A Practical Guide to 'Free Energy' Devices

Tesla's Experiments: In 1889 Tesla began experimenting with capacitors charged to high voltages and discharged in very short time intervals. These very short pulses produced very sharp shockwaves which he felt across the front of his whole body. He was aware that closing a switch on a high-voltage dynamo often produced a stinging shock. This was believed to be static electricity and it occurred only at switch-on and only for a few milliseconds. However, in those few milliseconds, bluish needles of energy stand out from the electrical cables and they leak to ground, often through the bodies of any people standing nearby, causing immediate death if the installation is large. While the generators of that time were rated at some thousands of volts, these discharges were millions of volts in intensity. The generator problem was eliminated by the used of highly insulated switches which were provided with a very large ground connection.

Tesla was intrigued by this phenomenon which appeared to match the effect of his capacitor discharges. He calculated that the voltages produced were hundreds of times greater than could be supplied by the capacitor or generator. It was clear that the power supplied was being amplified or augmented in some way, but the question was, from where was the extra energy coming?

Tesla continued to investigate through experiments, taking precautions against the high voltages being produced. He was soon able to produce these shockwaves whenever he wanted to. The shockwaves produced a stinging sensation no matter where he stood in his laboratory, and hands and face were particularly sensitive to the wave. These waves radiated out and penetrated metal, glass and every other kind of material.   This was clearly not an electromagnetic wave, so he called the new wave 'Radiant Electricity'.

Tesla searched the literature to find references to this radiant energy but he could not find much. In 1842, Dr. Joseph Henry had observed that steel needles were magnetised by a Leyden Jar spark discharge located on a different floor of the building. The magnetising wave had passed through brick walls, oak doors, heavy stone and iron flooring and tin ceilings to reach the needles located in a vault in the cellar.

In 1872, Elihu Thomson took a large Ruhmkorrf Spark Coil, attached one pole of the coil to a cold-water pipe and the other pole to a metal table top. This resulted in a series of massive sparks which electrified the metal door knob of the room and produced the stinging shockwaves which Tesla was investigating. He found that any insulated metal object anywhere in the building would produce long continuous white sparks discharging to ground. This discovery was written up briefly in the Scientific American journal later that year.

Tesla concluded that all of the phenomena which he had observed, implied the presence of "a medium of gaseous structure, that is, one consisting of independent carriers capable of free motion - besides the air, another medium is present". This invisible medium is capable of carrying waves of energy through all substances, which suggests that, if physical, its basic structure is much smaller than the atoms which make up commonplace materials, allowing the stream of matter to pass freely through all solids. It appears that all of space is filled with this matter.

Thomas Henry Moray demonstrated this energy flow passing through glass and lighting standard electric light bulbs. Harold Aspden performed an experiment known as the "Aspden Effect" which also indicates the presence of this medium. Harold made this discovery when running tests not related to this subject. He started an electric motor which had a rotor mass of 800 grams and recorded the fact that it took an energy input of 300 joules to bring it up to its running speed of 3,250 revolutions per minute when it was driving no load.

The rotor having a mass of 800 grams and spinning at that speed, its kinetic energy together with that of the drive motor is no more than 15 joules, contrasting with the excessive energy of 300 joules needed to get it rotating at that speed. If the motor is left running for five minutes or more, and then switched off, it comes to rest after a few seconds.   But, the motor can then be started again (in the same or opposite direction) and brought up to speed with only 30 joules **provided** that the time lapse between stopping and restarting is no more than a minute or so. If there is a delay of several minutes, then an energy input of 300 joules is needed to get the rotor spinning again.

This is not a transient heating phenomenon. At all times the bearing housings feel cool and any heating in the drive motor would imply an increase of resistance and a build-up of power to a higher steady state condition. The experimental evidence is that there is something unseen, which is put into motion by the machine rotor. That "something" has an effective mass density 20 times that of the rotor, but it is something that can move independently and take several minutes to decay, while the motor comes to rest in a few seconds.

Two machines of different rotor size and composition reveal the phenomenon and tests indicate variations with time of day and compass orientation of the spin axis. One machine, the one incorporating weaker magnets, showed evidence of gaining strength magnetically during the tests which were repeated over a period of several days.

This clearly shows that there is an unseen medium which interacts with everyday objects and actions, and confirms Tesla's discovery. Tesla continued to experiment and determined that a very short uni-directional pulse is necessary to generate the radiant energy wave. In other words, an alternating voltage does not create the effect, it has to be a DC pulse. The shorter the pulse time and the higher the voltage, the greater the energy wave. He found that using a capacitor and an arc discharge mechanism with a very powerful permanent magnet placed at right angles to the spark, improved the performance of his equipment by a major factor.

Additional experiments showed that the effects were altered by adjusting the duration of the electrical pulse. In each instance, the power of the radiated energy appeared to be constant irrespective of the distance from his apparatus. The energy was in the form of individual longitudinal waves. Objects placed near the equipment became powerfully electrified, retaining their charge for many minutes after the equipment was switched off.

Tesla was using a charging dynamo as a power source and he found that if he moved his magnetic discharger to one side of the dynamo, the radiant wave was positive. If he moved the magnetic discharger towards the other side of the dynamo, the radiant wave became negative in sign. This was clearly a new electrical force which travelled as light-like rays, showing them to be different in nature to the electromagnetic waves of Maxwell.

Investigating the effects of adjusting the duration of the pulses, Tesla found that a pulse train which had individual pulses with durations exceeding 100 microseconds, produced pain and mechanical pressures. At this duration, objects in the field visibly vibrated and were even pushed along by the field. Thin wires subjected to sudden bursts of the radiant field, exploded into vapour. When the pulse duration was reduced to 100 microseconds or below, the painful effect was no longer felt and the waves are harmless.

With a pulse duration of 1 microsecond, strong physiological heat was felt. With even shorter pulse durations, spontaneous illuminations capable of filling rooms with white light, were produced. Even shorter pulses produced cool room penetrating breezes with an accompanying uplift in mood and awareness. These effects have been verified by Eric Dollard who has written about them in some detail.

In 1890, Tesla discovered that if he placed a two-foot long single-turn deep copper helix coil near his magnetic disrupter, the thin-walled coil developed a sheath of white sparks with long silvery white streamers rising from the top of the coil. These discharges appeared to have much higher voltages than the generating circuit. This effect was greatly increased if the coil was placed inside the disrupter wire circle. The discharge seemed to hug the surface of the coil with a strange affinity, and rode up its surface to the open end. The shockwave flowed over the coil at right angles to the windings and produced very long discharges from the top of the coil. With the disrupter charge jumping one inch in its magnetic housing, the coil streamers were more than two feet in length. This effect was generated at the moment when the magnetic field quenched the spark and it was wholly unknown at that time.

This train of very short uni-directional pulses causes a very strange field to expand outwards. This field resembles a stuttering electrostatic field but has a far more powerful effect than would be expected from an electrostatic charge. Tesla was unable to account for the enormous voltage multiplication of his apparatus using any of the electrical formula of his day. He therefore presumed that the effect was entirely due to radiant transformation rules which would have to be determined through experimental measurements. This he proceeded to do.

Tesla had discovered a new induction law where radiant shockwaves actually auto-intensified when encountering segmented objects. The segmentation was the key to releasing the action. Radiant

shockwaves encountered a helix and "flashed over" the outer skin, from end to end. This shockwave did not pass through the windings of the coil but treated the surface of the coil as a transmission path. Measurements showed that the voltage increase along the surface of the coil was exactly proportional to the length travelled along the coil, with the voltage increase reaching values of 10,000 volts per inch of coil. The 10,000 volts which he was feeding to his 24 inch coil were being magnified to 240,000 volts at the end of his coil. This was unheard of for simple equipment like that. Tesla also discovered that the voltage increase was mathematically linked to the resistance of the coil winding, with higher resistance windings producing higher voltages.

Tesla then began to refer to his disrupter loop as his special "primary" and to the long helical coil as his special "secondary" but he never intended anyone to equate these terms to those referring to electromagnetic transformers which operate in a completely different way.

There was an attribute which baffled Tesla for a time. His measurements showed that there was no current flowing in the long copper 'secondary' coil. Voltage was rising with every inch of the coil, but there was no current flow in the coil itself. Tesla started to refer to his measured results as his "electrostatic induction laws". He found that each coil had its own optimum pulse duration and that the circuit driving it needed to be 'tuned' to the coil by adjusting the length of the pulses to give the best performance.

Tesla then noticed that the results given by his experiments paralleled the equations for dynamic gas movements, so he began wondering if the white flame discharges might not be a gaseous manifestation of electrostatic force. He found that when a metal point was connected to the upper terminal of the 'secondary' coil, the streamers were directed very much like water flowing through a pipe. When the stream was directed at distant metal plates, it produced electronic charges which could be measured as current at the receiving site but in transit, no current existed. The current only appeared when the stream was intercepted. Eric Dollard has stated that this intercepted current can reach several hundred or even thousands of amps.

Tesla made another remarkable discovery. He connected a very heavy U-shaped copper bar directly across the primary of his disrupter, forming a dead short-circuit. He then connected several ordinary incandescent filament bulbs between the legs of the U-shaped bar. When the equipment was powered up, the lamps lit with a brilliant cold white light. This is quite impossible with conventional electricity, and it shows clearly that what Tesla was dealing with was something new. This new energy is sometimes called "cold electricity" and Edwin Gray snr. demonstrated how different it is by lighting incandescent-filament bulbs directly from his power tube, submerging them in water and putting his hand in the water. Cold electricity is generally considered to be harmless to humans. Ed Gray's power tube operates by generating radiant electricity waves by using a spark gap, and collecting the energy using three encasing copper cylinders surrounding the spark gap. The cylinders are drilled with many holes as that enhances the pick-up and the load is driven directly from the current in the cylinders. When lighting bulbs, Ed used an air-cored transformer made of just a few turns of very heavy wire. I, personally, am aware of two people who have independently reproduced Ed's power tube.

Tesla viewed the streamers coming off his coils as being wasted energy so he tried to suppress them. He tried a conical coil but found that this accentuated the problem. He then tried placing a copper sphere at the top of his coil. This stopped the streamers but electrons were dislodged from the copper sphere, creating really dangerous conditions. This implied that metals generate electron flows when struck by the coil streamers (as had been seen when the streamers had been aimed at remote metal plates and current was generated as a result).

Tesla designed, built and used large globe lamps which required only a single external plate for receiving the radiant energy. No matter how far away these lamps were from the radiant source, they became brilliantly lit, almost to the level of an arc lamp and far, far brighter than any of the conventional Edison filament lamps. By adjusting the voltage and the pulse duration of his apparatus, Tesla could also heat or cool a room.

Tesla's experiments suggest that a method of extracting free-energy is to use a Tesla coil which has a metal spike instead of the more common metal sphere at the end of the 'secondary' coil. If the Tesla coil is fed with sufficiently short uni-directional pulses and the 'secondary' coil pointed at a metal plate, then it should be possible to draw off serious levels of power from the metal plate, just as Tesla discovered.
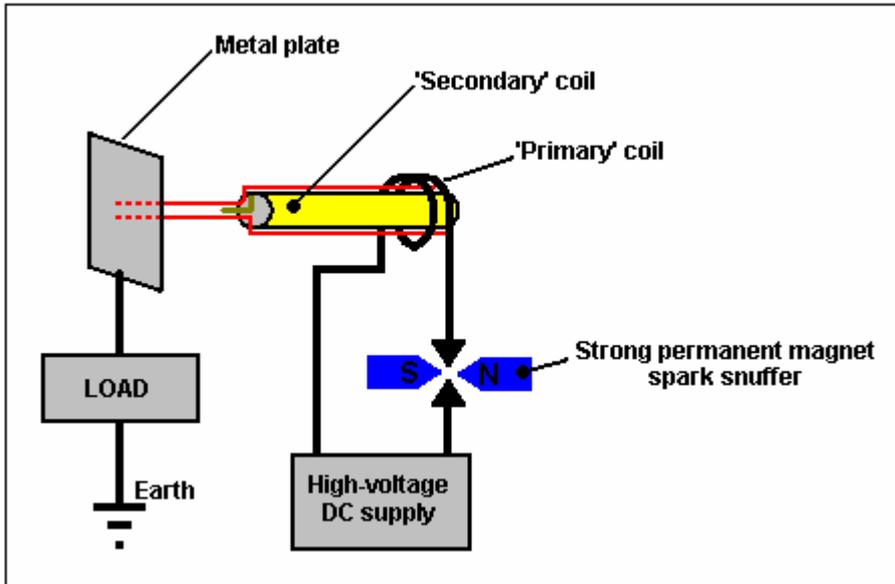
The energy drawn from the surrounding field is not electricity and it does not flow through the wire of the 'secondary' coil, but instead, it runs along the outside of the coil and through space to strike the surface of the metal plate, where it generates conventional electric current which can be of serious amperage. Thomas Henry Moray demonstrated that this energy flowing along the outside of the wire can pass through glass without being affected in any way.

While Tesla's experiment used a metal plate, he patented (US 512,340) a coil type which he said is very effective in picking up this radiant energy. This coil type goes by the rather impressive name of "bi-filar serial-connected coil":

Alternative flat 'pancake' coil winding
method patented by Nikola Tesla
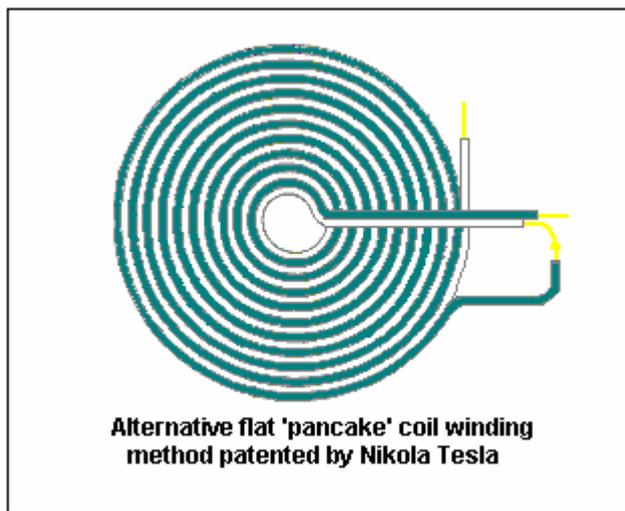
If a strong magnetic field is positioned across the spark gap as shown above, it sharpens the cut-off of the spark and enhances the uni-directional character of the pulse of current. It should be remembered that if a very short sharp pulse of uni-directional current such as is produced by a spark jumping across a spark gap as in the arrangement shown above, occurs in a conductor, then a strong wave of radiant energy radiates out in a plane at right angles to the pulse of current, as shown here:
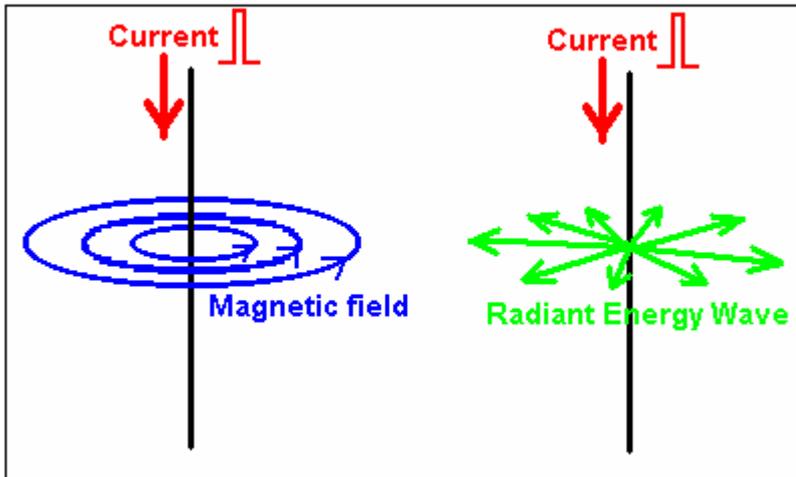
This radiant energy wave is quite different from the electromagnetic field generated around the wire carrying the pulse of current. In the Tesla coil arrangement shown above, it should be possible to gather additional free energy through one or more co-axial (like layers of an onion) cylindrical coils around the spark gap leads. These coils will be better if they are would as bi-filar serially-connected coils, which just means that the wire used to wind them is doubled over from its mid point before the coil is wound. The reason for this arrangement is that the magnetic field component of the coils is (nearly) zero as the current flowing through the wire is flowing in opposite directions in alternate turns, and so the magnetic fields produced should cancel out:
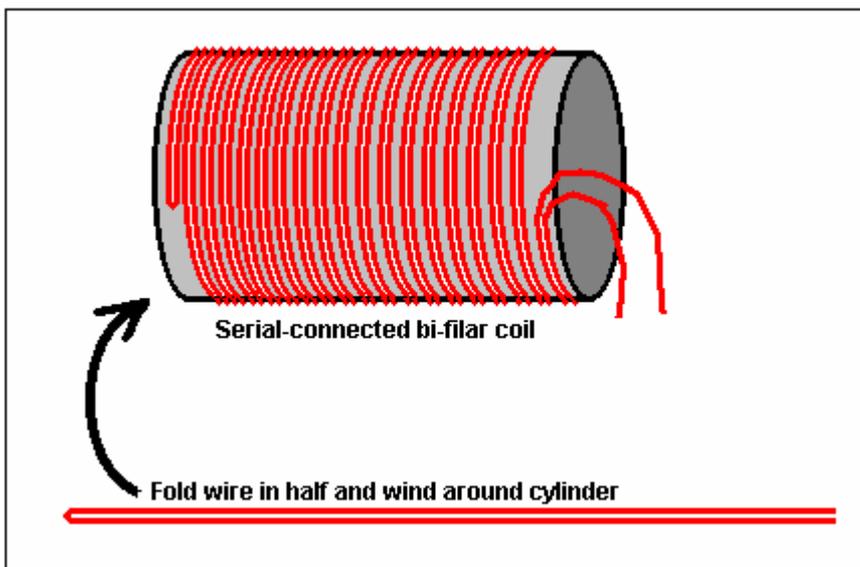
Tesla was granted US Patent 685, 957 "Apparatus for the Utilisation of Radiant Energy" in which he shows various ways of handling the energy collected by the metal plate. It is likely that the pick-up techniques shown in the patent of Hermann Plauston, which forms part of this set of documents, would also work very effectively with this collected energy. Old patents sometimes mention a "condenser" which is the original term for what is nowadays called a "capacitor".

After careful consideration and many experiments, Tesla concluded that the radiant rays which he was utilising, radiated out so rapidly that electrons were unable to keep up with them. The rays were being carried via a medium consisting of extremely mobile, almost mass-less particles, very much smaller than electrons and which, because of their size and speed, could pass easily through most materials. In spite of their small size, their extreme speed caused them to have considerable momentum. A fact which is **very** difficult to come to terms with is that these rays seem to propagate outwards instantly, with no time delay at all, as if transmitted through matter which is wholly incompressible. It is sometimes called "Radiant Energy" or "RE" for short and appears to have no charge in conventional terms. This is a unique feature of the

universe, with unique characteristics, which if utilised, provides a whole host of new applications and capabilities.

Tesla considered that this newly discovered field acted like a fluid. A hundred and fifteen years later, the cover story of the December 2005 edition of the 'Scientific American' journal states that experimental models hint that space-time could be a kind of fluid. It has taken a long time for modern science to start catching up with Tesla. In actual fact, it was Michael Faraday (1781 - 1867) who came up with the idea in the first place.

