N.B.S. tests don't alter my opinion because N.B.S. failed to test Newman's device.

I have read and evaluated the Newman motor test results reported by R. E. Hebner, G. N. Stenbakken, and D. L. Hillhouse in National Bureau of Standards Report #NBSIR 86-3405. [See "Report of Tests on Joseph Newman's Device," U.S. Dept. of Commerce, dated June 26, 1986, hereinafter referred to as "the NBS Rpt. at ____ ".]

A. N.B.S.'s Energy "Output" Measurements

While the reporters display fine credentials and demonstrate the use of precision equipment, they obviously did not test the Newman motor. Instead they measured the power consumed in resistors placed in parallel with the Newman motor, and called

this power the motor output. [See NBS Rpt. at 7. Fig. 4. "Schematic Drawing of Newman device and input and output power measurements circuits," reproduced with comments plainly referring to the "Resistors" as such in the accompanying chart.]

In layman's terms, this is equivalent to stating that the output of an electric motor plugged into a wall socket is given by the power used by a lightbulb in the next room which is on the same circuit. The measurement of power consumed by these parallel resistors is clearly irrelevant to the efficiency of the Newman motor.

The actual input power to the Newman Motor (battery input minus power consumed by their resistors) is referred to in the report as "internal losses." No attempt was made to measure the mechanical output of the Newman motor. Nor was any measurement made of heat generated in the motor windings.

B. The Additional Energy N.B.S. Lost From The System

It has been demonstrated by myself and others that much of the excess energy generated in the Newman machine occurs at very high frequencies (in particular between 10 and 20 MHz). It has also been demonstrated that the high frequency current will flow to the ground if given the opportunity. If Newman's machine is grounded through a high resistance, heat will be produced in the resistpr which represents an additional motor output. In the N.B.S. testing, the Newman motor was connected directly to ground, thus eliminating the excess r.f. power from the system [See NBS Rpt. at 7 (Fig. 4.) "Schematic Drawing of Newman device and input and output power measurement circuits," reproduced with comments plainly referring to the "Ground" as such in the accompanying chart.] The report states that "the power flow in the device is primarily a low frequency phenomena." This result was guaranteed by the test set up. Again, the oscillographs shown on page 3 of the report show clean low frequency waveforms. All oscilloscope waveforms which I have observed on Newman motors which are properly connected, have by contrast been dominated by extremely large high frequency components.

C. Conclusion

In conclusion, the N.B.S. failed to measure the output of the Newman motor, and instead measured the output of parallel resistors. In addition, the primary r.f. energy generated by the machine was shunted to ground. Their measurements are therefore irrelevant to the actual functioning of the Newman device. These results reflect a total

lack of communication between the N.B.S. and Newman or any other expert on Newman's technology. Considering the importance of Newman's machine and its potential applications, this waste of N.B.S. resources and misrepresentation of Newman's device is an insult to those seriously interested in the machine and to those who may benefit by its future applications.

Preliminary Analysis of Newman Machines

Abstract

The essential efficiency mechanism within Newman Machines are the motions of flux lines either perpendicular or opposite to the rotation direction of a permanent magnet. Traditional equal and opposite CEMF (counter electromotive force) losses are circumvented, and the permanent magnet is made to perform work via inductive interaction.

General Description

FIGURE 1 shows the basic components of a Newman Machine, consisting of a stationary conducting coil, a rotating permanent magnet, and a commutator which rotates with the magnet.

About 24-28 times per 360° of magnet rotation, the commutator alternately switches drive current from a battery to the coil, then disconnects the drive current and series-connects the coil to an electrical load. The switching takes place rapidly, as a spark jumps across the commutator gaps for each switching event. The commutator also reverses the direction of the drive current to the coil every 180° rotation.

The sequence of events within the device are:

1. Energy, in the form of electric current from a battery, is supplied to the coil. As a result, one would expect:

a. Part of the input energy is invested in a magnetic field which forms around the current flowing within the windings of the coil: and

b.Part of the input energy is invested in the rotation of the magnet, as a result of the interaction between the permanent magnet and the field around the coil.

2. Electric current from the battery to the coil ceases. The coil is immediately connected to a series electrical load. One result is that:

a. Part of the input energy, stored in the coil magnet field, is delivered through the electrical load as the magnetic field collapses.

If one considers only the induction action of flux lines rotating with the permanent magnet, one would expect that:

b. The remaining part of the input energy, invested in magnet rotation, induces a current in the coil, which gives rise to an equal and opposite magnetic field around the coil that directly opposes the rotation of the magnet.

The above results, however, do not reflect perpendicular or opposite motions of the permanent magnet flux lines relative to the coil windings. These flux motions are shown schematically in FIGURES 2-4.

In FIGURE 2, a permanent magnet, 1, is free to rotate around pivot 2, under the influence of a coil of wire, 3. In these figures, a single conductor of the coil is shown for simplicity, but in practice many windings are used. The permanent magnet's lines of flux are shown in FIGURE 1 by curved arrow-lines, 4. In FIGURE 1, no field is shown around winding 3, as no current is flowing in the winding.

In FIGURE 3, the magnet is shown during the first 90° of rotation, with a drive current flowing through the winding that generates a magnetic field around the winding, as shown by arrow-lines 5.

This winding field is of the same magnetic polarity as the magnet, and causes the magnet to rotate due to mutual magnetic repulsion. This mutual repulsion also causes the magnetic flux lines of the permanent magnet to be pushed inward and rotated forward of the magnet as shown. The forward displacement exists because the energy transfer between the drive current and the rotating magnet is impeded by the moment of inertia of the magnet. The inertial mass cannot respond to instantaneous drive current changes, so not all the electrical input energy is effectively transformed and stored as kinetic energy of rotation.Contrarily, the magnetic flux lines of the magnet are displaced instantly by instanaeous changes of the same drive current, and therefore act as an energy storage means for that portion of the input energy which causes the deformation.