Paulo & Alexandra Correa have discovered a way of converting Tesla's longitudinal waves into ordinary electrical power. They have made US Patent Application 2006/0,082,334 entitled "Energy Conversion Systems" in which they show various ways of achieving this energy-type conversion.

Their techniques range from applying the longitudinal wave energy coming from a Tesla Coil directly to two capacitors via diode rectification and the voltages generated are related directly to actual ground earth potential:
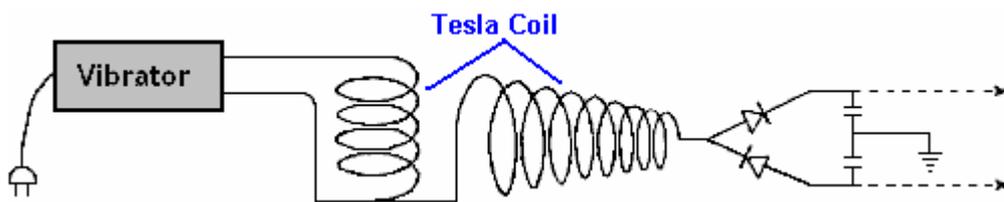
The patent application forms part of this set of documents so the full details can be examined. A theory of operation is presented based on their many experiments and observations, and the practical form of one of their conversion devices is:
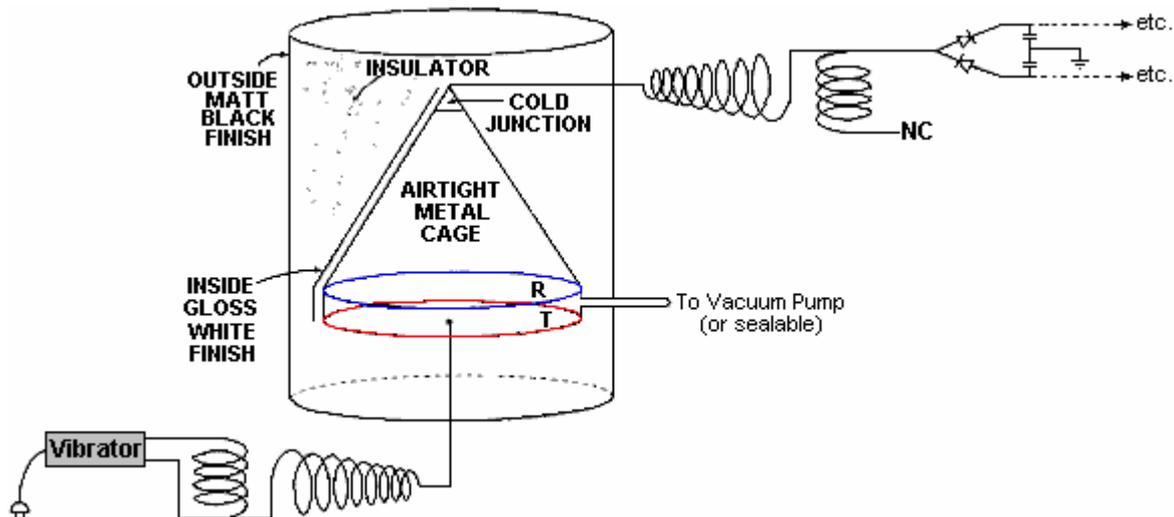
Where the active pick-up plates **R** and **T** are encased in a cylinder and are provided with a cone shape to assist the procedure. The patent application contains a good deal of information and is worth reading.

Another key person in the advancement of current theory and analysis is **Professor Konstantin Meyl** who has described how field vortices form scalar waves. He has described how electromagnetic waves (transverse waves) and scalar waves (longitudinal waves) both should be represented in wave equations.

For comparison, transverse EM waves are best used for broadcast transmissions like television, while longitudinal scalar waves are better for one-to-one communication systems like cell phones.


Konstantin Meyl

He also presented the theory that neutrinos are scalar waves moving faster than the speed of light. When moving at the speed of light, they are photons. When a neutrino is slowed to below the speed of light, it becomes an electron. Neutrinos can oscillate between e- and e+. Fusion involves e-, and a lightning flash involves e+. Energy in a vortex acts as a frequency converter. The measurable mixture of frequencies is called noise.

Dr. Meyl has pointed out that Tesla measured the resonance of the Earth at 12 Hz. The Schumann resonance of the Earth is 7.8 Hz. Meyl shows how one can calculate the scalar wave of the Earth to be 1.54 times the speed of light. He has developed a model which ties the expansion of the earth to be the result of the earth's absorption of neutrino energy. The ramifications of this model are that neutrino energy can be tapped. He took this to the next step and postulated that Zero Point Energy is neutrino power – energy from the field; available at anytime, and everywhere present. To show the place of neutrinos in conventional science, Meyl noted that the 2002 Nobel Physics prize was in regards to work on neutrinos. Dr. Meyl's web site is at www.k-meyl.de and if you access it via Google, a rough translation into English is available.

Tesla performed an experiment in which he applied high-voltage high-frequency alternating current to a pair of parallel metal plates. He found that the 'space' between the plates became what he described as "solid-state" exhibiting the attributes of mass, inertia and momentum. That is, the area transformed into a state against which a mechanical push could be exerted. This implied that, using this technique, it should be possible to produce a spaceship drive anywhere in space, if the mechanism for thrusting against the 'solid-state' space could be determined. Further experiments convinced Tesla that powerful electromagnetic waves could be used to push against (and pull against) what appears to be 'empty space'. The drive principle is based on the Hall-effect used in semiconductor magnetic sensors, and is called the magnetohydrodynamic ("MHD") effect. This might be illustrated like this:

Magnetohydrodynamic
Drive Unit
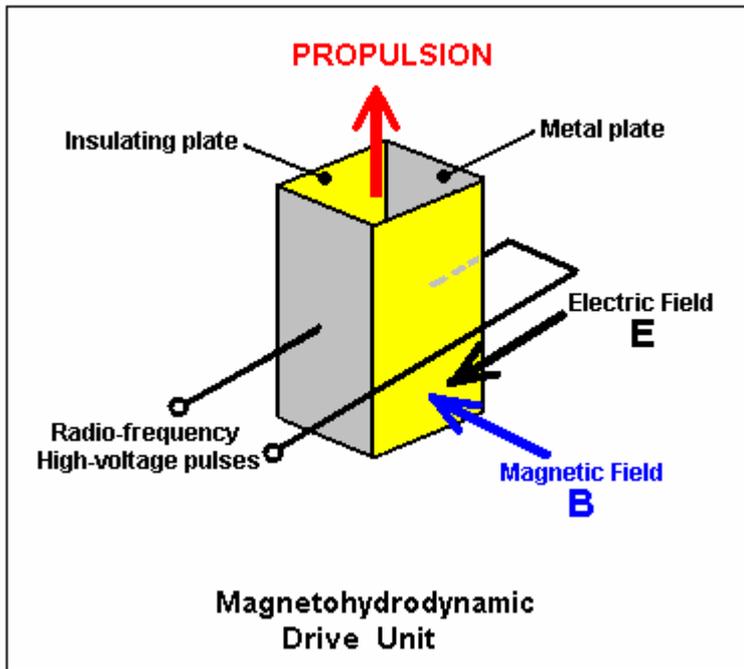
Here, a box is constructed with two metal plates forming opposite sides and two insulating plates holding them in position and surrounding an area of 'space'. High-frequency, high-voltage alternating current is applied to the metal plates and this creates an electric field "**E**" acting between the plates as shown in black. A magnetic field "**B**" is generated by the electrical field. The magnetic field acts at right-angles to the electric field, as shown in blue. These two fields produce a propulsion thrust "**F**" shown in red in the diagram. This propulsion force is not produced by ejecting any matter out of the box, instead, it is produced by a reaction against the 'solid-state' condition of space-time caused by the high-frequency electromagnetic pulsing of that area of space. This is enormously more effective than a jet engine. The thrust increases with the fourth power of the frequency, so if you double the frequency, the effect is sixteen times greater.

To put this into perspective, consider the force being applied against gravity to lift an object into the air. The force pulling the object downwards is gravity and its strength is given by:

Gravitational force:

$$\mathbf{F} = \mathbf{g} \times \mathbf{M} \times \mathbf{m} / \mathbf{r}^2$$

where
G is the gravitational constant (6.672×10^{-8} cm^3 g^{-1} s^{-2})
M is the mass of the first body
m is the mass of the second body and
r is distance between the two centres of mass

The lifting force is given by:

Lorentz Force: Force on an object = Electric force + Magnetic force

$$\mathbf{F} = \mathbf{q} \times \mathbf{E} + \mathbf{q} \times \mathbf{v} \times \mathbf{B}$$

where
q is the charge on the object,
B is the magnetic field,
v is the velocity of the object and
E is the electric field

How do these forces compare? Well, the electromagnetic force is stronger than the gravitational force by a factor of about 2,200,000,000,000,000,000,000,000,000,000,000,000,000 times. That number (2.2 x 10^{39}) is too big for anybody to really visualise, so let me put it another way.

If the amount of energy used to mechanically lift an object a distance of one hundredth of an inch (one quarter of a millimetre) off the ground, were used as an electromagnetic lifting force, then that amount of energy would lift the object more than 3,472,222,000,000,000,000,000,000 miles off the ground, or in metric units, more than 5,588,001,700,000,000,000,000,000 kilometres off the ground. This kind of drive is an entirely different kind of animal. This Hall-effect type of drive if used in a spaceship would require only a very small amount of input power to drive the ship at great speeds and over great distances.

As the device shown above operates directly on the space-time field which penetrates all matter, there would appear to be no reason why it should not be used to drive a conventional vehicle by positioning it in a horizontal position rather than the vertical position shown in the diagram. Throttle operation could be by very slight adjustment to the frequency of the AC pulses applied to the metal plates.   However, Bill Lyne indicates that horizontal movement is better achieved by producing Tesla's very short, high-voltage high-frequency DC pulses at the front of the vehicle while at the same time generating very high-voltage high-frequency AC waves at the back of the vehicle. This style of drive is said to pull the vehicle along rather than push it along.

Tesla's **Dynamic Theory of Gravity** (1897) states that all bodies emit microwaves whose voltage and frequency are determined by their electrical contents and relative motion. He measured the microwave radiation of the earth as being only a few centimetres in wavelength. He said that the frequency and voltage were influenced by the velocity and mass of the earth, and that its gravitational interaction with other bodies, such as the sun, was determined by the interaction of the microwaves between the two bodies.

If you find the concept of producing a driving force through pushing against the space-time continuum to be difficult to accept, then perhaps you should consider the US Patent granted to Boris Volfson on 1st November 2005. The important thing about this patent (which is crammed full of long words) is not whether or not it presents a realistic mechanism for a practical space drive, but the fact that the US Patent Office in the year 2005, granted the patent after what presumably was careful consideration. With that in view, it is hardly possible to consider Tesla to have been totally confused when he designed (and built) his "electric flying machine" which operated by pushing against the space-time field.

Tesla used high voltage at gigahertz frequencies for his electropulsion system.   The propulsion of a vehicle powered by a Tesla drive is by the use of an additional AC generator at the back (which stiffens the space-time continuum behind the vehicle) and a DC 'brush' generator at the front (which weakens the space-time continuum in front, causing the vehicle to be pulled forwards).

Tesla was very astute. He deduced that 'empty space' actually contained:

1. Independent carriers which permeate all space and all matter and from which all matter is made. These carry momentum, magnetism, electricity or electromagnetic force, and can be manipulated artificially or by nature.
2. 'Primary Solar Rays' (starlight) which travel at the speed of light, having frequencies far above X-rays, gamma and UV radiation.
3. 'Cosmic Rays', particles in space propelled by the Primary Solar Rays.
4. X-rays, Gamma rays and UV electromagnetic waves, all of which travel at the speed of light.
5. Ordinary visible and Infra-Red electromagnetic waves which travel at the speed of light.
6. Rapidly varying electrostatic force of enormous potential, emanating from the earth and other gravitational bodies in space.

When we grasp the actual nature of the universe, it becomes clear that we have a much larger range of opportunities for producing usable energy in large quantities and at minimal cost.

Here is the basic information from the Volfson patent, I would not rate it as an easy-read for most people:

United States Patent   6960975   Nov.1, 2005

Inventor: Boris Volfson

SPACE VEHICLE PROPELLED BY THE PRESSURE
OF INFLATIONARY VACUUM STATE

ABSTRACT

A space vehicle propelled by the pressure of inflationary vacuum state is provided comprising a hollow superconductive shield, an inner shield, a power source, a support structure, upper and lower means for generating an electromagnetic field, and a flux modulation controller. A cooled hollow superconductive shield is energised by an electromagnetic field resulting in the quantised vortices of lattice ions projecting a gravitomagnetic field that forms a space-time curvature anomaly outside the space vehicle. The space-time curvature imbalance, the space-time curvature being the same as gravity, provides for the space vehicle's propulsion. The space vehicle, surrounded by the space-time anomaly, may move at a speed approaching the light-speed characteristic for the modified locale.

US Patent References:
3626605	Dec., 1971	Wallace.
3626606	Dec., 1971	Wallace.
3823570	Jul., 1974	Wallace.
5197279	Mar., 1993	Taylor.
6353311	Mar., 2002	Brainard et al.

Other References:
M.T. French, "To the Stars by Electromagnetic Propulsion",
http://www.mtjf.demon.co.uk/antigravp2.htm#cforce.

Evgeny Podkletnov, "Weak Gravitational Shielding Properties of Composite Bulk $YBa_2Cu_3O_{(7-x)}$ Superconductor Below 70K Under E.M. Field", LANL database number cond-mat/9701074, v. 3, 10 pages, Sep. 16, 1997.

N. LI & D.G. Torr, "Effects of a Gravitomagnetic Field on Pure Superconductors", Physical Review, vol. 43, p. 457, 3 pages, Jan. 15, 1991.

Evgeny Podkletnov, Giovanni Modanese "Impulse Gravity Generator Based on Charged $YBa_2Cu_3O_{7-y}$ Superconductor with Composite Crystal Structure", arXiv.org/physics database, #0108005 vol. 2, 32 pages, 8 figures, Aug. 30, 2001.

S. Kopeikin & E. Fomalont, "General Relativistic Model for Experimental Measurement of the Speed of Propagation of Gravity by VLBI", Proceedings of the 6th European VLBI Network Symposium Jun. 25-28, 2002, Bonn, Germany, 4 pages.

Sean M. Carroll, "The Cosmological Constant", http://pancake.uchicago.edu/˜ carroll/encyc/, 6 pages.

Chris Y. Taylor and Giovanni Modanese, "Evaluation of an Impulse Gravity Generator Based Beamed Propulsion Concept", American Institute of Aeronautics and Astronautics, Inc., 2002.

Peter L. Skeggs, "Engineering Analysis of the Podkletnov Gravity Shielding Experiment", Quantum Forum, Nov. 7, 1997, http://www.inetarena'.com/˜ noetic/pls/podlev.html).

BACKGROUND OF THE INVENTION

The existence of a magnetic-like gravitational field has been well established by physicists for general relativity, gravitational theories, and cosmology. The consequences of the effect of electromagnetically-affected gravity could be substantial and have many practical applications, particularly in aviation and space exploration.

There are methods known for converting electromagnetism into a propulsive force that potentially generates a large propulsive thrust. According to these methods, the machine thrust is produced by rotating, reciprocating masses in the following ways: centrifugal thrust, momentum thrust, and impulse thrust. ("To the Stars by Electromagnetic Propulsion", M. T. French, http://www.mtjf.demon.co.uk/antigravp2.htm#cforce).

However, the electromagnetic propulsion in an ambient space, or space that is not artificially modified, is not practical for interstellar travel because of the great distances involved. No interstellar travel is feasible without some form of distortion of space. In turn, no alteration of space is possible without the corresponding deformation of time. Gravitomagnetic alteration of space, resulting in the space-time curvature anomaly that could propel the space vehicle, could be a feasible approach to future space travel.

In the late 1940s, H. B. G. Casimir proved that the vacuum is neither particle nor field-free. It is a source of zero-point-fluctuation (ZPF) of fields such as the vacuum gravitomagnetic field. ZPF fields lead to real, measurable physical consequences such as the Casimir force. The quantised hand-made electromagnetic processes, such as those occurring in superconductors, affect the similarly quantised ZPFs. The most likely reason is the electron-positron creation and annihilation, in part corresponding to the "polarisation effect" sited by Evgeny Podkletnov in explaining the gravitomagnetic effect reportedly observed by him in 1992. ("Weak Gravitational Shielding Properties of Composite Bulk $YBa_2Cu_3O_{(7-x)}$ Superconductor Below 70 K Under E.M. Field", Evgeny Podkletnov, LANL database number cond-mat/9701074, v. 3, 10 pages, 16 Sep. 1997).

The investigation of gravitomagnetism, however, started well before Podkletnov. In the U.S. Pat. No. 3,626,605, Henry Wm. Wallace describes an experimental apparatus for generating and detecting a secondary gravitational field. He also shows how a time-varying gravitomagnetic field can be used to shield the primary background of a gravitoelectric field.

In the U.S. Pat. No. 3,626,606, Henry Wm. Wallace provides a variation of his earlier experiment. A type III-V semiconductor material, of which both components have unpaired nuclear spin, is used as an electronic detector for the gravitomagnetic field. The experiment demonstrates that the material in his gravitomagnetic field circuit has hysterisis and remanence effects analogous to magnetic materials.

In the U.S. Pat. No. 3,823,570, Henry Wm. Wallace provides an additional variation of his experiment. Wallace demonstrates that, by aligning the nuclear spin of materials having an odd number of nucleons, a change in specific heat occurs.

In the U.S. Pat. No. 5,197,279, James R. Taylor discloses Electromagnetic Propulsion Engine where solenoid windings generate an electromagnetic field that, without the conversion into a gravitomagnetic field, generates the thrust necessary for the propulsion.

In the U.S. Pat. No. 6,353,311 B1, John P. Brainard et al. offer a controversial theory of Universal Particle Flux Field, and in order to prove it empirically, provide a shaded motor-type device. This device is also intended for extracting energy from this hypothetical Field.

In the early 1980s, Sidney Coleman and F. de Luca noted that the Einsteinean postulate of a homogeneous Universe, while correct in general, ignores quantised local fluctuation of the pressure of inflationary vacuum state, this fluctuation causing local cosmic calamities. While the mass-less particles propagate through large portions of Universe at light speed, these anomaly bubbles, depending on their low or high relative vacuum density, cause a local increase or decrease of the propagation values for these particles. Scientists disagree about the possibility, and possible ways, to artificially create models of such anomalies.

In the early 1990s, Ning Li and D. G Torr described a method and means for converting an electromagnetic field into a gravitomagnetic field. Li and Torr suggested that, under the proper conditions, the minuscule force fields of superconducting atoms can "couple", compounding in strength to the point where they can produce a repulsion force ("Effects of a Gravitomagnetic Field on Pure Superconductors", N. Li and D. G. Torr, Physical Review, Volume 43, Page 457, 3 pages, 15 Jan. 1991).

A series of experiments, performed in the early 1990s by Podkletnov and R. Nieminen, reportedly resulted in a reduction of the weights of objects placed above a levitating, rotating superconductive disk subjected to high frequency magnetic fields. These results substantially support the expansion of Einstainean physics offered by Li & Torr. Podkletnov and Giovanni Modanese have provided a number of interesting theories as to why the weight reduction effect could have occurred, citing quantum gravitational effects, specifically, a

local change in the cosmological constant. The cosmological constant, under ordinary circumstances, is the same everywhere. But, according to Podkletnov and Modanese, above a levitating, rotating superconductive disk exposed to high frequency magnetic fields, it is modified. ("Impulse Gravity Generator Based on Charged $YBa_2Cu_3O_{7-y}$ Superconductor with Composite Crystal Structure", Evgeny Podkletnov, Giovanni Modanese, arXiv.org/physics database, #0108005 volume 2, 32 pages, 8 figures, Aug. 30, 2001).