If the drive current to the coil suddenly ceases (as it does in Newman Machines), the magnetic flux lines of permanent magnet expand outward and rearward to their original shape, releasing the energy stored during their deformation.

The outward perpendicular expansion of the flux lines induces current in the winding as the flux lines cut across the conductors. The induced current is in a direction which magnetically opposes the advancing field of the permanent magnet; that is, the perpendicularly induced current is in the same direction as the original drive current.

In FIGURE 4, the magnet is shown during the second 90° of rotation, with a drive current as above passing through the winding.

In this quadrant, the winding field is opposite to the polarity of the permanent magnet, and causes the magnet to rotate by magnetic attraction. This mutual attraction causes the magnetic flux lines of the permanent magnet to be pulled outward and rotated forward of the magnet, as shown by arrow-lines 6. This stretching of the field again acts as an energy storage means for that portion of the input energy which causes the stretching.

If the drive current to the winding suddenly ceases (as in Newman Machines), the magnetic flux lines of the permanent magnet retract inward and rearward to their original shape, releasing the energy stored during their deformation.

The inward perpendicular retraction of the flux lines induces current in the winding as the flux lines cut across the conductors. The induced current is in a direction which magnetically attracts the receding field of the permanent magnet; that is, the perpendicularly induced current is again, in the same direction as the original drive current.

The cycle is repeated for the third and fourth 90° quadrants of rotation, only with the drive current direction reversed.

The switching rate of the commutator can be chosen to function in concert with the inertia of the rotating magnet so that potential CEMF's which could be created by magnet rotation are eliminated. If the drive current ceases while the magnet is still accelerating (i.e., while the magnetic field is still deformed), the magnetic flux lines retract across the winding in a direction opposite to the direction of magnet rotation. The switching rate can be made rapid enough so that induced currents in the positive direction diminish as the magnet rotation increases, but (oppoisng) CEMFs in the winding are never induced.

Perpendicularly and oppositely induced currents only occur when the drive current to the winding ceases. Since the collapsing magnetic field around the winding (originally created by the drive current) also tends to induce a winding current in the same direction, the two induction effect simultaneously add together.

When the perpendicularly and oppositely induced currents flow in directions to drive the magnet rotation, a dynamic interaction between these currents and the permanent magnet occurs. The deformity of the magnetic field reduces as the magnet rotates. The reducing deformity induces currents in the winding which increase the rotation rate of the magnet. Increasing the magnet rotation rate reduces the deformity more rapidly, which increases the rate of induction of current into the winding, further accelerating the magnet, etc. During this progressively increasing interaction, the permanent magnet performs work as it induces the complimentary current in the winding. This performance of work by the magnet is similar to the work performed by a magnet when attracting a piece of iron, although the mechanism for attraction is different.

The mutual interaction tends to prolong the magnetic interaction times between the magnet and the winding until the drive current is again switched on at the beginning of the next pulse cycle. This prolonged and anomalously large current flow has been described in published tests of the Newman Machines.

If the electrical load resistance in series with the coil is reduced in value (that is, if the electrical load increases), the effects of the perpendicular and opposite inductions increase as more current is allowed to flow through the coil. This in turn increases the complex interaction between the coil and the magnet; increasing the electrical load increases the rotation speed of the magnet and decreases the amount of input current required to drive the electrical output load. These traits have also been noted in reports on the Newman Machine.

The energy source for the anomalously high output is the permanent magnet. The output trait of the machine to increase power output as the load increases is suggestive of a characteristic of the permanent magnet itself. As a heated permanent magnet material is cooled, it spontaneously changes from a non-magnetic to a magnetic state. The effect is caused by the increasing alignment of unpaired elecrtron spins within the cooling material. As energy is removed from the material, a manifestation of

progressively increasing energy (the magnetic field) occurs around the material. This trait of magnetic materials, in which the energy logic appears reversed, is termed a broken symmetry. It is this logic which is manifested by the energy output of the Newman Machines.

The work must be performed either by the alignment of more election spins or by the spins themselves. (The work output cannot be performed by demagnetization, as demagnetization requires energy input.)

If the work is performed by increasing spin alignment, thermal and flux strength measurements of the magnet should be undertaken.

If the work is performed by the individual spins, other testing procedures may be necessary. Electron spin is a conserved quantity, now believed by physicists to be dictated by the higher dimensions of space-time structure as described in supersymmetry theories. These threories have evolved via high-energy (creation) schemes: low energy effects have not been anticipated. If individual electron spins perform work in the Newman Machines, it is likely that a low-energy supersymmetric field connection exists in order to maintain the invariance of electron spins.

In either circumstance, the efficiency of the device will diminish as the magnet loses its magnetism. Assuming no demagnetization effects created by alternating magnetic fields present during device operation, and assuming a good magnet is estimated to lose about 5% of its strength every 100 years due to ambient thermal effects, the device will be down to half its power output in about 1300 years.

P. Tevari
Head, Quality Assurance

D.O. No: 005/00000/86/B/

November 11, 1986

Dear Mr. Soule,

I have received your letter of 14th Oct, 1986 regarding invention of a energy machine by Joseph Newman. I very much believe that such an invention is technically possible. That the patent office has not granted Mr. Joseph Newman, patent for his invention despite his 7-year struggle in this regard as stated in your letter, is indeed a matter of regret. I am enclosing here a copy of my latest works 'Beyond Matter' which lays foundation for generation of energy and also matter from absolute vacuum. Any one who doubts the theoretical validity for a machine of the kind discovered by Joseph Newman, and was learned by me through the relevant literature sent by you to me can certainly go through my works and write to me for detailed discussions.