In the July 2004 paper, Ning Wu hypothesised that exponential decay of the gravitation gauge field, characteristic for the unstable vacuum such as that created by Podkletnov and Nieminen, is at the root of the gravitational shielding effects (Gravitational Shielding Effects in Gauge Theory of Gravity, Ning Wu, arXiv:hep-th/0307225 v 1 23 Jul. 2003, 38 pages incl. 3 figures, July 2004).

In 2002, Edward Fomalont and Sergei Kopeikin measured the speed of propagation of gravity. They confirmed that the speed of propagation of gravity matches the speed of light. ("General Relativistic Model for Experimental Measurement of the Speed of Propagation of Gravity by VLBI", S. Kopeikin and E. Fomalont, Proceedings of the 6th European VLBI Network Symposium Jun. 25-28 2002, Bonn, Germany, 4 pages).

String theory unifies gravity with all other known forces. According to String theory, all interactions are carried by fundamental particles, and all particles are just tiny loops of space itself forming the space-time curvature. Gravity and bent space are the same thing, propagating with the speed of light characteristic of the particular curvature. In light of the Fomalont and Kopeikin discovery, one can conclude that if there is a change in the speed of propagation of gravity within the space-time curvature, then the speed of light within the locality would also be affected.

In general relativity, any form of energy affects the gravitational field, so the vacuum energy density becomes a potentially crucial ingredient. Traditionally, the vacuum is assumed to be the same everywhere in the Universe, so the vacuum energy density is a universal number. The cosmological constant Lambda is proportional to the vacuum pressure:

$$\rho_\Lambda: \Lambda = (8\pi G/3c^2)\rho_\Lambda$$

Where:
G is Newton's constant of gravitation and
c is the speed of light
("The Cosmological Constant", Sean M. Carroll, http://pancake.uchicago.edu/˜carroll/encyc/, 6 pages). Newer theories, however, permit local vacuum fluctuations where even the "universal" constants are affected:

$$\Lambda_1 = (8\pi G_1/3c_1^2)\rho_{\Lambda_1}$$

Analysing physics laws defining the cosmological constant, a conclusion can be drawn that, if a levitating, rotating superconductive disk subjected to high frequency magnetic fields affects the cosmological constant within a locality, it would also affect the vacuum energy density. According to the general relativity theory, the gravitational attraction is explained as the result of the curvature of space-time being proportional to the cosmological constant. Thus, the change in the gravitational attraction of the vacuum's subatomic particles would cause a local anomaly in the curvature of the Einsteinean space-time.

Time is the fourth dimension. Lorentz and Einstein showed that space and time are intrinsically related. Later in his life, Einstein hypothesised that time fluctuates both locally and universally. Ruggero Santilli, recognised for expanding relativity theory, has developed the isocosmology theory, which allows for variable rates of time. Time is also a force field only detected at speeds above light speed. The energy of this force field grows as its propagation speed declines when approaching light-speed. Not just any light-speed: the light-speed of a locale. If the conditions of the locale were modified, this change would affect the local time rate relative to the rate outside the affected locale, or ambient rate. The electromagnetically-generated gravitomagnetic field could be one such locale modifier.

Analysing the expansion of Einstainean physics offered by Li & Torr, one could conclude that gravity, time, and light speed could be altered by the application of electromagnetic force to a superconductor.

By creating a space-time curvature anomaly associated with lowered pressure of inflationary vacuum state around a space vehicle, with the lowest vacuum pressure density located directly in front of the vehicle, a condition could be created where gravity associated with lowered vacuum pressure density pulls the vehicle forward in modified space-time.

By creating a space-time curvature anomaly associated with elevated pressure of inflationary vacuum state around the space vehicle, with the point of highest vacuum pressure density located directly behind the vehicle, a condition could be created where a repulsion force associated with elevated vacuum pressure density pushes the space vehicle forward in modified space-time. From the above-mentioned cosmological constant equation, re-written as:

$$\rho_\Lambda = \frac{3c^2}{8\pi G}\Lambda$$

it is clear that the increase in the vacuum pressure density could lead to a substantial increase in the light-speed. If the space vehicle is moving in the anomaly where the local light-speed is higher than the light-speed of the ambient vacuum, and if this vehicle approaches this local light-speed, the space vehicle would then possibly exceed the light-speed characteristic for the ambient area.

The levitating and rotating superconductor disk, which Podkletnov used to protect the object of experiment from the attraction produced by the energy of the vacuum, was externally energised by the externally-powered solenoid coils. Thus, Podkletnov's system is stationary by definition and not suitable for travel in air or space. Even if the superconductive disk is made part of the craft, and if it is energised by the energy available on the craft, the resulting anomaly is one-sided, not enveloping, and not providing the variable speed of light (VSL) environment for the craft.

In a recent (2002) article, Chris Y. Tailor and Modanese propose to employ an impulse gravity generator directing, from an outside location, an anomalous beam toward a spacecraft, this beam acting as a repulsion force field producing propulsion for the spacecraft. ("Evaluation of an Impulse Gravity Generator Based Beamed Propulsion Concept", Chris Y. Taylor and Giovanni Modanese, American Institute of Aeronautics and Astronautics, Inc., 2002, 21 pages, 10 figures). The authors of the article, however, didn't take into account the powerful quantised processes of field dispersion, which would greatly limit the distance of propagation of the repulsive force. At best, the implementation of this concept could assist in acceleration and deceleration at short distances from the impulse gravity generator, and only along a straight line of travel. If the travel goal is a space exploration mission rather than the shuttle-like commute, the proposed system is of little use.

Only a self-sufficient craft, equipped with the internal gravity generator and the internal energy source powering this generator, would have the flexibility needed to explore new frontiers of space. The modification of the space-time curvature all around the spacecraft would allow the spacecraft to approach the light-speed characteristic for the modified locale, this light-speed, when observed from a location in the ambient space, being potentially many times higher than the ambient light-speed. Then, under sufficient local energies, that is, energies available on the spacecraft, very large intergalactic distances could be reduced to conventional planetary distances.

In "The First Men in the Moon" (1903), H. G. Wells anticipates gravitational propulsion methods when he describes gravity repelling "cavorite." Discovered by Professor Cavor, the material acts as a "gravity shield" allowing Cavor's vehicle to reach the Moon. Prof. Cavor built a large spherical gondola surrounded on all sides by cavorite shutters that could be closed or opened. When Prof. Cavor closed all the shutters facing the ground and opened the shutters facing the moon, the gondola took off for the Moon.

Until today, no cavorite has been discovered. However, recent research in the area of superconductivity, nano materials and quantum state of vacuum, including that of Li, Torr, Podkletnov, and Modanese, has resulted in important new information about the interaction between a gravitational field and special states of matter at a quantum level. This new research opens the possibility of using new electromagnetically-energised superconductive materials allowing stable states of energy, the materials useful not only in controlling the local gravitational fields, but also in creating new gravitomagnetic fields.

BACKGROUND OF INVENTION: OBJECTS AND ADVANTAGES

There are four objects of this invention:

The first object is to provide a method for generating a pressure anomaly of inflationary vacuum state that leads to electromagnetic propulsion.

The second object is to provide a space vehicle capable of electromagnetically-generated propulsion. The implementation of these two objects leads to the development of the space vehicle propelled by gravitational imbalance with gravity pulling, and/or antigravity pushing, the space vehicle forward.

The third object is to provide a method for generating a pressure anomaly of inflationary vacuum state, specifically, the local increase in the level of vacuum pressure density associated with the greater curvature of space-time. The speed of light in such an anomaly would be higher than the speed of light in the ambient space.

The fourth object is to provide the space vehicle capable of generating an unequally-distributed external anomaly all around this vehicle, specifically the anomaly with the elevated level of vacuum pressure density. The anomaly is formed in such a way that gravity pulls the space vehicle forward in the modified space-time at a speed possibly approaching the light-speed specific for this modified locale. If the vacuum pressure density of the locale is modified to be substantially higher than that of the ambient vacuum, the speed of the vehicle could conceivably be higher than the ambient light-speed.

SUMMARY OF THE INVENTION

This invention concerns devices self-propelled by the artificially changed properties of the pressure of inflationary vacuum state to speeds possibly approaching the light-speed specific for this modified locale. Furthermore, this invention concerns devices capable of generating the space-time anomaly characterised by the elevated vacuum pressure density. The devices combining these capabilities may be able to move at speeds substantially higher than the light-speed in the ambient space.

The device of this invention is a space vehicle. The outside shell of the space vehicle is formed by a hollow disk, sphere, or the like hollowed 3-dimensional shape made of a superconductor material, hereinafter a hollow superconductive shield. An inner shield is disposed inside the hollow superconductive shield. The inner shield is provided to protect crew and life-support equipment inside.

A support structure, upper means for generating an electromagnetic field and lower means for generating an electromagnetic field are disposed between the hollow superconductive shield and the inner shield. A flux modulation controller is disposed inside the inner shield to be accessible to the crew.

Electrical energy is generated in a power source disposed inside the hollow superconductive shield. The electrical energy is converted into an electromagnetic field in the upper means for generating an electromagnetic field and the lower means for generating an electromagnetic field.

Electrical motors, also disposed inside the hollow superconductive shield, convert the electrical energy into mechanical energy.

The mechanical energy and the electromagnetic field rotate the hollow superconductive shield, and the upper and the lower means for generating an electromagnetic field, against each other.

The electromagnetic field is converted into a gravitomagnetic field in the hollow superconductive shield.

The gravitomagnetic field, propagated outward, orthogonally to the walls of the hollow superconductive shield, forms a pressure anomaly of inflationary vacuum state in the area of propagation. The pressure anomaly of inflationary vacuum state is comprised of an area of relatively lower vacuum pressure density in front of the space vehicle and an area of relatively higher vacuum pressure density behind the vehicle.

The difference in the vacuum pressure density propels the space vehicle of this invention forward.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 is a cross-sectional view through the front plane taken along the central axis of a space vehicle provided by the method and device of this invention.
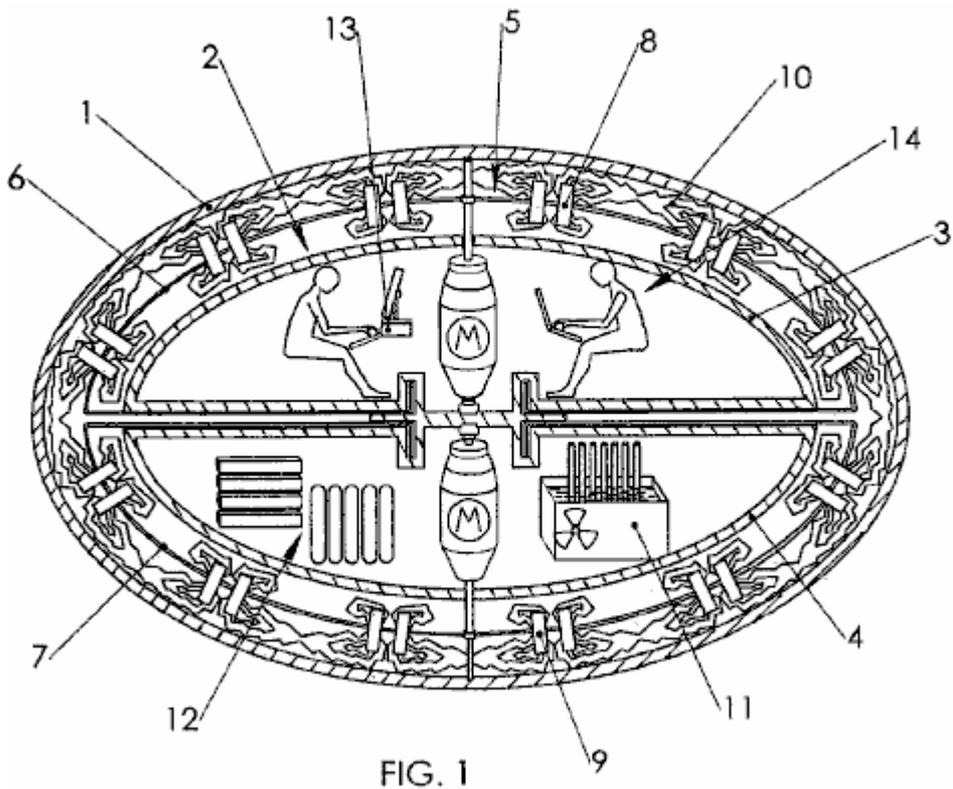
FIG. 1

Fig.2A and **Fig.2B** are diagrams, presented as perspective views, showing some of the physical processes resulting from a dynamic application of an electromagnetic field to a hollow superconductive shield. Only one line of quantised vortices, shown out of scale, is presented for illustration purposes.
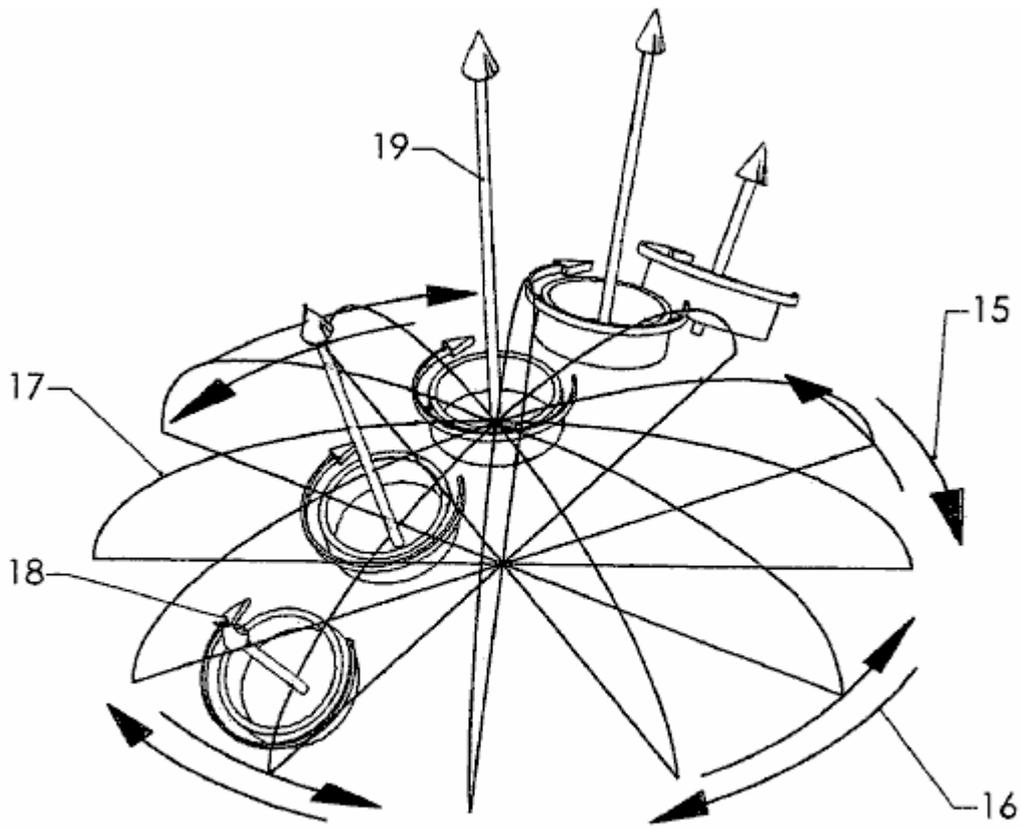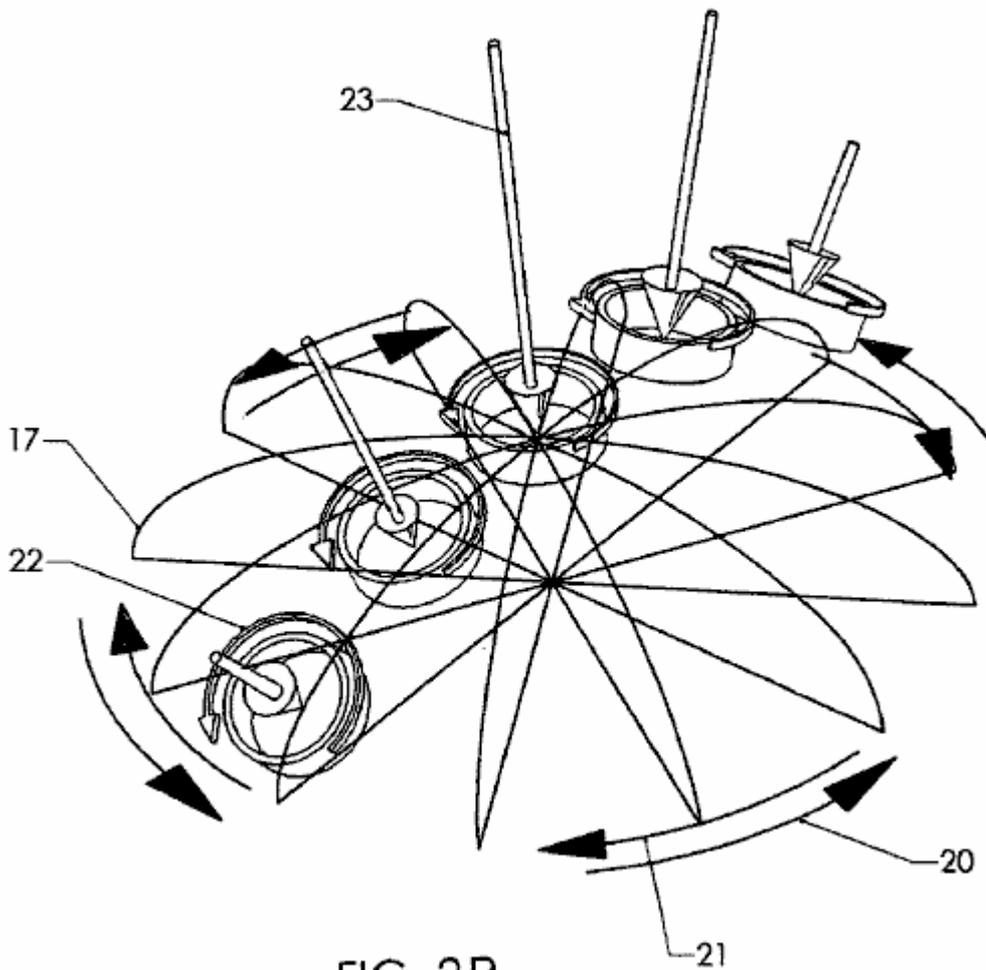
FIG. 2A