I shall certainly extend my help in whatever way you deem fit. Please do write to me a specific plan in assisting Mr Joseph Newman if you have any.
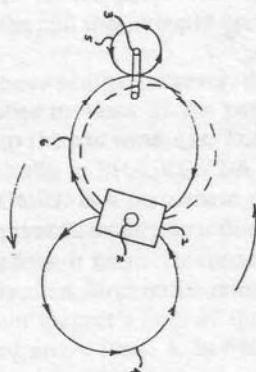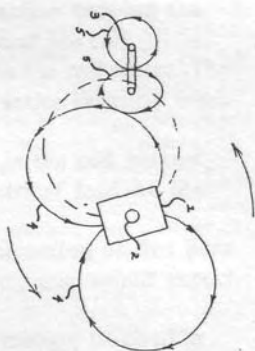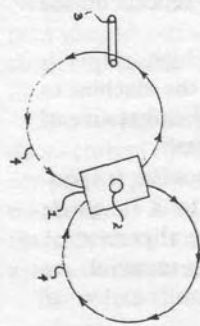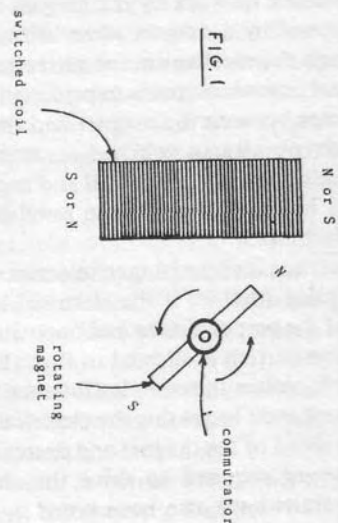
With best wishes,

Yours sincerely
(P. Tevari)
11/11/86

Encl: as above

Mr Bryan R. Soule, Jr.
1135 Jackson
Avenue, Suite 305,
New Orleans, Louisiana 70130
(504) 524 - 3063.

FIG. 1

switched coil

S or N

N or S

rotating magnet

commutator

FIG. 2

FIG. 3

FIG. 4

In the "preliminary analysis," the focal point was the unique inductive "backlash" effect which reverses the effect of Lenz's Law. Lenz's Law is the means by which energy is conserved during the "traditional" processes of induction. The induced field must act so as to oppose the change that is causing it, thus preventing the induced emf from exceeding unity gain. Quoting, for example, from a freshman college text (Physics, A Discovery Approach, Edwards, S., 1971, John Wiley & Sons, N.Y., NY, p. 205), "If the induced field should act so as to enhance (rather than oppose) the change in flux...(initial) change." (There are many similar statements in other textual material.) It is this exact "snowball" effect between the magnet and winding which causes the permanent magnet to perform work in Newman Devices, thus producing higher- than-unity energy output.

This inductive blacklash effect must be optimized with respect to both the inertial moment of the permanent magnet and the inductive time constant of the coil in order to maximize efficiency. The time constant of the inductor must be faster than the angular acceleration of the magnet, but not so fast that the inertial mass of the magnet does not respond to the impulses created. This timing is, in turn, directly related to the "ideal matching."

This "ideal matching" consideration requires a clear understanding of the associated engineering and physical parameters of the coil.

The first parameter is the inductance of the coil. The formula for coil inductance is:

$$L = \frac{R^2 N^2}{9R + 10\ell}$$

where
R is the winding radius
N is the number of turns
ℓ is the length of the coil
L is the inductance.

Associated with this inductance is the time constant of the coil (wherein the current flowing in the coil has reached 63.2 percent of it's Ohm's law value), given by the expression:

$$t = \frac{L}{R}$$

where
t is the time constant
L is the inductance
R is the resistance

It is clear from this formula that increasing the inductance causes the current flow to rise more slowly to it's Ohm's law value ($I = \frac{E}{R}$), because more energy is being stored in the magnetic field as the current flow increases to the Ohm's law value.

The energy stored in the magnetic field around the coil, ignoring resistive losses, is given by:

$$W = \frac{1}{2} LI^2$$

where
W is the energy stored in the magnetic field
L is the coil inductance
I is the current

It should be clear from these three formulas that the increased magnetic field observed around larger coils comes from an increased time constant and increased inductance. Relating the magnetic field energy around the coil exclusively to a "steady state" Ohm's law current can be misleading for Newman type devices.

In the third paragraph on page two of your October 6, 1986 presentation on Newman technology, a confirmation was mentioned that tinned copper produces a higher magnetic field than plain copper. Since no measurements or quantities were given on the degree of difference, it would be difficult to comment on other than saying that the difference observed may be attributable to difference of inductances or differences in magnetic susceptabilities between the materials compared.

The magnetic field of the coil will create a torque on the magnet. For example, if we assume that the magnet is in the center of the coil, if the magnet is assumed to be perpendicular to the axis of the coil, and if the magnetic field intensity is assumed to be uniform, the resulting torque on the magnet would be:

$$L = m\ell H$$

where   m is the pole strength of the magnet
            ℓ is the length of the magnet
            H is the magnetic field intensity of the coil
            L is the torque on the magnet

The product $m\ell$ is the magnetic moment of the magnet, sometimes represented by M. If the magnet subtends an angle θ with the direction of the field, the torque acting upon the magnet is:

$$L = MH \sin \theta$$

If the moment of inertia of the magnet is A, then the angular acceleration, a, of the magnet, ignoring frictional and flux leakage losses, is:

$$a = \frac{MH}{A} \sin \theta$$

By adjusting the above coil and magnet parameters, the efficiency of the Newman devices can be optimized.

I hope that these additional details provide some extra "food for thought", and I look forward to corresponding further with you on the subject. I am convinced that, once all of the factors of the device are satisfactorily expressed in established scientific terms, everyone will benefit.

Sincerely,

Paul Bruney

56

GENERATION OF ELECTRICAL POWER FROM ABSOLUTE VACUUM BY HIGH SPEED
ROTATION OF CONDUCTING MAGNETIC CYLINDER

Paramahamsa Tewari
Department of Atomic Energy
Nuclear Power Board
Bombay, India

Abstract — Recent experiments performed for generation of electric power through a machine operating on new basic principles have shown that an output power greater than input can be generated. It is shown in this paper that the origin of additional power is from absolute vacuum which can be rotated to produce electric charge. The computation of energy in the rotating vacuum has been done with the use of new fundamental relationships on electron's charge and electron's rest-mass derived from electron structure in author's works [1] that discuss dynamics of vacuum and show interrelationships of space (absolute vacuum), energy and electron.

INTRODUCTION

It has been recently reported by Bruce De Palma [2] that in a new machine (electrical generator) measured output exceeds input by a factor of 4.92. As described in Fig.1A, De Palma Trombly [3] machine is essentially a conducting cylindrical magnet rotated at high speed around its axis with magnetic field parallel to the axis. Since there is no relative motion between the magnetic field and the conducting cylinder, the appearance of dc voltage between the shaft and the periphery, and consequent generation of power cannot be due to Faraday's law of electro-magnetic induction.
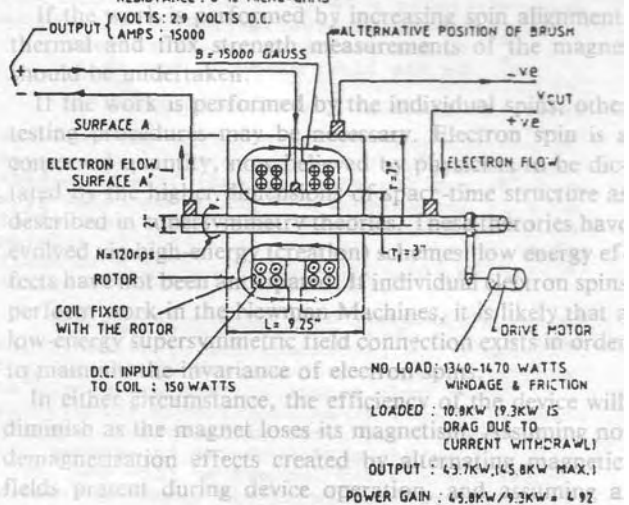
In order to have an independent check on the above results, experiments have been carried out on a similar machine constructed by the author at Tarapore Atomic Power Station. The test results have shown an efficiency of the machine above 250%. The experimental results in which the output is larger than the input by a factor more than unity are in violation of the 'law of conservation of energy' unless it is shown theoretically that the additional power is generated in the interatomic space of the rotating cylinder and without the requirement of an equivalent input to the drive motor. A theoretical proof of generation of power from space in the above experiments is obtained in this paper with the use of new fundamental equations on electron's charge and electron's rest-mass derived in [1].

MACHINE INTERNAL
RESISTANCE : 6-10 MICRO-OHMS
OUTPUT { VOLTS: 2.9 VOLTS D.C.
{ AMPS : 15000
B = 15000 GAUSS
ALTERNATIVE POSITION OF BRUSH
SURFACE A
ELECTRON FLOW
SURFACE A'
ELECTRON FLOW
N=120rps
ROTOR
COIL FIXED
WITH THE ROTOR
DRIVE MOTOR
L = 9.25"
D.C. INPUT
TO COIL : 150 WATTS
NO LOAD: 1340-1470 WATTS
WINDAGE & FRICTION
LOADED : 10.9KW (9.3KW IS
DRAG DUE TO
CURRENT WITHDRAWL)
OUTPUT : 43.7KW,(45.8KW MAX.)
POWER GAIN : 45.8KW/9.3KW = 4.92

SPACE POWER GENERATOR
(FIG. - 1A)

FORMULATION

The central concept introduced in [1] is that space, rather than being an empty extension, is a nonmaterial and mobile entity which generates, with its irrotational vortex motion, 'velocity field' (VF), defined as the most fundamental universal field from which charge, mass and the associated electromagnetic and gravitational fields are produced. In Fig.2A, an irrotational vortex of space and VF vector are shown. The non-material properties of space are continuity, incompressibility, nonviscosity and zero-mass.

The other postulate [1] is the limiting spin of space, defined as the ratio of the limiting speed of light (c) in absolute vacuum and the radius (r_e) of a spherial void created due to the breakdown of space (Fig. 2B) when spin reaches the limiting value(ω). The spherical void is a 'fieldless hole in space at the centre of electron. The electron structure, rather than being a point-charge, is an irrotational vortex of space around a central void.

Fundamental Equations on Electron's Charge and Mass.

Following fundamental equations derived from void-vortex structure of electron are relevant to the computation of rotational charge energy produced in the new machine.