FIG. 2B

Fig.3A and Fig.3B are diagrams, presented as perspective views, showing a vacuum pressure density anomaly associated with lowered pressure of inflationary vacuum state and a vacuum pressure density anomaly associated with elevated pressure of inflationary vacuum state, respectively. Both anomalies are shown on the background of Universal curvature of inflationary vacuum state.
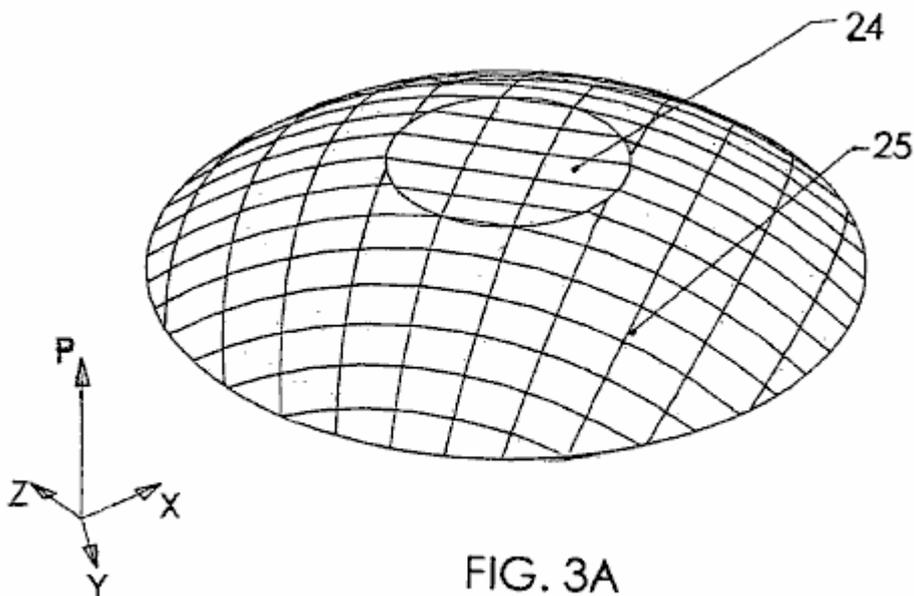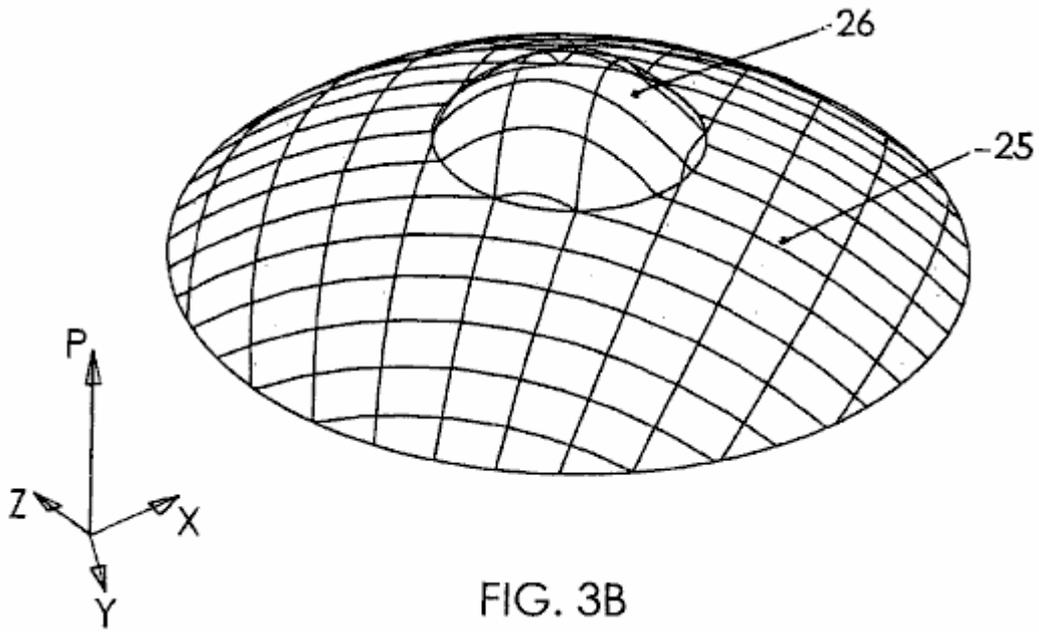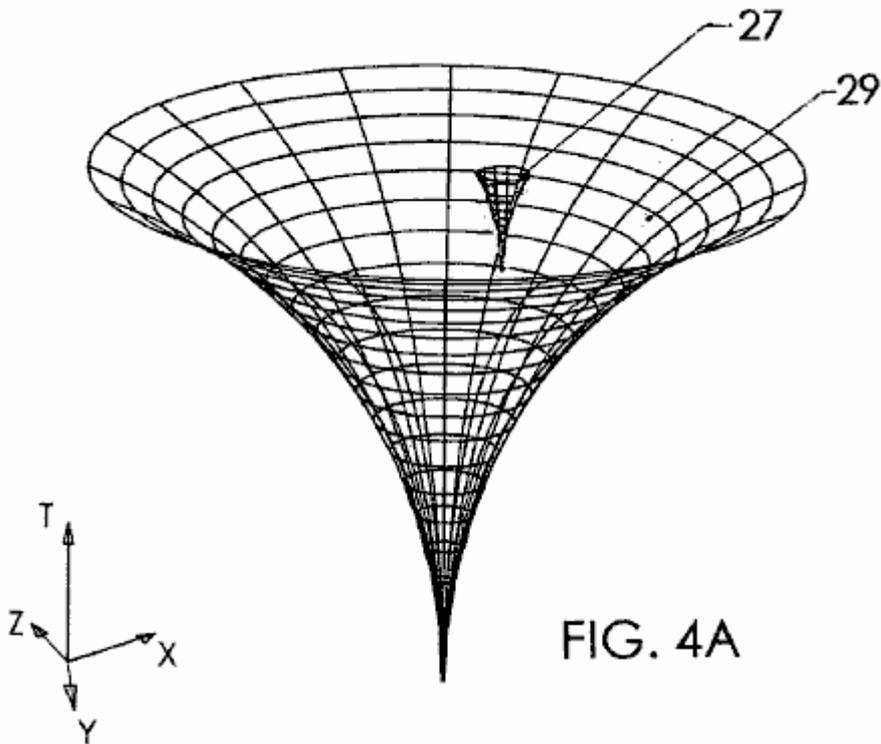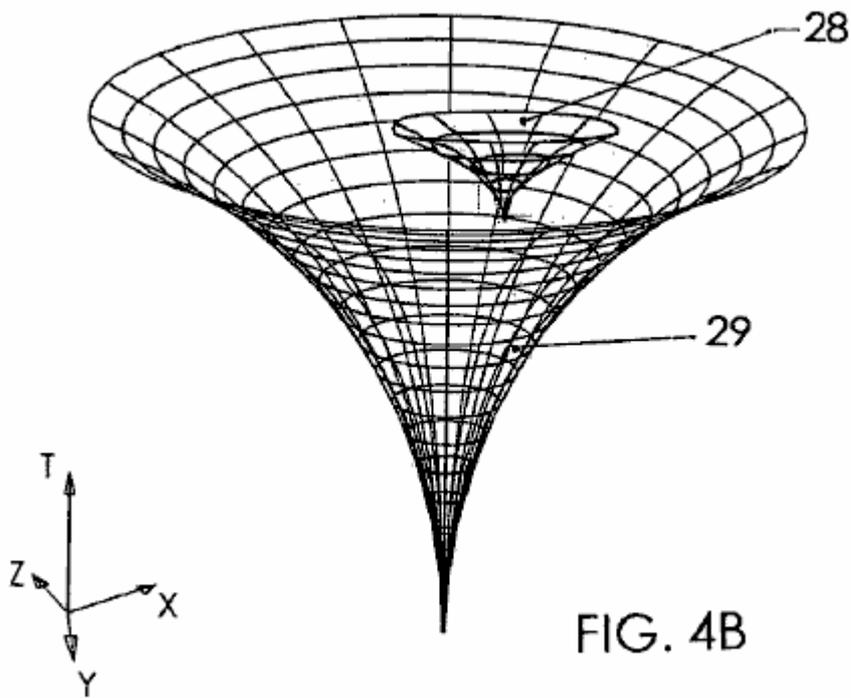

FIG. 3A

FIG. 3B

Fig.4A and Fig.4B are diagrams, presented as perspective views, showing a space-time anomaly associated with lowered pressure of inflationary vacuum state and a space-time anomaly associated with elevated pressure of inflationary vacuum state, respectively. Both anomalies are shown on the background of Universal space-time.
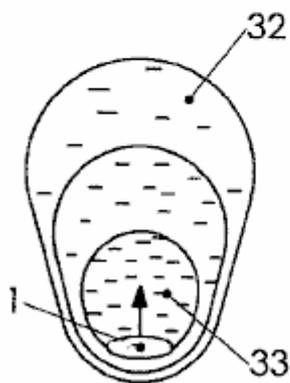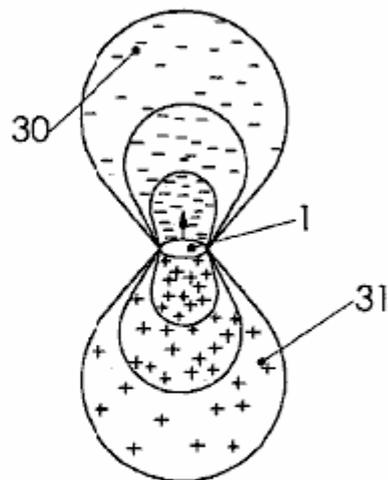

FIG. 4A

FIG. 4B

Figs.5A, 5B, 6, 7A, & 7B are diagrams of space-time curvature anomalies generated by the space vehicle of the current invention, these anomalies providing for the propulsion of the space vehicle.

FIG.5A

FIG.5B

FIG.6

FIG.7A

FIG.7B
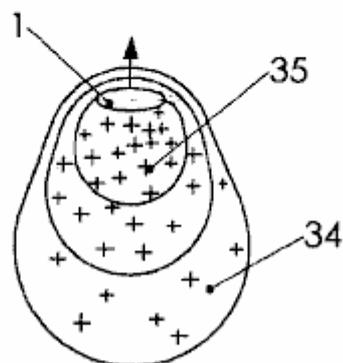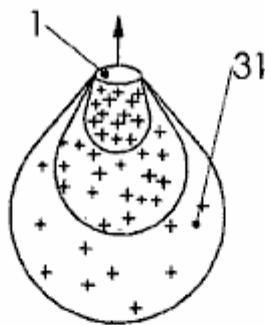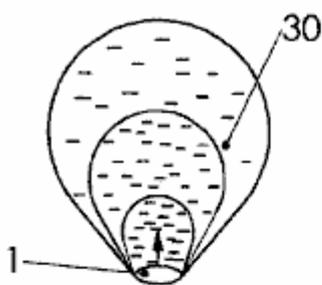
DRAWINGS—REFERENCE NUMERALS

#1 hollow superconductive shield
#2 inner shield
#3 upper shell
#4 lower shell
#5 support structure
#6 upper rotating element
#7 lower rotating element
#8 upper means for generating an electromagnetic field
#9 lower means for generating an electromagnetic field
#10 flux lines
#11 power source
#12 life-support equipment
#13 flux modulation controller
#14 crew
#15 clockwise shield motion vector
#16 counter-clockwise EMF motion vector
#17 wire grid
#18 clockwise quantised vortices of lattice ions
#19 outward gravitomagnetic field vector
#20 counter-clockwise shield motion vector
#21 clockwise EMF motion vector
#22 counter-clockwise quantised vortices of lattice ions
#23 inward gravitomagnetic field vector
#24 vacuum pressure density anomaly associated with lowered pressure of inflationary vacuum state
#25 Universal curvature of inflationary vacuum state
#26 vacuum pressure density anomaly associated with elevated pressure of inflationary vacuum state
#27 space-time anomaly associated with lowered pressure of inflationary vacuum state
#28 space-time anomaly associated with elevated pressure of inflationary vacuum state
#29 Universal space-time
#30 substantially droplet-shaped space-time curvature anomaly associated with lowered pressure of inflationary vacuum state
#31 substantially droplet-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state
#32 substantially egg-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state
#33 area of the lowest vacuum pressure density
#34 substantially egg-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state
#35 area of the highest vacuum pressure density

DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENT

Fig.1 is a cross-sectional view through the front plane taken along the central axis of a space vehicle provided by the method and device of this invention. A hollow superconductive shield 1 forms a protective outer shell of the space vehicle. The hollow superconductive shield 1 may be shaped as a hollow disk, sphere, or the like 3-dimensional geometrical figure formed by the 2-dimensional rotation of a curve around the central axis.

In the preferred embodiment, the hollow superconductive shield 1 is made of a superconductor such as $YBa_2Cu_3O_{7-y}$, or a like high-temperature superconductor with a composite crystal structure cooled to the temperature of about 40^0K. Those skilled in the art may envision the use of many other low and high temperature superconductors, all within the scope of this invention.

An inner shield **2** is disposed inside the hollow superconductive shield **1**. The inner shield **2** is comprised of an upper shell **3** and a lower shell **4**, the shells **3** and **4** adjoined with each other. Executed from insulation

materials such as foamed ceramics, the inner shield **2** protects the environment within the shield from the electromagnetic field and severe temperatures.

A support structure **5** is disposed between the hollow superconductive shield **1** and the inner shield **2**, concentric to the hollow superconductive shield. The support structure **5** is comprised of an upper rotating element **6** and a lower rotating element **7**.

The upper rotating element **6** is pivotably disposed inside the hollow superconductive shield **1** and may envelope the upper shell **3**. The lower rotating element **7** is pivotably disposed inside the hollow superconductive shield **1** and may envelope the lower shell **4**. Even though the preferred embodiment has two rotating elements, those skilled in the art may envision only one rotating element, or three or more rotation elements, all within the scope of this invention.

Upper means for generating an electromagnetic field **8** are disposed between the hollow superconductive shield **1** and the upper shell **3**. The upper means for generating an electromagnetic field **8** are fixed to the upper rotating element **6** at an electromagnetic field-penetrable distance to the hollow superconductive shield **1**.

Lower means for generating an electromagnetic field **9** are disposed between the hollow superconductive shield **1** and the lower shell **4**. The lower means for generating an electromagnetic field **9** are fixed to the lower rotating element **7** at an electromagnetic field-penetrable distance to the hollow superconductive shield **1**.

The upper means for generating an electromagnetic field **8** and the lower means for generating an electromagnetic field **9** could be solenoid coils or electromagnets. In the process of operation of the space vehicle, the electromagnetic field identified by flux lines **10**, is controllably and variably applied to the hollow superconductive shield **1**.

Electric motors are disposed inside the hollow superconductive shield along its central axis.

A power source **11** is disposed inside the hollow superconductive shield **1** and may be disposed inside the lower shell **4**. The power source **11** is electrically connected with the upper means for generating an electromagnetic field **8**, the lower means for generating an electromagnetic field **9**, and the electric motors. The upper means for generating an electromagnetic field **8**, the lower means for generating an electromagnetic field **9**, and the electric motors provide for the rotation of the upper rotating element **6** and the lower rotating element **7**. The power source **11** may be a nuclear power generator.

Life-support equipment **12** is disposed inside the inner shield **2**, and may be disposed inside the lower shell **4**. The life-support equipment **12** may include oxygen, water, and food.

A flux modulation controller **13** is disposed inside the inner shield **2**, and may be disposed inside the upper shell **3**. The flux modulation controller **13** is in communication with the upper means for generating an electromagnetic field **8**, the lower means for generating an electromagnetic field **9**, the power source **11**, and the electric motors.

The flux modulation controller **8** may be executed as a computer or a microprocessor. The flux modulation controller **8** is provided with a capability of modulating the performance parameters of the upper means for generating an electromagnetic field **8**, the lower means for generating an electromagnetic field **9**, the power source **11**, and the electric motors.

A crew **14** may be located inside the upper shell **3** of the inner shield **2** and may consist of one or more astronauts. The crew has a free access to the life-support equipment **12** and the flux modulation controller **8**. A person skilled in the art, may envision a fully-automated, pilotless craft, which is also within the scope of this invention.

A person skilled in the art, may also envision the embodiment (not shown), also within the scope of this invention, where the hollow superconductive shield is pivotable, and the support structure with the means for generating an electromagnetic field is affixed on the outside of the inner shield.

Fig.2A and **Fig.2B** are diagrams showing the results of the quantised electromagnetic turbulence within the superconductive shell of the hollow superconductive shield provided by the relative rotational motion of the hollow superconductive shield against the upper means for generating an electromagnetic field.

Fig.2A shows the clockwise relative rotational motion of the hollow superconductive shield, this motion identified by a clockwise shield motion vector **15**, and the counter-clockwise relative rotational motion of upper means for generating an electromagnetic field, this motion identified by a counter-clockwise EMF motion vector **16**.

The electromagnetic field, controllably and variably applied by the upper means for generating an electromagnetic field, whose various positions are identified by a wire grid **17**, to the hollow superconductive shield (not shown), causes quantised electromagnetic turbulence within the hollow superconductive shield. This turbulence is represented by a plurality of clockwise quantised vortices of lattice ions **18**. Only one line of the clockwise quantised vortices of lattice ions **18**, (not to scale), is shown for illustration purposes only. Each of the clockwise quantised vortices of lattice ions **18** generates a gravitomagnetic field identified by an outward gravitomagnetic field vector **19** directed orthogonally away from the hollow superconductive shield.

Fig.2B shows the counter-clockwise relative rotational motion of the hollow superconductive shield, this motion identified by a counter-clockwise shield motion vector **20**, and the clockwise relative rotational motion of upper means for generating an electromagnetic field, this motion identified by a clockwise EMF motion vector **21**.

The electromagnetic field, controllably and variably applied by the upper means for generating an electromagnetic field identified by the wire grid **17**, to the hollow superconductive shield (not shown), causes quantised electromagnetic turbulence within the hollow superconductive shield, this turbulence represented by a plurality of counter-clockwise quantised vortices of lattice ions **22**. Only one line of the counter-clockwise quantised vortices of lattice ions **22**, (not to scale), is shown for illustration purposes only. Each of the counter-clockwise quantised vortices of lattice ions **22** generates a gravitomagnetic field identified by an inward gravitomagnetic field vector **23** directed orthogonally toward the hollow superconductive shield.

The electrical requirements for providing the Li-Torr effect are as follows:

Podkletnov has reported using the high frequency current of 105 Hz. He also used 6 solenoid coils @ 850 Gauss each. The reported system's efficiency reached 100% and the total field in the Podkletnov's disk was about 0.5 Tesla. The maximum weight loss reported by Podkletnov was 2.1%.

The preferred embodiment of the device of current invention is capable of housing 2-3 astronauts and therefore is envisioned to be about 5 meters in diameter at the widest point. The preferred space vehicle's acceleration is set at 9.8 m/s/s providing that gravity on board is similar to that on the surface of Earth.

The means for generating an electromagnetic field may be comprised of 124 solenoid coils. At the same 100% efficiency reported by Podkletnov, the total field required providing the acceleration of 9.8 m/s/s is 5,000 Tesla, or about 40 Tesla per coil. Skeggs suggests that on the Podkletnov device, out of 850 Gauss developed on the coil surface, the field affecting the superconductor and causing the gravitomagnetism is only 400 Gauss ("Engineering Analysis of the Podkletnov Gravity Shielding Experiment, Peter L. Skeggs, Quantum Forum, Nov. 7, 1997, http://www.inetarena.com/˜noetic/pls/podlev.html, 7 pages). This translates into 47% device efficiency.

In this 47%-efficient space vehicle, the total field required achieving the 9.8 m/s/s acceleration is about 10,600 Tesla, or 85.5 Tesla per each of 124 solenoid coils. It must be noted that at this acceleration rate, it would take nearly a year for the space vehicle to reach the speed of light.

It also must be noted that Skeggs has detected a discrepancy between the Li-Torr estimates and Podkletnov's practical results. If Podkletnov's experimental results are erroneous while the Li-Torr estimates are indeed applicable to the space vehicle of this invention, then the energy requirements for achieving the sought speed would be substantially higher than the above estimate of 10,600 Tesla.