Refer Fig. 2B which shows spin of space at void-space interface. At the elemental surface, tangential velocity of space is $\omega r_e \sin\theta$, which increases to its limiting value c at the dimetrical section of the interface. The basic definitions for electron's charge, rest-mass and dielectric constant for vacuum are:

$$q_e = (\pi/4)(4\pi r_e^2\ c) \qquad (1)$$

where

    q_e is the electron's charge
    r_e is the radius of spherical void
    c is the light speed in vacuum

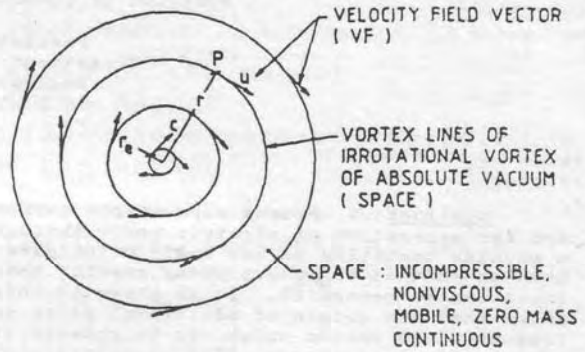Hence, it follows that the dimensions of q_e are :

$$q_e = L^3/T \qquad (2)$$

$$m_e = (4\pi/3)\ r_e^3\ c \qquad (3)$$

where
    m_e is the electron's rest-mass.

Hence, it follows that the dimensions for mass m_e are:

$$m_e = L^4/T \qquad (4)$$

VELOCITY FIELD VECTOR (VF)

VORTEX LINES OF IRROTATIONAL VORTEX OF ABSOLUTE VACUUM (SPACE)

SPACE : INCOMPRESSIBLE, NONVISCOUS, MOBILE, ZERO MASS CONTINUOUS

AT ANY POINT P OF A VORTEX LINE, ur = CONSTANT
WHEN $r = r_e$, $u = c$.
THEREFORE, cr_e = CONSTANT,
AND $u = cr_e/r$

IRROTATIONAL VORTEX OF ABSOLUTE VACUUM (SPACE)

(TWO DIMENSIONAL)

FIG. - 2A

REST-MASS OF ELEMENTAL DISC OF VOID.

    dm = dv X SPEED OF CIRCULATING SPACE AT THE INTERFACE OF THE ELEMENT.

    $dm = (\pi r_e^2 \sin^2\theta\ r_e\ d\theta)\omega r_e \sin\theta$

ELECTRONIC REST-MASS.

    $m_e = \int^\pi \pi cr_e^3 \sin^3\theta\ d\theta = (4\pi/3)r_e^3 c$

DIMENSIONS OF m_e = LENGTH^4/ TIME

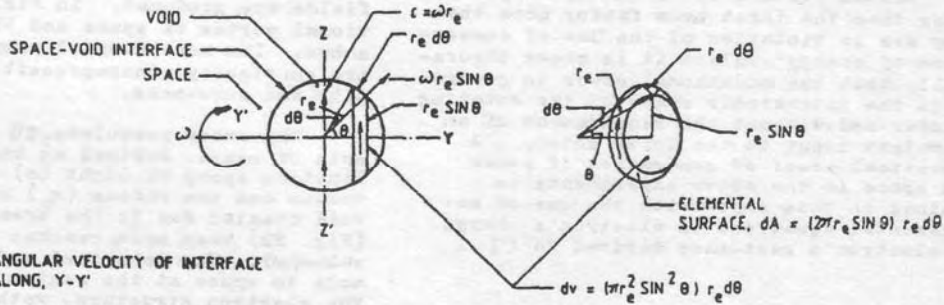CHARGE ON ELEMENTAL RING SURFACE, dq = RING AREA x SPEED OF CIRCULATING SPACE ON RING SURFACE

    $dq = dA(\omega r_e \sin\theta)$

ELECTRONIC CHARGE, $q_e = \int^\pi (2\pi r_e \sin\theta\ r_e\ d\theta)(\omega r_e \sin\theta)$

    $q_e = (\pi/4)(4\pi r_e^2\ c)$

DIMENSIONS OF q_e = LENGTH^3/ TIME

VOID
SPACE-VOID INTERFACE
SPACE

$c = \omega r_e$
$r_e\ d\theta$
$\omega r_e \sin\theta$
$r_e \sin\theta$

ω : ANGULAR VELOCITY OF INTERFACE ALONG, Y-Y'

VOID : FIELDLESS SPHERICAL HOLE IN SPACE.

SPACE : NON-VISCOUS, MOBILE, CONTINUOUS, INCOMPRESSIBLE

$r_e\ d\theta$
$r_e \sin\theta$

ELEMENTAL SURFACE, $dA = (2\pi r_e \sin\theta)\ r_e\ d\theta$

$dv = (\pi r_e^2 \sin^2\theta)\ r_e\ d\theta$

VOID-RADIUS $r_e \simeq 10^{-n}$ CM

VOID CENTRE OF ELECTRON

FIGURE-2B

In CGS system, dielectric constant for vacuum ϵ_0 taking q_e as the unit of electric charge (in place of CGSE Unit) is given by:

$$\epsilon_0 = \pi/2c \qquad (5)$$

Substituting in (1) experimentally determined value, $q_e = 4.8 \times 10^{-10}$ CGSE units, and supposing [4] the value of void radius $r_e = 1.5 \times 10^{-11}$ cm,

$$cm^3/s = (7.2) \text{ CGSE} \qquad (6)$$

The above supposition on the radius of electron is based on the following extract [4]. "If we proceed from modern theoretical electrodynamics, which has been established better than any other field theory, the conclusion seems to be that the electron has enormous dimensions, not 10^{-13} cm, as expected from classical physics, but 10^{-11} cm is the size of the region in which the vacuum about the electron is polarized".

GENERATION OF SPACE POWER

As shown in Fig. 2B, for computation of electron's charge on interface, the product of speed of spinning space at the elemental surface and its area dA is taken. This indicates that for all values of VF varying from zero to c, charge is produced. Therefore, rotation of cylindrical surface at A will generate in its interatomic space rotational charge (q_{r0}) given by similar relationship as for electronic charge. Neglecting the area occupied by atomic nuclei and orbital electrons at surface A,

$$\begin{aligned} q_{ro} &= \text{space surface} \times \text{rotational speed} \\ &= (2\pi rL)(2\pi rN) \qquad (7) \end{aligned}$$

where

r is the outer radius of rotor
L is the rotor length
N is revolution per sec.

Rotational charge generated at the cylindrical surface A' is :

$$q_{ri} = (2\pi r_i L)(2\pi r_i N) \qquad (8)$$

where

r_i is the radius of the inner rotor.

Since the direction of the magnetic field in the outer rotor at surface A is opposite to that in the inner rotor surface A', the net rotational charge (q_r) generated in the rotor is :

$$q_r = q_{ro} - q_{ri} = 4\pi^2 LN(r^2 - r_i^2) \qquad (9)$$

In CGS system, substituting the values in (9), L = 23.495 cm, N = 120 r/s, r = 17.78 cm, r_i = 7.62 cm,

$$q_r = 287 \times 10^5 \text{ cm}^3/s.$$

Converting cm^3/s to CGSE units from (6) ,

$$q_r = 2066.4 \times 10^5 \text{ CGSE units} \qquad (10)$$

Since $q_e = 4.8 \times 10^{-10}$ CGSE unit, numbers

of electrons (N_e) equivalent to charge q_r will be :

$$N_e = 2066.4 \times 10^5 / 4.8 \times 10^{-10} \qquad (11)$$
$$= 4.30 \times 10^{17}$$

Energy in the electrostatic field of N_e electrons is computed as below:

Electrostatic energy (U) of a point-charge as per conventional physics is given by :

$$U = \frac{q_e^2}{2(4\pi\epsilon_0)} \left[\frac{r}{r}\right]_0^\infty \qquad (12)$$

where r, the radial distance from the charge centre, varies from zero to infinity. With void-centre of electron, the minimum value of r is taken as r_e (and not zero) since void is field-less zone. (The present difficulty in physics of infinite quantity of energy in the field of a point-charge is avoided with void-centre structure of electron).

In electron structure (Fig. 2B), the VF distribution is axi-symmetric, and consequently the charge distribution on the interface is also axi-symmetric rather than being spherically symmetrical as in case of a point charge. The co-efficient, $\pi/4$, appears in (1) because of axi-symmetric charge distribution, and will be dropped for a spherically symmetric charge distribution. Equation (1) for spherically symmetric charge will therefore become:

$$q_e = 4\pi r_e^2 c \qquad (13)$$

Substituting the value of ϵ_0 from (5) in (12) and from (13) expressing q_e in terms of r_e and c,

$$U = (4\pi r_e^2 c)^2/2 \ (4\pi^2/2c) \ r_e$$
$$= (3/\pi)(4\pi r_e^3 c)/3.$$

which from (3) becomes:

$$U = (3/\pi)m_e c^2 = (3/\pi)10^{-6} \text{ ergs.} \qquad (14)$$

Net energy produced from rotational charge from (11) and (14),

$$E = (4.30 \times 10^{17})(3/\pi)10^{-6} \text{ ergs.}$$
$$= 41 \text{kWs} \qquad (15)$$

which is close to the maximum 45.8 kW power drawn from the machine.

Generation of Free Electrons

Rotational charge is added to the neutral system of atoms at surface A and A' thus causing release of orbital electrons from the atoms. The free electrons are oriented by the magnetic field B such that the angular momentum of the electron is parallel to B vector (Fig. 3A). The VF produced due to rotation of cylinder interacts with the VF in the vortex structure of electron (Fig. 3B) pushing electrons to one side, thus creating

positive and negative polarities (Fig. 1A) between the shaft and the surface A'. Opposite polarities develop between the shaft and the surface A, due to opposite direction of B and consequently opposite orientation of free electrons.

Constancy of Space Power Generation.

The property of nonviscosity of space maintains the rotational charge energy in the rotor without any dissipation. The energy from VF is taken for the release of orbital electrons from the atoms. When the load circuit is closed, the electrons return through the load circuit to the positive pole, unite with positively charged atoms and give off energy to VF which again releases orbital electrons, thus completing the cycle. The VF in the rotor is superposed with opposite VF when the machine is brought to rest due to retardation of the rotor and space power generation reduces to zero.

Output to Input Ratio Higher than Unity.

In conventional generators, the direction of the load current through the armature (Fig. 4A) is such that the interaction of its magnetic field with the main exciter field results in the generator rotor being rotated against the magnetic force, and for 100% efficiency, output equals input. As shown in Fig. 3B, the electron drifts 'sideways' in the rotor of the Space Power Generator (SPG) such that the plane of its magnetic field is at right angles to B, thus causing no interaction with B. The flow of electrons in the rotor of SPG due to external load current, thus, does not cause any drag on the rotor. The conventional principle of equality of electrical output with input will not be violated if the generation of continuous power due to the rotation of interatomic space is taken into account. (Further tests on SPG that are being conducted by the author at Tarapore Atomic Power Station will provide additional informations for fuller understanding of this unique power generating system.)
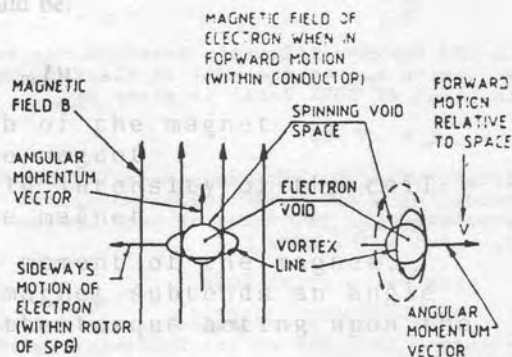
Space-Energy Relation.