Podkletnov has concluded that, in order for the vacuum pressure density anomaly to take place, the Earth-bound device must be in the condition of Meissner levitation. As are all space bodies, the space vehicle is a subject to the pressure inflationary vacuum state and the gravitational force, which, within the migrating

locality of the expanding Universe, in any single linear direction, are substantially in equilibrium. Thus, for the space vehicle, the requirement of Meissner levitation is waved.

The propagation of the gravitomagnetic field identified by the outward gravitomagnetic field vector **19** and the inward gravitomagnetic field vector **23** would cause exotic quantised processes in the vacuum's subatomic particles that include particle polarisation, ZPF field defects, and the matter-energy transformation per $E=mc^2$. The combination of these processes would result in the gravitational anomaly. According to the general relativity theory, gravitational attraction is explained as the result of the curvature of space-time being proportional to the gravitational constant. Thus, the change in the gravitational attraction of the vacuum's subatomic particles would cause a local anomaly in the curvature of the Einsteinean space-time.

Gravity is the same thing as bent space, propagating with the speed of light characteristic for the particular space-time curvature. When bent space is affected, there is a change in the speed of propagation of gravity within the space-time curvature anomaly. The local speed of light, according to Fomalont and Kopeikin always equal to the local speed of propagation of gravity, is also affected within the locality of space-time curvature anomaly.

Creation of space-time curvature anomalies adjacent to, or around, the space vehicle, these anomalies characterised by the local gravity and light-speed change, has been the main object of this invention.

Fig.3A shows a diagram of a vacuum pressure density anomaly associated with lowered pressure of inflationary vacuum state **24** on the background of Universal curvature of inflationary vacuum state **25**. The vacuum pressure density anomaly associated with lowered pressure of inflationary vacuum state **24** is formed by a multitude of the inward gravitomagnetic field vectors. According to the cosmological constant equation,

$$\rho_\Lambda: \Lambda = (8\pi G/3c^2)\rho_\Lambda$$

where:
The cosmological constant Lambda, is proportional to the vacuum energy pressure rho-lambda, G is Newton's constant of gravitation, and c is the speed of light, so the curvature of space-time is proportional to the gravitational constant. According to the general relativity theory, the change in the vacuum pressure density is proportional to the change in the space-time curvature anomaly. By replacing rho-lambda with the vacuum pressure density, P times the vacuum energy coefficient kappa, and replacing c with:
delta-distance/delta-time, we derive to the equation:

$$\Lambda = [8\pi G/3(\Delta distance/\Delta time)^2]P_\kappa$$

and can now construct a vacuum pressure density curvature diagram.

The vacuum pressure density curvature anomaly associated with lowered pressure of inflationary vacuum state **24** is shown here as a flattened surface representing the lowered pressure of the inflationary vacuum state. This anomaly is the result of the exotic quantised processes in the subatomic particles caused by the quantised turbulence occurring in the hollow superconductive shield. The XYZ axes represent three dimensions of space and the P axis represents the vacuum pressure density.

Fig.3B shows a diagram of a vacuum pressure density anomaly associated with elevated pressure of inflationary vacuum state **26** on the background of the Universal curvature of inflationary vacuum state **25**. The vacuum pressure density anomaly associated with elevated pressure of inflationary vacuum state **26** is formed by a multitude of the outward gravitomagnetic field vectors. The anomaly is shown here as a convex surface representing the elevated pressure of inflationary vacuum state. The diagrams of **Fig.3A** and **Fig.3B** are not to scale with the anomaly sizes being exaggerated for clarity.

Fig.4A and **Fig.4B** show diagrams of a space-time anomaly associated with lowered pressure of inflationary vacuum state **27**, and a space-time anomaly associated with elevated pressure of inflationary vacuum state **28**, respectively, each on the background a diagram of Universal space-time **29**.

The quaterised Julia set $Q_{n+1} = Q_n^2 + C_0$ is assumed to be an accurate mathematical representation of the Universal space-time. The generic quaternion Q_0 belongs to the Julia set associated with the quaternion C, and n tends to infinity. If we assume that the quaternion value C_0 is associated with the Universal space-time **29**, C_1 is the value of quaternion C for the space-time anomaly associated with lowered pressure of inflationary vacuum state **27**, and C_2 is the value of quaternion C for the space-time anomaly associated with elevated pressure of inflationary vacuum state **28**, then we can construct two diagrams.

The diagram of **Fig.4A** shows the space-time anomaly associated with lowered pressure of inflationary vacuum state **27** as a quaterised Julia set contained in a 4-dimensional space: $Q_{n+1} = Q_n{}^2 + C_1$ on the background of the Universal space-time **29** represented by $Q_{n+1} = Q_n{}^2 + C_0$.

The diagram of **Fig.4B** shows the space-time anomaly associated with elevated pressure of inflationary vacuum state **28** as a quaterised Julia set $Q_{n+1} = Q_n{}^2 + C_2$, also on the background of the Universal space-time **29** represented by $Q_{n+1} = Q_n{}^2 + C_0$. On both diagrams, the XYZ axes represent three dimensions of space, and the T axis represents time. The diagrams are not to scale: the anomaly sizes are exaggerated for clarity, and the halves of quaterised Julia sets, conventionally associated with the hypothetical Anti-Universe, are omitted.

Figs. 5A, 5B, 6, 7A, & 7B show simplified diagrams of space-time curvature anomalies generated by the space vehicle of the current invention, these anomalies providing for the propulsion of the space vehicle. In each case, the pressure anomaly of inflationary vacuum state is comprised of an area of relatively lower vacuum pressure density in front of the space vehicle and an area of relatively higher vacuum pressure density behind the space vehicle. Because the lower pressure of inflationary vacuum state is associated with greater gravity and the higher pressure is associated with the higher repulsive force, the space vehicle is urged to move from the area of relatively higher vacuum pressure density toward the area of relatively lower vacuum pressure density.

Fig.5A illustrates the first example of space-time curvature modification. This example shows a substantially droplet-shaped space-time curvature anomaly associated with lowered pressure of inflationary vacuum state **30** adjacent to the hollow superconductive shield **1** of the space vehicle. The anomaly **30** is provided by the propagation of a gravitomagnetic field radiating orthogonally away from the front of the hollow superconductive shield **1**. This gravitomagnetic field may be provided by the relative clockwise motion of the upper means for generating an electromagnetic field, and relative counterclockwise motion of the hollow superconductive field, as observed from above the space vehicle.

In this example, the difference between the space-time curvature within the substantially droplet-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state, and the ambient space-time curvature, the space-time curvature being the same as gravity, results in the gravitational imbalance, with gravity pulling the space vehicle forward.

Fig.5B illustrates the second example of space-time curvature modification. This example shows a substantially droplet-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state **31** adjacent to the hollow superconductive shield **1** of the space vehicle. The anomaly **31** is provided by the propagation of a gravitomagnetic field radiating orthogonally away from the back of the hollow superconductive shield. This gravitomagnetic field may be provided by the relative counter-clockwise motion of the lower means for generating an electromagnetic field, and relative clockwise motion of the hollow superconductive field, as observed from below the space vehicle.

In this example, the difference between the space-time curvature within the substantially droplet-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state, and the ambient space-time curvature, the space-time curvature being the same as gravity, results in the gravitational imbalance, with the repulsion force pushing the space vehicle forward.

Fig.6 illustrates the third example of space-time curvature modification. This example shows the formation of the substantially droplet-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state **30** combined with the substantially droplet-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state **31**. This combination of anomalies may be provided by the relative clockwise motion of the upper means for generating an electromagnetic field and relative clockwise motion of the hollow superconductive field, combined with the relative clockwise motion of the lower means for generating an electromagnetic field, as observed from above the space vehicle.

In this example, the difference between the space-time curvature within the substantially droplet-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state, and the space-time curvature of the substantially droplet-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state, the space-time curvature being the same as gravity, results in the gravitational imbalance, with gravity pulling, and the repulsion force pushing, the space vehicle forward.

Fig.7A illustrates the fourth example of space-time curvature modification. This example shows the formation of a substantially egg-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state **32** around the hollow superconductive shield **1** of the space vehicle. The anomaly **32** is provided by the propagation of gravitomagnetic field of unequally-distributed density, this gravitomagnetic field radiating in all directions orthogonally away from the hollow superconductive shield. The propagation of the unequally-distributed gravitomagnetic field leads to the similarly unequally-distributed space-time curvature anomaly. This unequally-distributed gravitomagnetic field may be provided by the relatively faster clockwise motion of the upper means for generating an electromagnetic field relative to the hollow superconductive field, combined with the relatively slower counter-clockwise motion of the lower means for generating an electromagnetic field, as observed from above the space vehicle.

An area of the lowest vacuum pressure density **33** of the substantially egg-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state **32** is located directly in front of the space vehicle.

In this example, the variation in the space-time curvature within the substantially egg-shaped space-time anomaly associated with lowered pressure of inflationary vacuum state, the space-time curvature being the same as gravity, results in a gravitational imbalance, with gravity pulling the space vehicle forward in modified space-time.

Fig.7B illustrates the fifth example of space-time curvature modification, also with the purpose of providing for a propulsion in modified space-time. This example shows the formation of a substantially egg-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state **34** around the hollow superconductive shield 1 of the space vehicle. The anomaly **34** is provided by the propagation of gravitomagnetic field of unequally-distributed density, this gravitomagnetic field radiating in all directions orthogonally away from the hollow superconductive shield. The propagation of the unequally-distributed gravitomagnetic field leads to the similarly unequally-distributed space-time curvature anomaly. This unequally-distributed gravitomagnetic field may be provided by the relatively slower counter-clockwise motion of the upper means for generating an electromagnetic field relative to the hollow superconductive field, combined with the relatively faster clockwise motion of the lower means for generating an electromagnetic field, as observed from above the space vehicle.

An area of the highest vacuum pressure density **35** of the substantially egg-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state **34** is located directly behind the space vehicle.

In this example, the variation in the space-time curvature within the substantially egg-shaped space-time anomaly associated with elevated pressure of inflationary vacuum state, the space-time curvature being same as gravity, results in a gravitational imbalance, with the repulsion force pushing the space vehicle forward in modified space-time at speeds approaching the light-speed characteristic for this modified area. This light-speed might be much higher than the light-speed in the ambient space.

By creating alternative anomalies and modulating their parameters, the space vehicle's crew would dilate and contract time and space on demand. The space vehicle, emitting a vacuum pressure modifying, controllably-modulated gravitomagnetic field in all directions, would rapidly move in the uneven space-time anomaly it created, pulled forward by gravity or pushed by the repulsion force. The time rate zone of the anomaly is expected to have multiple quantised boundaries rather than a single sudden boundary affecting space and time in the immediate proximity of the vehicle. Speed, rate of time, and direction in space could be shifted on demand and in a rapid manner. The modulated light-speed could make the space vehicle suitable for interstellar travel. Because of the time rate control in the newly created isospace, the accelerations would be gradual and the angles of deviation would be relatively smooth. The gravity shielding would further protect pilots from the ill-effects of gravity during rapid accelerations, directional changes, and sudden stops.

****

If you find the thought of generating a gravitational field, difficult to come to terms with, then consider the work of Henry Wallace who was an engineer at General Electric about 25 years ago, and who developed some incredible inventions relating to the underlying physics of the gravitational field. Few people have heard of him or his work. Wallace discovered that a force field, similar or related to the gravitational field, results from the interaction of relatively moving masses. He built machines which demonstrated that this field could be generated by spinning masses of elemental material having an odd number of nucleons -- i.e.

a nucleus having a multiple half-integral value of h-bar, the quantum of angular momentum. Wallace used bismuth or copper material for his rotating bodies and "kinnemassic" field concentrators.

Aside from the immense benefits to humanity which could result from a better understanding of the physical nature of gravity, and other fundamental forces, Wallace's inventions could have enormous practical value in countering gravity or converting gravitational force fields into energy for doing useful work. So, why has no one heard of him?   One might think that the discoverer of important knowledge such as this would be heralded as a great scientist and nominated for dynamite prizes. Could it be that his invention does not work? Anyone can get the patents. Study them -- Wallace -- General Electric -- detailed descriptions of operations -- measurements of effects -- drawings and models -- it is authentic. If you are handy with tools, then you can even build it yourself. It does work.

Henry was granted two patents in this field: US Patent #3626605 -- "Method and Apparatus for Generating a Secondary Gravitational Force Field", Dec 14, 1971 and US Patent #3626606 -- "Method and Apparatus for Generating a Dynamic Force Field", Dec 14, 1971. He was also granted US Patent #3823570 -- "Heat Pump" (based on technology similar to the above two inventions), July 16, 1973. The first of these three patents is shown here:

Fig. 1

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ATTORNEY

FIG-3A

FIG-3B

FIG-2

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FIG·3

FIG·4

FIG·5

INVENTOR.

HENRY W. WALLACE

BY

ATTORNEYS

Dec. 14, 1971

H. W. WALLACE

3,626,605

METHOD AND APPARATUS FOR GENERATING A SECONDARY
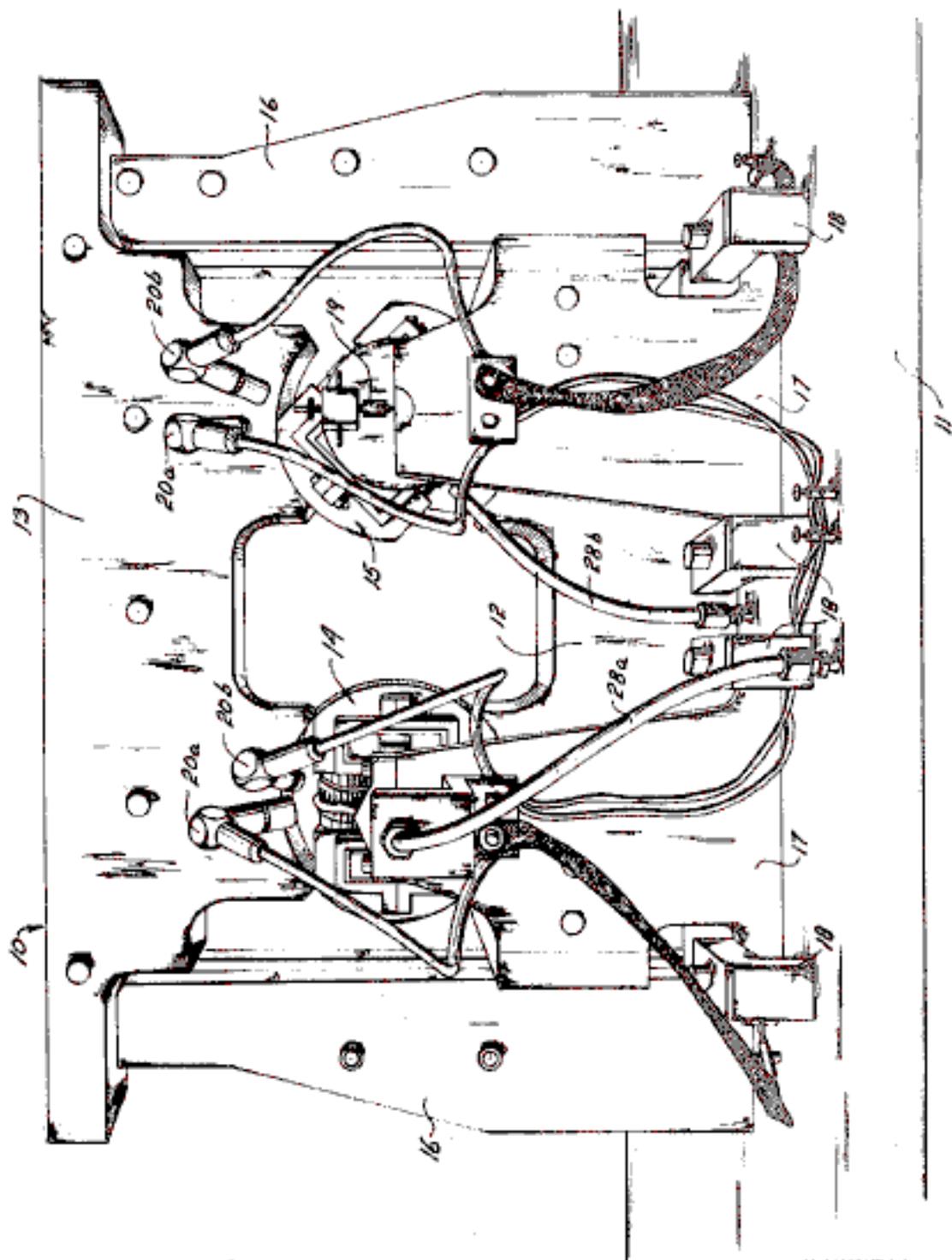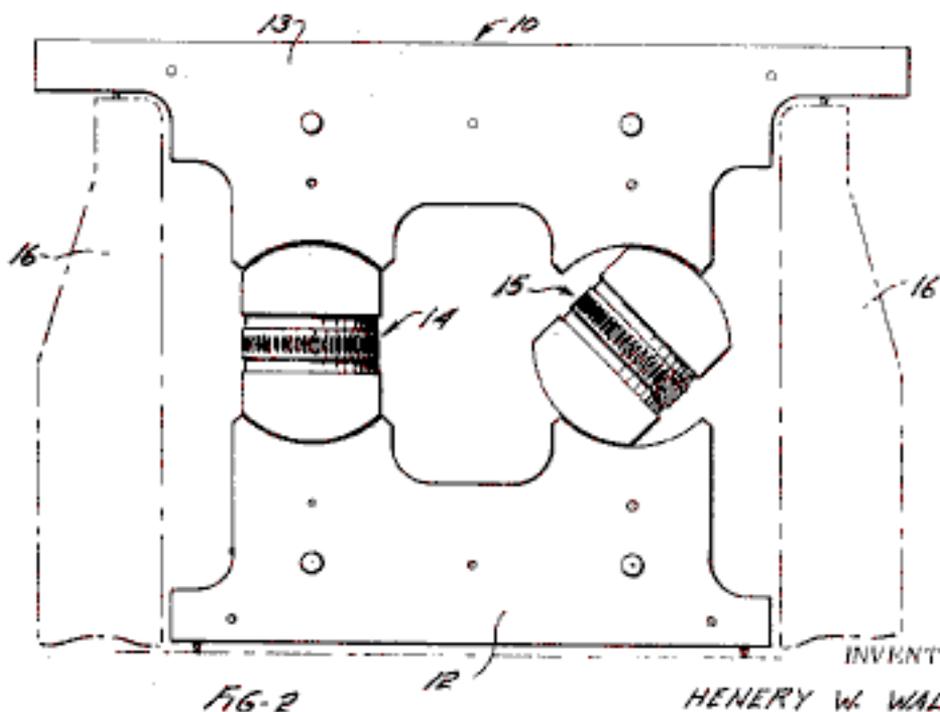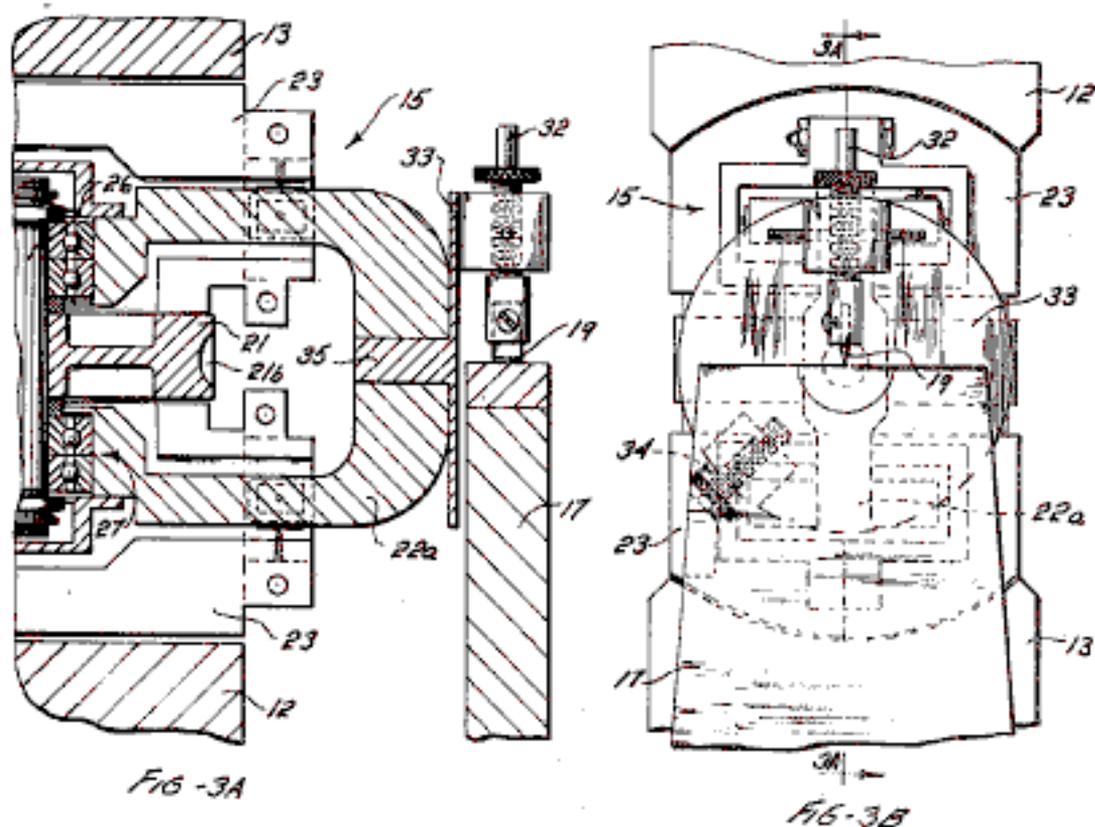GRAVITATIONAL FORCE FIELD