Consider the case when power is tapped from surface A, and magnetic field is supposed to be, in the whole volume of the rotor, in the same direction. From (9) and further calculations for power generation as per (15), it can be shown that,

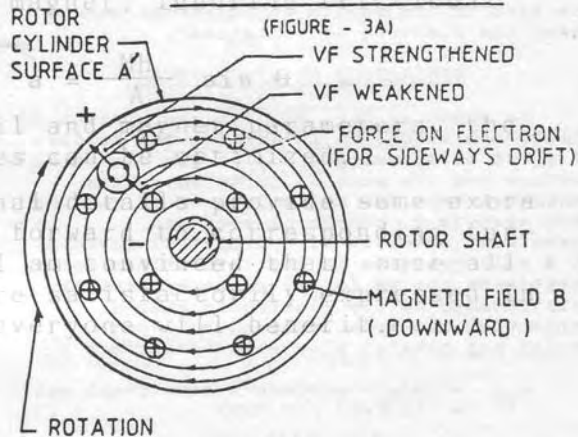$$P = (1.8) \pi L N r^2 10^{-5} \text{ kW}, \quad (16)$$

where, P is power in kW.

It is seen from (16) that power produced is independent of magnetic field strength. The magnetic field B, however determines the voltage developed, as shown below. The force developed on electrons due to equivalent charge, q_r, is given by Lorentz' force
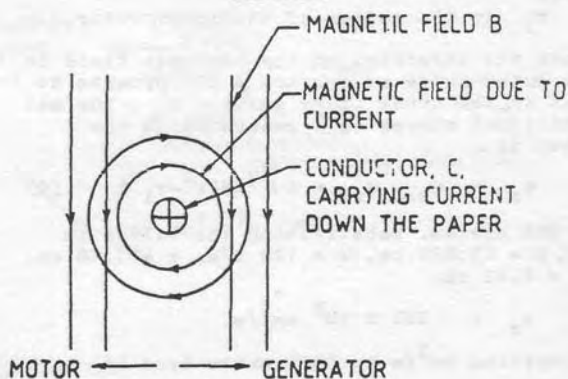
$$F = q_r B (2 \pi N r).$$

INTERACTION OF ELECTRON WITH EXTERNAL MAGNETIC FIELD

(FIGURE - 3A)

STRENGTHENED VF ATTRACTS ELECTRON TO OUTER PERIPHERY; WEAKENED VF PUSHES ELECTRON AWAY FROM SHAFT. OPPOSITE POLARITIES APPEAR ON SHAFT AND PERIPHERY.

FIG. - 3B

FOR GENERATOR ACTION, CONDUCTOR C HAS TO MOVE AGAINST HIGHER MAGNETIC FIELD.

FIG. - 4A

Energy required to create electric potential between the shaft and surface A will be,

$$\text{Energy} = q_r B(2\pi N r) \; r/2, \qquad (17)$$

and voltage, V, which is, Energy/q_r, is given by

$$V = B (2\pi N) \; r^2/2 \qquad (18)$$

CONCLUSIONS

The generation of electric charge by high speed rotation of absolute vacuum, in a magnetic conducting cylinder and sustaining the charge without any appreciable loss, provides a viable means of power production from the limitless source of space substratum. The higher output of space power generator over the input to its drive-motor pinpoints the fact that the absolute vacuum in a dynamic state, is the basic source of power. The new fundamental equations on electron's rest-mass and charge, which enable computation of rotational charge generated from the absolute vacuum, the non-material properties of vacuum, and void-centre structure of electron (rather than point-charge) are vindicated. The sphere of void at electron's centre should have radius of about 1.5×10^{-11} cm. is the prediction that follows from the experimental test discussed in this paper.

The numerous experiments carried out by Bruce De Palma since 1978, as given in his reports sent regularly to author and author's own more recent experiments confirm the fact that electric power can be generated from space at efficiency greater than unity.

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ACKNOWLEDGEMENTS

Paramahamsa Tewari was born on January 6, 1937. He received B.Sc.Engineering (Electrical) degree from Banaras Engineering College, Banaras Hindu University, India, in 1958.

After working initially in Bhilai Steel Project on electrical installations, he joined Department of Atomic Energy and worked at Plutonium Plant on electrical works. For one year he was deputed to Douglas Point Nuclear Generating Station (1964-65) for training in field engineering and installation of electrical equipment in Nuclear Power Projects. He worked as Erection Superintendent (Electrical) at Rajasthan Atomic Power Project, Deputy Chief Engineer at Narora Atomic Power Project, Chief of Transmission, in National Thermal Power Corporation, India, and presently is Head, Quality Assurance, 500 MWe Group, Nuclear Power Board, Department of Atomic Energy.