Filed Nov. 4, 1968

6 Sheets-Sheet 4

FIG-6

INVENTOR.
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FIG-7

INVENTOR.
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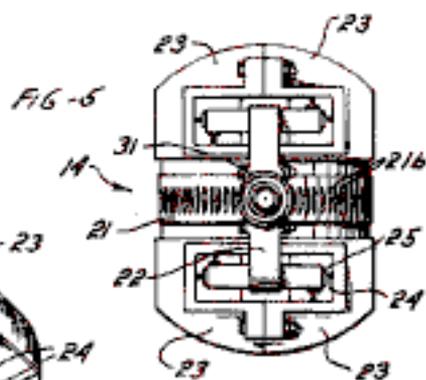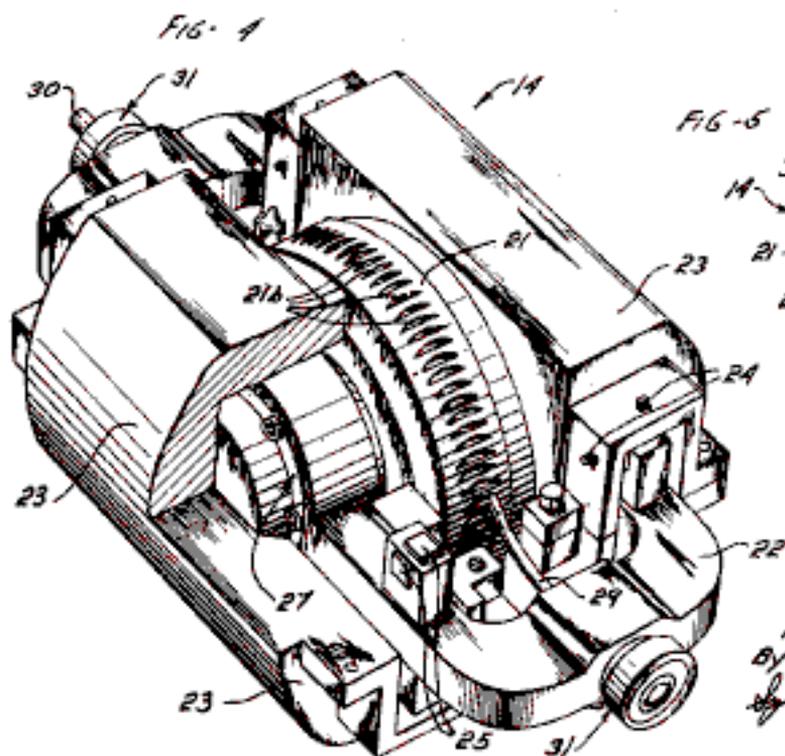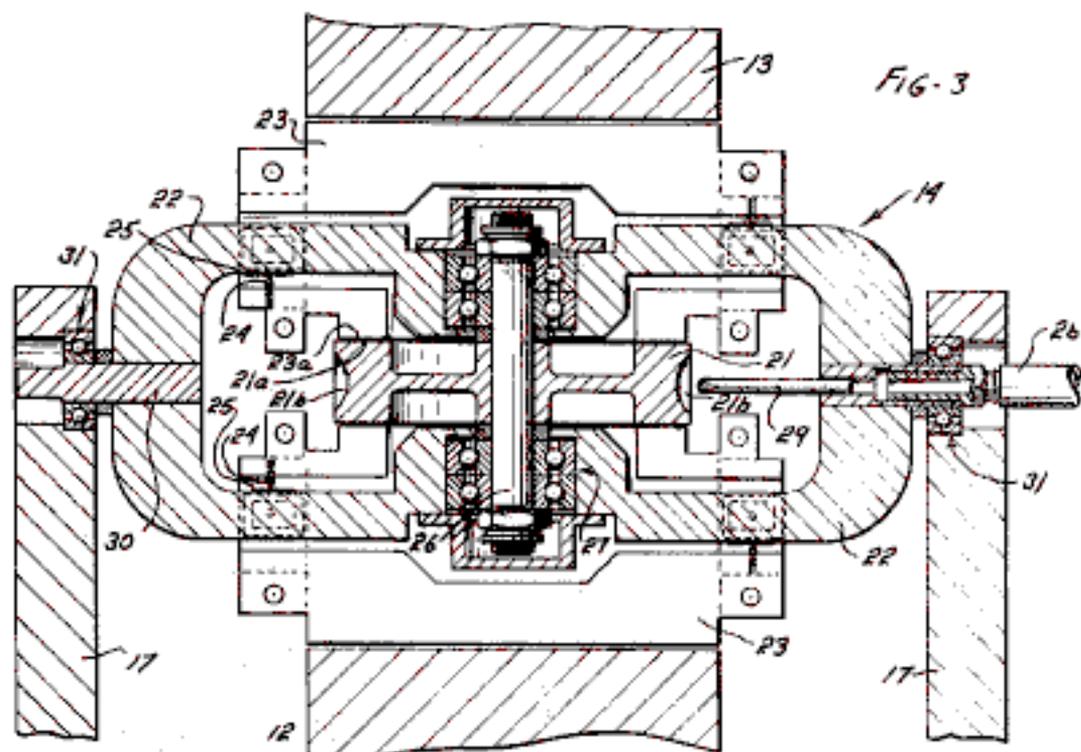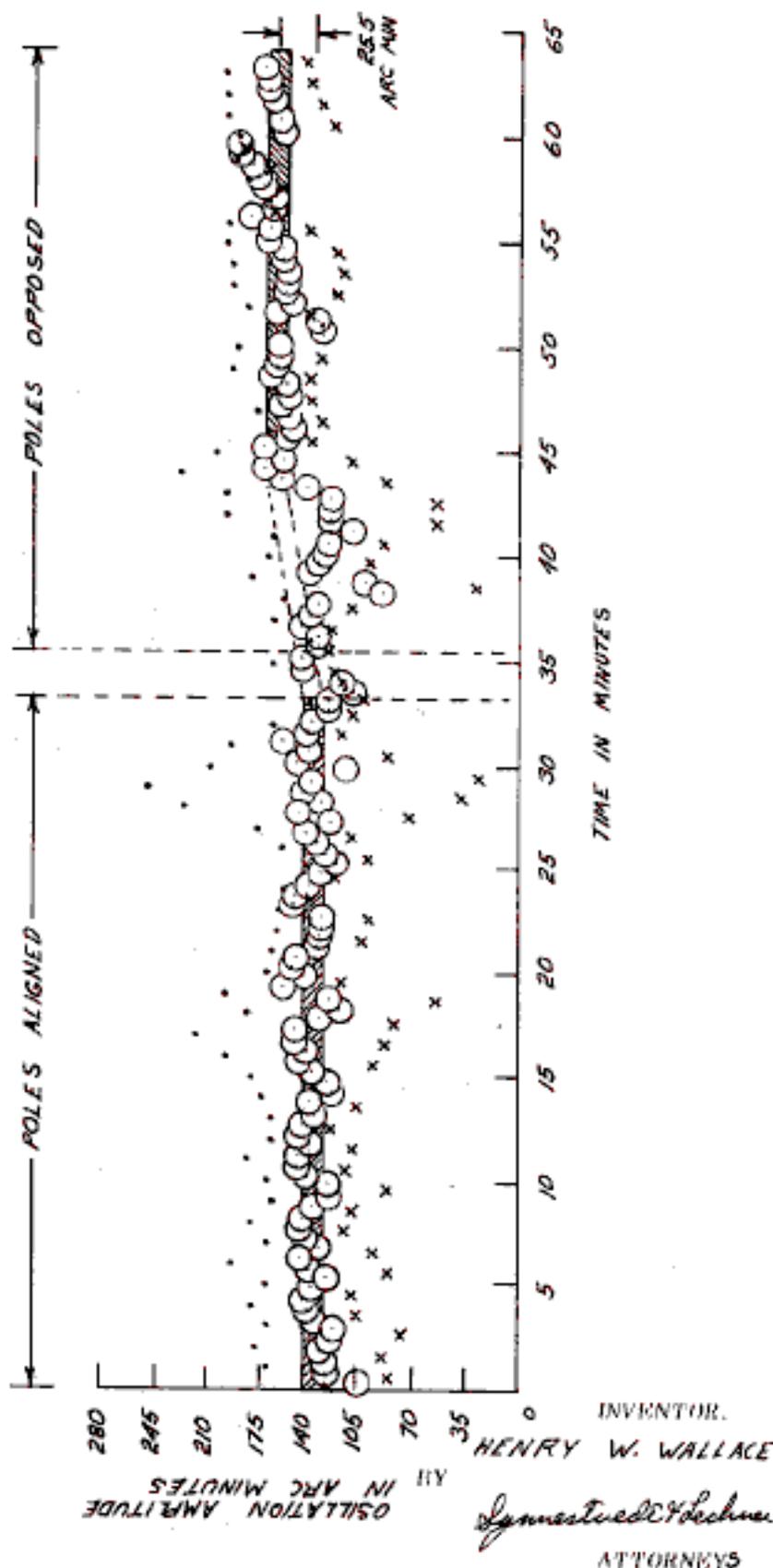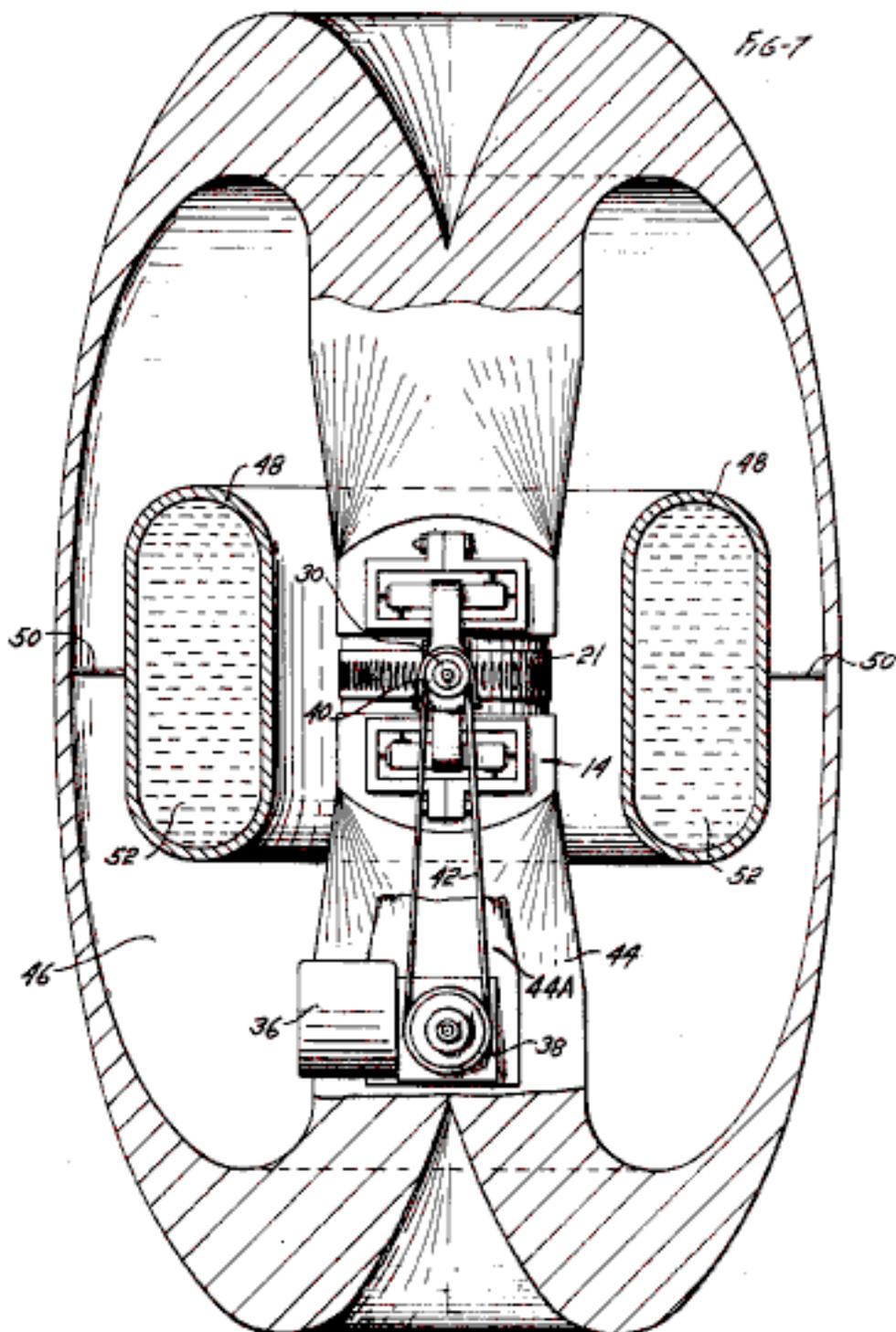BY
Symmestuell & Lechner
ATTORNEYS

Dec. 14, 1971

H. W. WALLACE

3,626,605

METHOD AND APPARATUS FOR GENERATING A SECONDARY
GRAVITATIONAL FORCE FIELD
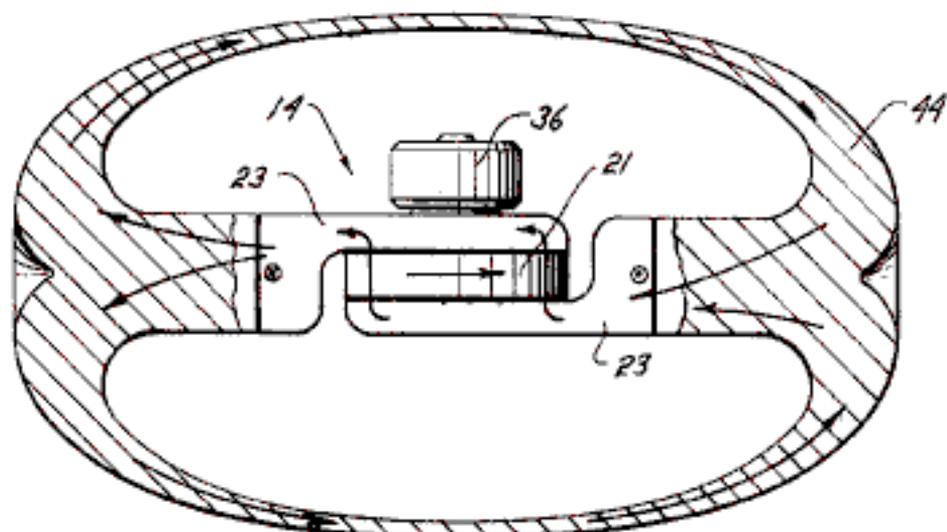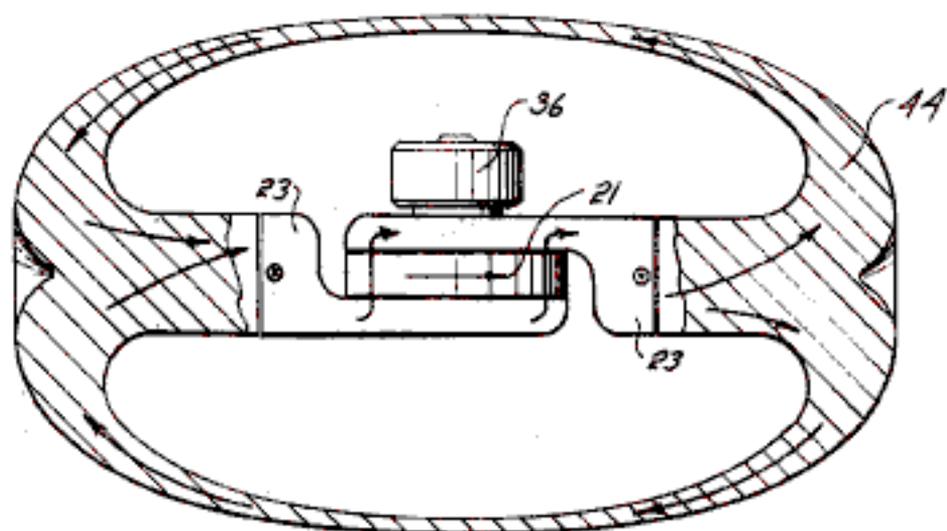
Filed Nov. 4, 1968

6 Sheets-Sheet 6

FIG. 7A

FIG. 7B

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1

2

ABSTRACT OF THE DISCLOSURE

Apparatus and method for generating a time variant non-electromagnetic force field due to the dynamic interaction of relatively moving bodies and for transforming such force fields into energy for doing useful work.

The method of generating such time variant force fields including the steps of juxtaposing in field series relationship a stationary member of spin nuclei material, and a member capable of assuming relative motion with respect to said stationary member also characterized by spin nuclei material; initiating relative motion by rotation of said one member with respect to the other, which rotational motion may occur both about an axis within the plane of said other member and about an axis perpendicular thereto; whereby the rotational motion of said one member about the axis perpendicular to the plane of said other member results in the dual interaction of the angular momentum property of said one member with inertial space and also with respect to the angular momentum property of said other member thereby resulting in a dynamic interaction field arising through gravitational coupling which dynamic interaction field is further characterized by its nonelectromagnetic nature and its mass-proximity and relative motion dependency; the rotation of said one member about the axis within the plane of said other member further resulting in an undulation of the dynamic interaction field within said other member which in turn gives rise to a secondary time-variant gravitational field in the surrounding space.

The present invention relates to an apparatus and method for generating a time-variant force field due to the relative motion of moving bodies; which force field exhibits itself in the form of an induced secondary gravitational force. As such, this invention constitutes a continuation-in-part of an application filed Nov. 4, 1968 by the same inventor, entitled Method and Apparatus for Generating a Dynamic Force Field and bearing Ser. No. 773,116.

In the practice of the present invention it has been found that when bodies composed of certain material are placed in relative motion with respect to one another there is generated an energy field therein not heretofore observed. This field is not electromagnetic in nature; being by theoretical prediction related to the gravitational coupling of relatively moving bodies.

The initial evidence indicates that this nonelectromagnetic field is generated as a result of the relative motion of bodies constituted of elements whose nuclei are characterized by half integral "spin" values, the spin of the nuclei being associated with the net angular momentum of the nucleons thereof. The nucleons in turn comprise the elemental particles of the nucleus; i.e., the neutrons and protons. For purposes of the present invention the field, generated by the relative motion of materials characterized by a half integral spin value, is referred to as a "kinemassic" force field.

It will be appreciated that relative motion occurs on various levels, i.e., there may be relative motion of discrete bodies as well as of the constituents thereof including, on a subatomic level, the nucleons of the nucleus. The kinemassic force field under consideration is a result of such relative motion, being a function of the dynamic interaction of two relatively moving bodies including the elemental particles thereof. The value of the kinemassic force field created, by reason of the dynamic interaction of the bodies experiencing relative motion, is the algebraic sum of the fields created by reason of the dynamic interaction of both elementary particles and of the discrete bodies.

For a closed system comprising only a stationary body, the kinemassic force, due to the dynamic interaction of the subatomic particles therein, is zero because of the random distribution of spin orientations of the respective particles. Polarization of the spin components so as to align a majority thereof in a preferred direction establishes a flux field aligned with the spin axes of the elementary particles. The present invention is in part comprised of an apparatus for polarizing its spin nuclei material, while additional means are provided to induce an alternating or undulating effect in the kinemassic field so generated.

Accordingly, a primary object of the present invention concerns the provision of means for generating a time-variant kinemassic field within a permeable field body due to the dynamic interaction of relatively moving bodies and the relative rotation of said generating means with respect to the permeable field body.

The kinemassic force field finds theoretical support in the laws of physics, being substantiated by the generalized theory of relativity. According to the general theory of relativity three exists not only a static gravitational field but also a dynamic component thereof due to the gravitational coupling of relatively moving bodies.

This theory proposes that two spinning bodies will exert force on each other. Heretofore the theoretical predictions have never been experimentally substantiated; however, as early as 1896, experiments were conducted in an effort to detect predicted centrifugal forces on stationary bodies placed near large, rapidly rotating masses. The results of these early experiments were inconclusive, and little else in the nature of this type of work is known to have been conducted.

It is therefore another object of the present invention to set forth an operative technique for generating a measurable time-variant force field due to the gravitational coupling of relatively moving bodies.

In carrying out the present invention, means are provided to enable the relative rotational motion of a first member with respect to a stationary member positioned in close proximity thereto; the construction of one embodiment of the first member being such as to enable portions thereof to assume rotational motion about an axis perpendicular to the plane of said stationary member. The effect of the rotation of said member about the axis perpendicular to the plane of the stationary member is to establish a kinemassic force field in the nature of that referred to in the aforementioned copending application of the same inventor. The rotation of said member about the axis lying within the plane of said stationary member results in an undulation of the dynamic interaction field within said field members which in turn induces a secondary time-variant gravitational field in the surrounding space.

Accordingly, another more specific object of the present invention concerns a method of generating a nonelectromagnetic force field due to the dynamic interaction of relatively moving bodies and for utilizing such force field to further generate a secondary gravitational field.

The foregoing objects and features of novelty which characterize the present invention, as well as other objects

of the invention, are pointed out with particularity in the claims annexed to and forming a part of the present specification. For a better understanding of the invention, its advantages and specific objects allied with its use, reference should be made to the accompanying drawings and descriptive matter in which there is illustrated and described a preferred embodiment of the invention.

In the drawings:

FIG. 1 shows an overall view of equipment constructed in accordance with the principles of the present invention, including means to demonstrate the effect of a time-variant kinemassic force field;

FIG. 2 is an isolation schematic of apparatus components comprising the time-variant kinemassic field circuit of FIG. 1;

FIGS. 3, 3A, 3B, 4 and 5 show the details of construction of the generator and detector assemblies of FIGS. 1 and 2;

FIG. 6 represents measured changes in operating characteristics of the apparatus of FIGS. 1 and 2 demonstrating the time-variant nature of the kinemassic force field so produced; and

FIGS. 7, 7A and 7B are sectioned views of various embodiments of the present invention for demonstrating the time-variant nature of the kinemassic force field as used in establishing a secondary gravitational component.

Before getting into a detailed discussion of the apparatus and the steps involved in the practice of the present invention, it should be helpful to an understanding if the present invention of consideration is first given to certain defining characteristics thereof, many of which bear an analogous relationship to electromagnetic field theory.

A first feature is that the kinemassic field is vectorial in nature. The direction of the field vector is a function of the geometry in which the relative motion between mass particles takes place.

The second significant property of the kinemassic field relates the field strength to the nature of the material in the field. This property may be thought of as the kinemassic permeability by analogy to the concept of permeability in magnetic field theory. The field strength is apparently a function of the density of the spin nuclei material comprising the field circuit members. Whereas the permeability in magnetic field theory is a function of the density of unpaired electrons, the kinemassic permeability is a function of the density of spin nuclei and the measure of magnitude of their half integral spin values. As a consequence of this latter property, the field may be directed and confined by interposing into it denser portions of desired configuration. For example, the field may be in large measure confined to a closed loop of dense material starting and terminating adjacent a system wherein relative motion between masses is occurring.

A further property of the kinemassic force field relates field strength to the relative spacing between two masses in relative motion with respect to one another. Thus, the strength of the resultant field is a function of the proximity of the relatively moving bodies such that relative motion occurring between two masses which are closely adjacent will result in the generation of a field stronger than that created when the same two relatively moving bodies are spaced farther apart.

As mentioned above, a material consideration in generating the kinemassic force field concerns the use of spin nuclei material. By spin nuclei material is meant materials in nature which exhibit a nuclear external angular momentum. This includes both the intrinsic spin of the unpaired nucleon as well as that due to the orbital motion of these nucleons.

Since the dynamic interaction field arising through gravitational coupling is a function of both the mass and proximity of two relatively moving bodies, then the

resultant force field is predictably maximized within the nucleus of an atom due to the relatively high densities of the nucleons plus the fact that the nucleons possess both intrinsic and orbital components of angular momentum. Such force fields may in fact account for a significant portion of the nuclear binding force found in all of nature.

It has been found that for certain materials, namely those characterized by a half integral spin value, the external component of angular momentum thereof will be accompanied by a force due to the dynamic interaction of the nucleons.

This is the so-called kinemassic force which on a submacroscopic basis exhibits itself as a field dipole moment aligned with the external angular momentum vector. These moments are of sufficient magnitude that they interact with adjacent, or near adjacent, spin nuclei field dipole moments of neighboring atoms.

This latter feature gives rise to a further analogy to electromagnetic field theory in that the interaction of adjacent spin nuclei field dipole moments gives rise to nuclear domain-like structures within matter containing a sufficient portion of spin nuclei material.

Although certain analogies exist between the kinemassic force field and electromagnetic field theory, it should be remembered that the kinemassic force is essentially non-responsive to or affected by electromagnetic force phenomena. This latter condition further substantiates the ability of the kinemassic field to penetrate through and extend outward beyond the ambient electromagnetic field established by the moving electrons in the atomic structure surrounding the respective spin nuclei.

As in electromagnetic field theory, in an unpolarized sample the external components of angular momentum of the nuclei to be subjected to a kinemassic force field are originally randomly oriented such that the material exhibits no residual kinemassic field of its own. However, establishing the necessary criteria for such a force field effects a polarization of the spin components of adjacent nuclei in a preferred direction thereby resulting in a force field which may be represented in terms of kinemassic field flux lines normal to the direction of spin.

The fact that spin nuclei material exhibits external kinemassic forces suggests that these forces should exhibit themselves on a macroscopic basis and thus be detectable, when arranged in a manner similar to that for demonstrating the Barnett effect when dealing with electromagnetic phenomena.

In the Barnett effect a long iron cylinder, when rotated at high speed about its longitudinal axis, was found to develop a measurable component of magnetization, the value of which was found to be proportional to the angular speed. The effect was attributed to the influence of the impressed rotation upon the revolving electronic systems due to the mass property of the unpaired electrons within the atoms.

In an apparatus constructed in accordance with the foregoing principles it was found that a rotating member such as a wheel composed of spin nuclei material exhibits a kinemassic force field. The interaction of the spin nuclei angular momentum with inertial space causes the spin nuclei axes of the respective nuclei of the material being spun to tend to reorient parallel with the axis of the rotating member. This results in the nuclear polarization of the spin nuclei material. With sufficient polarization, an appreciable field of summed dipole moments emanates from the wheel rim flange surfaces to form a secondary dynamic interaction with the dipole moments of spin nuclei contained within the facing surface of a stationary body positioned immediately adjacent the rotating member.

When the stationary body, composed of suitable spin nuclei material, is connected in spatial series with the rotating member, a circuitous form of kinemassic field

is created; the flux of which is primarily restricted to the field circuit.

If now means are provided to periodically reverse the direction of rotation of the wheel with respect to the facing surfaces of the stationary body positioned in immediate proximity thereto, then the resultant time-varying kinemassic field generates or induces an accompanying time-varying secondary gravitational field in the space immediately surrounding. That is to say, if the time-varying kinemassic field is made to undulate typically sinusoidally, there will be induced an accompanying undulating secondary gravitational field which is phase-related to the kinemassic field. In this repsect the induced secondary gravitational field is generated in a manner analogous to electromagnetic induction theory.

By property configuring the undulating kinemassic field, the resultant secondary gravitational field may be essentially restrained to or confined within an enclosed space. Although numerous specific geometric configurations may be proposed, the necessary conditions are established in the preferred embodiment of the present invention by enclosing the kinemassic field generating apparatus, including the rotational members and at least a portion of the stationary member thereof, within an enclosure, the material portions of which obey the rules concerning kniemassic permeability.

The kinemassic field when so configured, will shield the enclosed space both with respect to the secondary gravitational field induced therein and with respect to the ambient gravitational field caused by the earth and other cosmic bodies, existing externally of the shielded space. The undulating kinemassic field, which gives rise to the enclosed secondary undulating gravitational field, is effective in reducing the quantity of flux lines within the space surrounded by the undulating kinemassic field contributed by the ambient gravitational field, thus reducing the mutual force of gravitational attraction acting between this structure and the earth or other cosmic bodies dependent upon their relative contribution to the local gravitational flux density.

It is well known that nature opposes heterogeneous field flux densities. If the normal local flux density contributed by the earth and the other cosmic bodies within the space occupied by and surrounded by the undulating kinemassic field permeable structure were added to by the forcibly enclosed flux of the induced secondary undulating gravitational field, this increased flux density would be in opposition to nature. Although the induced secondary undulating gravitational field would cause an undulating variation of the cosmic or primary gravitational field flux lines of force to penetrate within the kinemassic field permeable structure, if this undulation were sinusoidal, for example, the RMS or 0.707 value of peak reduction in mutual gravitational attraction would apply.

Means for increasing the relative magnitude of the undulating kinemassic field is effected by positioning a mass circuit within the induced secondary field space. The mass circuit in linking with the undulating kinemassic field circuit results in an increase in the kinemassic field and in the same sense effectively intensifies the primary gravitational field shielding. A partial parallel can be found in electromagnetic field theory, where it is known that a shorted secondary turn enhances iron saturation.

The mass circuit located in the induced secondary field space need not be comprised of material having a spin nuclei characteristic; rather, it is more important that this mass circuit have high mass density. A further desirable characteristic of this mass circuit is that it have a capability for mass flow with respect to the undulating kinemassic field structure. Mercury has the desired combination of properties and while other materials may be used, mercury is the most effective thus far known.

As indicated above, the effective result of generating a secoodary undulating gravitational field within the space enclosed by the undulating kinemassic field is a relative

reduction in apparent weight of the kinemassic field permeable structure, with respect to its apparent weight without such an undulating kinemassic field. The explanation of this phenomenon may be readily conceived as caused by the generation of a field force vector antiparallel in direction to the local gravitational field force vector. If the shielding is sufficiently effective to reduce the density of gravitational field flux lines within the shielded space to the equivalent of the ambient flux line density, there will be no net local distortion of the gravitational field flux line pattern in the space occupied by the kinemassic field permeable material or the space enclosed by the kinemassic field configuration. Without distortion of the local flux line pattern the two bodies cease to mutually attract and, in effect, become weightless, one with respect to the other.

Although similar in result, the technique for effecting the state of weightlessness in the present invention differs from conventional apparatus for achieving such a state of weightlessness. The latter, in general, utilize the force of radial acceleration to effectively "balance" the gravitational forces acting on a body.

The relative magnitude of the undulating kinemassic force field and the kinemassic permeability characterizing the associated structure are both influential in determining the effective shielding of the kinemassic field permeable structure. If the shielding is sufficiently effective so as to reduce the primary gravitational field flux line density within the enclosed space to less than that of the ambient, the distortion of the local gravitational field flux line pattern of reduced flux density would result in the antiparallel field force vector magnitudes exceeding that force of the kinemassic field body's initial weight, i.e., the effective weight of the kinemassic field permeable structure absent the generated undulating kinemassic field. This condition would effectively endow the kinemassic field structure with a negative weight characteristic. As a consequence, the two bodies, that is the kinemassic field body and the earth or other cosmic body, would experience relative motion separating one another along the local primary gravitational field flux lines unless acted upon by other forces.

The hardware required to generate and sustain such an undulating kinemassic field is in part comprised of components which continue to retain a "non-field-energized" weight during the period of field generation. Therefore, the ambient gravitational field flux line pattern within the structure will simultaneously experience zones of both reduced and increased densities. It is the average density of all the zones that determines the magnitude of the antiparallel field force vecor in its opposition to the ambient gravitational field force vector. Bodies located within the shielded space enclosed by the undulating kinemassic field will lose their weight with respect to the body earth in direct proportion to the reduction of ambient gravitaional field flux lines which are common to it and the body earth.

As a consequence of the above, the shielding which results in a reduction of mutual attraction between bodies screened by the shielding effected by the undulating kinemassic force field does not violate the principle of equivalence. Thus, two free bodies of different masses, located within the shielded space, will fall within this space toward or away from earth with equal accelerations. Also, the force of mutual gravitational attraction of two or more bodies located within the shielded space will be unaffected by the various degrees of shielding although their free-fall acceleration toward one another will be effected.

Having now further defined the substantiating theory giving rise to the kinemassic forces operative in the present invention, reference is now made to the aforementioned drawings depicting in general an apparatus embodying the defining characteristics outlined above.

From the foregoing discussion, it will be appreciated that both for the purpose of detecting the kinemassic field forces operative in the present invention, and for trans-

forming such forces into energy for doing useful work, several basic apparatus elements are necessary. First, apparatus is needed to enable masses to be placed in relative motion to one another; which relative motion may occur in two mutually orthogonal directions. In order to maximize field strength the apparatus should be capable of generating high velocities between the particles in relative motion. Furthermore, the apparatus should be configured so that the proximity of the particles which are in relative motion is maximized. The necessity of using relatively dense material comprising half integral spin nuclei for the field circuit portion of the apparatus has already been stressed. These and other features are discussed in greater detail below in explanation of the drawings depicting an implementation of the invention.

In considering the drawings, reference will first be made to the general arrangement of components shown in FIGS. 1 and 2. As viewed in FIG. 1, the equipment is mounted upon a stationary base comprising a horizontal structural element 11 which rests upon poured concrete, precast concrete pilings not shown, or other suitable structurally rigid material. It should be made clear at the outset, that the stationary base although not a critical element in its present form nevertheless serves an important function in the subject invention. Thus, the stationary base acts as a stabilized support member for mounting the equipment and, perhaps more significantly, the horizontal portion thereof is of such material that it tends to localize the kinemassic force field to the kinemassic force field generating apparatus proper. This latter feature is discussed in more detail below. The surface uniformity of the horizontal structural element 11 also facilitates the alignment of equipment components. In the reduction to practice embodiment of the present invention a layer of shock absorbing material, not shown, was interposed between the stationary base and the floor.

Shown mounted on the horizontal structural element 11 is the kinemassic force field generating apparatus indicated generally as 10, the lower portion of which is referred to as the lower mass member 12. The lower mass member 12 is not to be confusingly associated with the mass circuit mentioned above as being positioned in the space experiencing the secondary gravitational field. The nature and specific identity of the latter mentioned mass circuit will be more fully explained in connection with the explanation of FIG. 7.

An upper mass member 13 is positioned in mirrored relationship with respect to member 12 and separated somewhat to provide two air gaps therebetween. The lower and upper mass members 12 and 13 function as field circuit members in relationship to a generator 14 and a detector 15 positioned with respective one's of said two gaps. The spatial relationship of the generator 14, the detector 15 and the mass members 12 and 13 is such as to form a kinemassic force field series circuit.

All of the material members of the field circuit are comprised of half integral spin material. For example, the major portion of the generator 14, the detector 15, as well as the upper and lower mass members 13 and 12 are formed of a particular brass alloy containing 89% copper of which both isotopes provide a three-halves proton spin, 10% zinc, and 1% lead as well as traces of tin and nickel. The zinc possesses one spin nuclei isotope which is 4.11% in abundance and likewise the lead also contains one spin nuclei isotope which is 22.6% in abundance. In order to gain an estimate of apparatus size, the upper mass member 13 has an overall length of 56 centimeters and a mass of 43 kilograms.

It will be seen that, by far, the constituents of the mass members are such as satify the criteria of half integral spin nuclei material for those apparatus parts associated with the field and the use of non-spin nuclei material for those parts where it is desired to inhibit the field. Accordingly, all support or structural members, such as the horizontal structural element 11, consist of steel. The iron

and carbon nuclei of these structural members are classed as no-spin nuclei and thus represent high relative reluctance to the kinemassic field. Supports 16 are provided to accommodate the suspension of the upper mass member 13. The supports 16 are of steel the same as the horizontal support element 11. The high relative reluctance of steel to the kinemassic field minimizes the field flux loss created in the field series circuit of mass members 12 and 13, the generator 14 and the detector 15. The loss of field strength is further minimized by employing high-reluctance isolation bridges at the point of contact between the lower and upper mass members 12 and 13, and the structural support members 11 and 16.

Shunt losses within the apparatus are in general minimized by employing the technique of minimum mass contact: the use of low field permeability material at the isolation bridges or structural connections; and avoiding bulk mass proximity of non-field generating components.

A number of techniques were devolped for optimizing the isolation bridge units including carboloy cones and spherical spacers. As is depicted more clearly in FIGS. 3, 4 and 5, the structural connection unit ultimately utilized consisted of a hardened 60° steel cone mounted within a set screw and bearing against a hardened steel platen. The contact diameter of the cone against the platen measured approximately 0.007 inch and was loaded within elastic limits. Adjustment is made by means of turning the set screw within a mated, threaded hole.