He has authored works on electron structure with space dynamics.
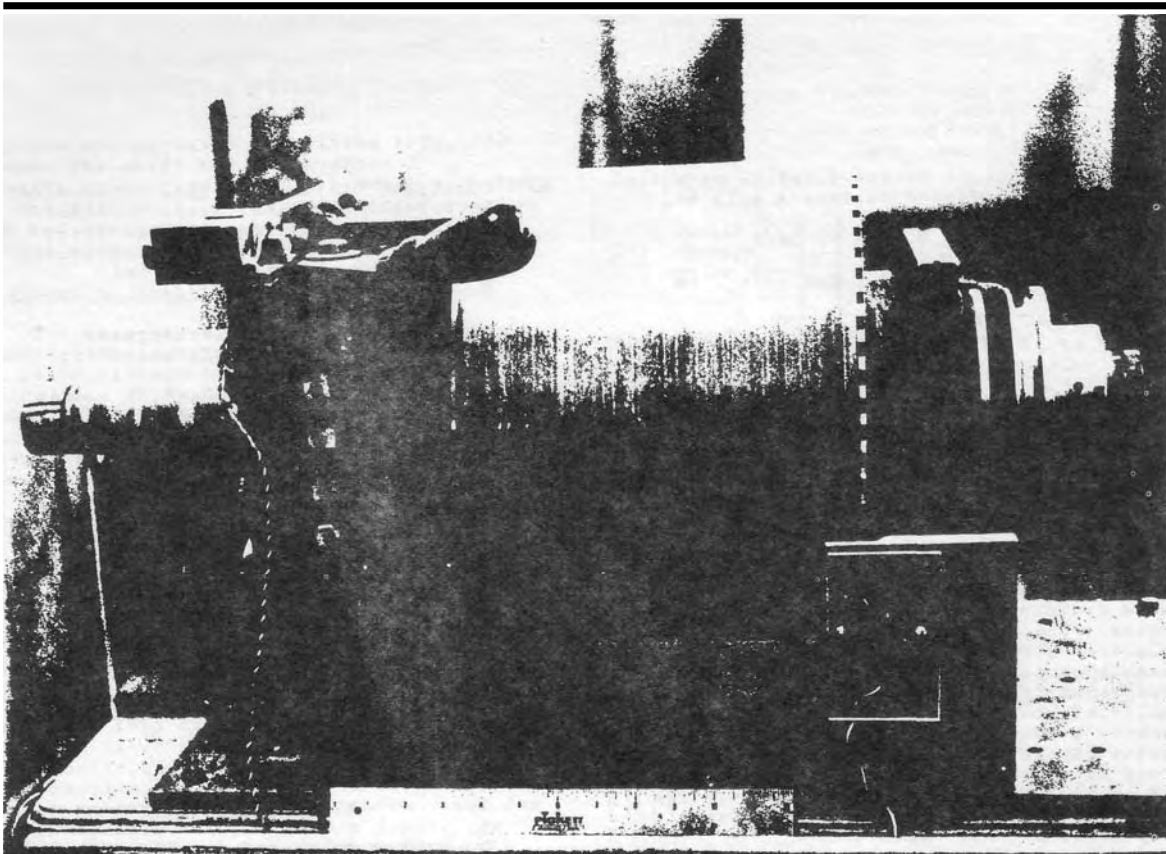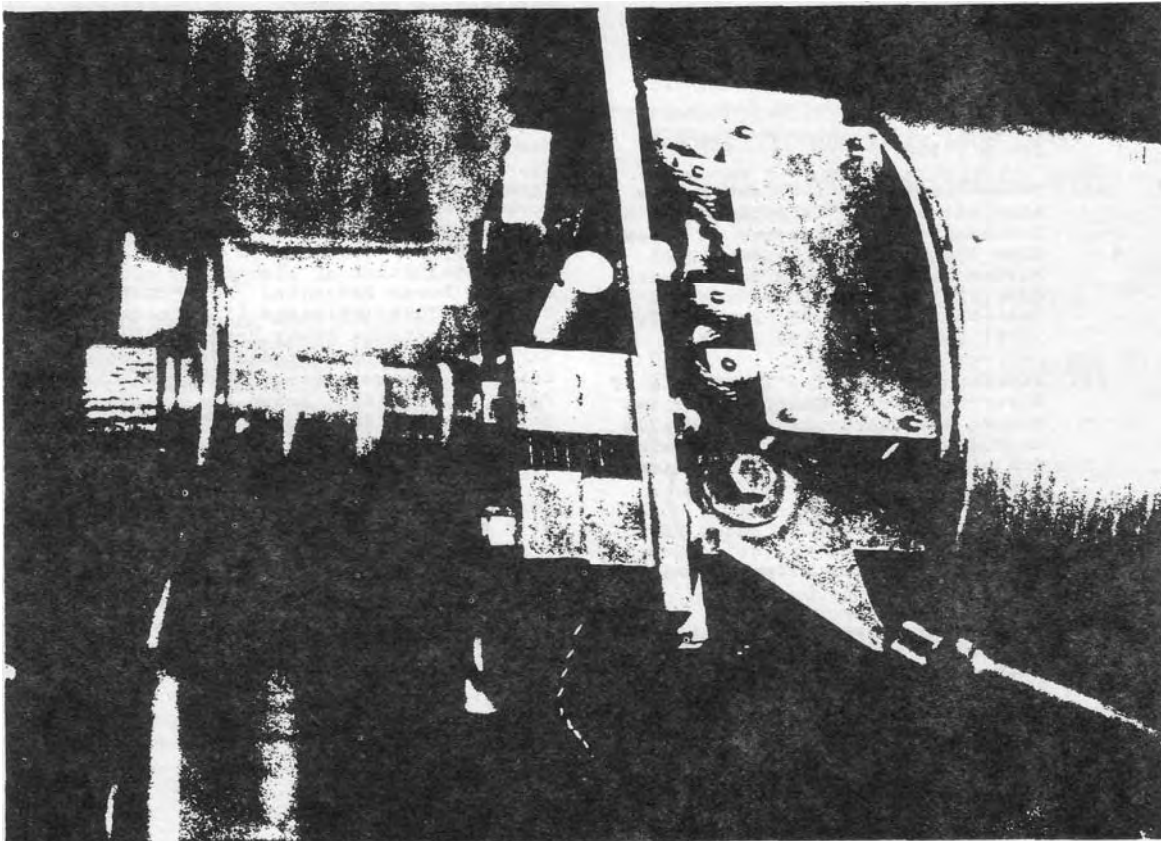
Figure l(a) - Sunburst Homopolar Generator (side view

Figure l(b) - Output end detail