FIG. 2 is presented in rather diagrammatic form; however, the diagrammatic configuration emphasizes that it consists of a rotatable member corresponding to the generator 14 of FIG. 1 which is "sandwiched" between a pair of generally U-shaped members corresponding to the lower and upper mass members 12 and 13 of FIG. 1. The wheel of generator 14 is mounted for rotation about an axis lying in the plane of the drawing. The generator assembly is also shown as being mounted for rotation about an axis perpendicular to the plane of the drawing; however, the generator assembly may alternatively be oriented to rotate in the plane of the drawing. When member 14 is rotated rapidly with respect to the U-shaped members 12 and 13, a kinemassic field is generated which is normal to the plane defined by the rotating member and within the plane of the drawing. As such, it may be represented in the drawing of FIG. 2, as taking a generally counter-clockwise direction with respect to the field series circuit members.

Referring once more to FIG. 1, it is seen that support for the generator unit 14 is provided by way of a support assembly 17, also fabricated of steel components. The support assembly 17 is in turn clamped to the horizontal structural element 11 by way of bracket assemblies 18.

The detector 15 is of similar configuration to the generator assembly 14, the exception being that the detector assembly is mounted for limited rotation about the axis normal to the plane of the paper. The limited rotational capability is effected by a knife-edge mounting 19 more clearly discernible in FIGS. 3A and 3B. As will become more readily apparent from the discussion of the operation of the embodiment of FIG. 1 which follows, the knife-edge mounting enables a slow sinusoidal oscillation of the detector assembly about its knife-edge axis.

A pair of light-emitting and light-sensing elements 20a and 20b respectively are shown in FIG. 1 in operative relationship to the generator and detector assemblies 14 and 15. The function of the light-generating and-sensing members 20a and 20b is to measure the rate of spin of the generator and detector wheels respectively. For this purpose every other quadrant on the rim surface is painted black. Accordingly, light directed at the rim of the wheel will be reflected by the unpainted quadrants into light-sensing cells associated with a rate-sensing circuit of conventional design. Since the rate-measuring circuit forms no part of the present invention it has not

been depicted in the actual drawing nor is it the subject of further explanation.

Compressed air or nitrogen is used to drive the generator and detector wheels. In this respect the compressed gas is directed against turbine buckets 21b cut in the rim of the wheel 21 of both the generator and detector assemblies and such buckets are more readily discernible in FIGS. 3, 4 and 5. The compressed gas is supplied to the generator and detector assemblies by way of air supply lines 28a and 28b.

FIGS. 3, 4 and 5 present details of the generator and detector assemblies of FIGS. 1 and 2. In particular, these figures disclose the relationship between a freely rotatable wheel 21, a bearing frame 22, and a pair of pole pieces 23. The bearing frame 22 is of structural steel, and functions to spatially orient the three generator parts without shunting the generated field potential as well as to maintain this orientation against the force moment stresses of precession.

Positioning of the generator wheel 21 with respect to the cooperative faces of the pole pieces 23 is effected by way of the bearing frame upon which the generator wheel is mounted. In this respect the high-reluctance isolation bridges mentioned with respect to FIGS. 1 and 2 are herein shown as set screws 24 which are adjustably positioned to cooperate with hardened steel platens 25. The set screws 24 are mounted on the pole pieces 23 and are adjustably positioned with respect to steel platens 25 cemented to the bearing frame 22 so as to facilitate the centering of the generator wheel 21 with respect to the interface surfaces 23a of the pole pieces 23.

In the implementation of the present invention the air gap formed between the generator wheel rim flanges and the stationary pole pieces 23 was adjusted to a light-rub relationship when the wheel was slowly rotated; as such this separation was calculated to be 0.001 centimeter for a wheel spin rate of 28,000 revolutions per minute due to the resulting hoop tension. In the drawing of FIG. 3 the spacing between the pole pieces 23 and the generator wheel rim flange has been greatly exaggerated to indicate that in fact such a spacing does exist.

The generator wheel 21 utilized in the implementation of the present invention has a 8.60 centimeter diameter and an axial rim dimension of 1.88 centimeters. The rim flange surfaces 21a which are those field emanating areas closely adjacent the surfaces 23a of the pole pieces 23, are each 29.6 square centimeters. The rim portion of the wheel has a volume of 55.7 cubic centimeters neglecting the rim turbine slots 21b.

The generator wheel 21 and an associated mounting shaft 26 are mounted on the bearing frame 22 by means of enclosed double sets of matched high speed bearings 27.

Shaft members 30 carry suitable bearing members 31 for rotatably mounting the generator assembly will respect to a second axis. The support assembly 17 of FIG. 1 is partially represented in FIG. 3, and as noted above provides the mounting means for positioning the generator assembly 14 with respect to the lower and upper mass members 12 and 13.

Reference is now made to FIGS. 3A and 3B which disclose a portion of the detector 15 of FIG. 1 including the knife-edge mounting 19 of FIG. 1. Adjusting means 32 are shown connected to the bearing frame 22a of the detector assembly 15 by means of a disc-like member 33. Attached to the lower portion of the disc 33, and depicted in the end view of the detector assembly of FIG. 3B, is shown a second adjusting member 34, which in combination with equivalent members 32 and 34 mounted on the other end of the detector assembly, provide means for symmetrically aligning the detector assembly within the gap provided by the lower and upper mass members 12 and 13. This further means that the knife-edge assembly is mounted so that the knife-edge axis is coincident with the geometric axis of the detector assem-

bly. At the same time, the center of mass of the detector assembly is located below the geometric center of the detector assembly thereby providing a righting moment to the assembly due to the asymmetry of the mass center with respect to the knife-edge axis. The adjusting means 32 is shown as bearing against the support assembly 17, thereby, in combination with the knife-edge mounting at either end of the detector assembly, providing an effective four point suspension for symmetrically positioning the detector assembly 15 within the end poles of the upper and lower mass members.

In FIGS. 1, 2 and 3 the detector assembly 15 is shown in three different positions. As will become apparent from the discussion of the operation of the subject system which follows, the facility to so reposition the detector assembly is necessary to demonstrate its operative capabilities. Accordingly, the bearing frame 22a is rotatably mounted with respect to the disc 33 by means of a bearing surface interfacing the frame 22a with the shaft 35, the latter being affixed to the face of the disc 33.

Proceeding now to an explanation of the operation of the embodiment of the invention thus far disclosed, it will be appreciated that in accordance with the theory of operation of the present apparatus when the generator wheel is made to spin at rates upwards of 10 to 20 thousand revolutions per minute, effective polarization of spin nuclei within the wheel structure gradually occurs. This polarization gradually gives rise to domain-like structures which continue to grow so as to extend their field dipole moment across the interface separating the rim 21 from the pole pieces 23. Secondary dynamic interaction of gravitational coupling increases the field flux lines around the kinemassic force generating assembly, thus resulting in ever increasing total nuclear polarization of half integral spin nuclei.

The non-electromagnetic forces so generated within the subject apparatus are primarily channeled through the high-kinemassic permeability material defining the series field circuit of the apparatus. The fact that the high speed rotatable wheels of both the generator and detector assemblies are capable of being positioned in a series aiding or series opposing relationship, facilitates the determination of the effective influence of the energies generated in one on the other.

The detector, when carefully balanced on its knife-edges as shown in FIGS. 3A and 3B, exhibits an oscillation period of 11 seconds. When the wheels are energized a stiffening action is induced due to the reaction of the compressed gas impingement against the wheel bucket 21b, since the jet nozzle is fixed with respect to the apparatus base. This results in a reduction of the oscillation period to approximately 6 seconds. A light image not shown is directed against the mirrored face of the knife-edge 19 and reflected onto a calibrated wall screen. Measurements were taken with the apparatus so operative, which measurements established the oscillatory extremes of the reflected light beam for a pole-aligned relationship of the spinning generator and detector wheels. The results of one such set of measurements are recorded in FIG. 6. Therein, the x's and dots represent extremes in deviation while the larger circles represent the mean thereof. The mean was in turn used to establish a null line to be compared with a similar null line derived from poles-opposed orientation of the generator and detector wheels. As a result, a displacement from equilibrium of approximately 13 arc minutes is shown.

In order to maximize the shift of the null line, the field circuit polar relationship of the generator and detector poles was reversed every 30 or 40 minutes from a relation of poles aligned, to poles opposed, to poles aligned. An average null shift of 26 arc minutes is indicated in FIG. 6. That the interaction between generator and detector was in fact accountable for the recorded results was demonstratively supported when the upper mass member was raised so as to create two air gaps one centimeter

in length respectively. Predictably, the disruption to the field circuit continuity resulted in the failure of the apparatus to register a shift in the null lines upon reversal of the poles.

Reference is now made to FIG. 7 which discloses an apparatus constructed in accordance with the principles of the present invention for generating a time-variant secondary gravitational field. This apparatus is a mere modification of the apparatus of FIGS. 1 and 2 wherein one detector assembly 15 has been removed and supplementary means are provided to mechanically implement the rotation of the generator assembly 14 about the axis perpendicular to the plane of the paper. These supplementary means are in the nature of an auxiliary motor 36 having a drive pulley 38 adapted to spin the generator assembly 14 about an axis normal to the plane of the drawing and coincident with that of the shaft 30. The shaft 30 carries a pulley 40 which is driven by the motor and pulley assembly 36–38 by way of a conventional drive belt 42. The wheel 21 of the generator assembly 14 is driven in the manner outlined above, namely by means of a source of compressed air not shown.

The supporting assembly depicted in FIG. 7 in partially sectioned form as member 44, is in reality the equivalent of the series mass circuit of FIGS. 1 and 2, inverted or turned inside out so as to form a shield for the kinemassic field generating apparatus. Included as part of the supporting assembly is member 44A which is provided to position the generator assembly 14 in the discontinuity formed in the mass circuit. The kinemassic field generated within the apparatus of FIG. 7 upon energization of the wheel 21 is directed in an enveloping fashion about its generator, being confined in general to the shell. The cross sectional thickness of the shell along equipotential lines must be equal in order to ensure a homogeneous field within the structure. If now the spin rate of the wheel 21 is made to vary, or if the generator assembly 14 is made to rotate about the axis defined by the shaft 30, a time-variant secondary gravitational field is induced in the toroidal space 46.

The secondary gravitational field undulates in a sinusoidal manner with the undulating kinemassic field confined to the series mass circuit. Since the kinemassic field in the dense mass circuit 44 has been restricted through permeability, into an enveloping shell about the generator 14, it follows that the induced undulating secondary gravitational field is likewise restricted primarily to the enclosure 46 as the flux lines of both fields must interlink. In accordance with analogous electromagnetic field theory, the kinemassic field flux lines and the secondary gravitational field flux lines interlink in such manner that, as the kinemassic field alternates, these interlinking loops decay and build up in alternate vector directions in proper phase relation.

A hollow ring member 48 is positioned within the toroidal space 46 and supported thereby a series of fine steel wire spokes 50 secured to the ring and the outer portion of the inverted core housing 44 preferably along points of equipotential of the kinemassic field. Within the hollow ring 48 is contained a dense fluid such as mercury depicted in FIG. 7 generally as member 52. Alternatively, the ring-fluid combination may take the form of a single solid mass. In the latter event the mass circuit would be supported on bearings facilitating its rotation about an axis common to the axis of the generator wheel 21 in order to permit mass flow or rotation of the mass circuit under the influence of the alternating secondary gravitational field. The shielding effected by the design considerations of the toroidal shell 44 with respect to the primary gravitational field reduces the inertial parameter of mass acceleration within the toroidal space 46 in proportion to the ambient gravitational shielding effect. With reduced inertia there will be an appreciable rotational flow displacement of the mass circuit 48–52 for each half cycle of the induced secondary gravitational field, thereby further

strengthening the coupling effected between the effective field forces i.e., the primary gravitational field, the kinemassic field and the secondary gravitational field.

Consider now that the apparatus of FIG. 7 is energized such that the wheel 21 spins about its axis creating a uniformly distributed kinemassic field throughout the entire field circuit referred to generally as that encompassed within the inverted core housing 44. As the generator assembly 14 is energized to rotate about the axis passing through shaft 30, a uniformly distributed alternating kinemassic field is established throughout the field circuit.

The presence of the undulating kinemassic field produces a shielding effect within the inverted housing effectively restricting the induced secondary gravitational field while at the same time tending to shield or force out the flux due to the ambient gravitational field. As the spin rates of the wheel and the generator assembly about their respective axes are increased, there results a stronger undulating kinemassic force field of higher frequency. The spin rates may be so varied that a mean gravitatinal flux line density within the apparatus of FIG. 7 exists which is equivalent to the primary gravitational flux line density i.e., that due to the earth and other cosmic bodies. This condition establishes a state of weightlessness or zero gravitational force of attraction with respect to other masses such as earth, for that particular value of gravitational field gradient.

If the spin rates of the wheel and the generator assembly are further increased there results a "bowing-out" or spreading of the gravitational flux lines within the immediate proximity of the apparatus of FIG. 7 so as to result in a lesser local flux line density, thus resulting in the propulsion of the apparatus along the local gravitational field lines of force in a direction diametrically opposed to the local gravitational field force vector.

Because of the nature of the interaction of the primary gravitational field, the secondary gravitational field and the kinemassic field, the secondary gravitational field forces will continue to act upon the apparatus as it passes into lesser gravitational field gradients; however, it will do so with diminishing magnitudes until the local gravitational flux line density about the apparatus of FIG. 7 is no longer effectively diminished thereby. The energy required to propel a vehicle powered by an engine, such as is described above, is accounted for by way of the gravitational field potential energy gained by such a vehicle as it passes to areas of lesser gravitational field intensities. Energy input into this engine would appear as the product of torque and rotational values about the spin axes of both the wheel and the generator assembly, and especially about the latter axis which is responsible for alternating the kinemassic field and thereby generating the secondary gravitational component.

As was mentioned above in explanation of the embodiment of FIGS. 1 and 2, the wheel 21 and the generator assembly 14 are mounted so as to be rotatable in mutually orthogonal directions. It was further mentioned that such orthogonal rotation is not an absolute necessity, it being only necessary that relative motion be established between the wheel 21 and the stationary pole pieces 23. The generator assembly is made to rotate thereby effecting an undulation in the kinemassic field flux in the associated mass circuit. FIG. 7A and 7B disclose a variation of the apparatus of FIG. 7 which satisfies the basic requirements outlined above while at the same time providing certain advantages not available in the aforementioned structure.

In this respect FIGS. 7A and 7B disclose an embodiment wherein the spin axis of the equivalent wheel structure 21 and the generator assembly 14 are concentric thereby eliminating precessional forces present in the embodiment of FIG. 7 due to the rotation of the respective members about the two mutually orthogonal axes. The absence of precessional forces permits a close tolerance to

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be established between the cooperating faces of the wheel structure 21, the pole pieces 23 and the mass circuit 44.

The embodiment of FIGS. 7A and 7B is also to be preferred to that of FIG. 7 in that the design of the generator assembly of the former permits the energization of the independently rotatable members 21 and 23 by means of a single motor 36 differentially geared so as to effect the rotation of the wheel 21 at a speed far in excess of that of the generator assembly, and as indicated, in a reverse direction thereto.

Also indicated in the embodiment of FIGS. 7A and 7B is the orientation of the flux within the mass circuit, the latter being constructed preferredly of bismuth. It should be understood that the direction of flux within the mass circuit reverses with each reversal in orientation of the equivalent pole pieces 23 due to the rotation of the generator assembly 14.

It will be apparent from the foregoing description that there has been provided an apparatus for generating time-variant kinemassic forces due to the dynamic interaction of relatively moving bodies. Although in its disclosed application, the time-variant kinemassic force has been described in relation to its function of generating a secondary gravitational force, it should be readily apparent that other equally basic applications of these forces are contemplated.

Thus, in addition to providing an effective propulsion technique, the principles of the present invention may be utilized for the purpose of generating localized areas of gravitational shielding for housing medical patients for which such weight reductions would be beneficial. In addition, the principles may be adapted to laboratory use, as for example the analysis of the effects of a sustained reduction of "g" value upon astronauts and for specialized manufacturing techniques.

While in accordance with the provisions of the statutes there has been illustrated and described the best form of the invention known, it will be apparent to those skilled in the art that changes may be made in the apparatus described without departing from the spirit of the invention as set forth in the appended claims, and that in some cases, certain features of the invention may be used to advantage without a corresponding use of other features.

Having now described the invention, what is claimed as new and for which it is desired to secure Letters Patent is:

1. An apparatus for establishing a time-variant kinemassic force field resulting from the relative motion of moving bodies, comprising a generator assembly independent portions of which are mounted to assume relative rotational motion about at least a single axis located within said generator assembly, a mass circuit of dense material of discontinuous configuration, means for positioning said generator assembly within said mass circuit discontinuity, and means for initiating independent relative rotational motion of said generator assembly portions whereby an undulating kinemassic force field is established within said mass circuit.

2. Apparatus according to claim 1 further character-

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ized in that said mass circuit and said relatively moving portions are comprised of spin nuclei material.

3. An apparatus according to claim 1 wherein said mass circuit is further characterized by first and second U-shaped members positioned in mirrored relationship with respect to each other and displaced somewhat so as to form two gaps therebetween, one of said gaps corresponding to said mass circuit discontinuity and being adapted to receive said generator assembly and the other said gap being adapted to receive a detector assembly.

4. Apparatus constructed in accordance with claim 1 wherein said mass circuit is further characterized by a shell of generally toroidal configuration having a cylindrical central portion within which is located said mass circuit discontinuity.

5. An apparatus constructed in accordance with claim 2 wherein said generator assembly mounted within said mass circuit discontinuity further comprises a rotatable member, a frame, means for mounting said rotatable member on said frame, pole pieces mounted on said frame on either side of said rotatable member, each pole piece presenting a generally circular face in close proximity to but spaced from a face of said rotatable member, means for effecting the rotation of said rotatable member about a first axis, and means for rotating said frame about a second axis oriented perpendicular to said first axis.

6. Apparatus constructed in accordance with claim 4 and further characterized by a dense mass ring mounted within the walls of said shell structure by mounting means establishing small area contact between said mass ring and said shell structure.

7. An apparatus constructed in accordance with claim 6 wherein said dense mass ring is further comprised of a hollow shell housing a liquid metal of suitable density.

8. Apparatus according to claim 6 wherein said dense mass ring has as its axis the axis of revolution defining the surface of said shell.

9. Apparatus constructed according to claim 3 wherein said shell is further characterized as being of equal cross sectional area normal to the kinemassic field lines of force.

10. A method of generating a time-variant kinemassic force field including the steps of:

juxtaposing in field series relationship a first member comprised of spin nuclei material of half integral spin value and a second member similarly constituted, portions of said first member being adapted to assume relative rotational motion about at least a single axis;

initiating the independent rotation of said first member about at least a single axis whereby an undulating kinemassic force field is established therein;

and so configuring said second member as to confine said undulating kinemassic force field thereto whereby a time-variant secondary gravitational force field is induced in the surrounding space.

No references cited

HARLAND S. SKOGQUIST, Primary Examiner

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,626,605   Dated December 14, 1971

Inventor(s) Henry W. Wallace

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

IN THE SPECIFICATION

Column 1, lines 19 to 42, should appear as a part of the "Abstract of the Disclosure".

Column 2, line 31, "three" should read --there--.

Column 3, line 31, "if" should read --of--.

Column 3, line 32, "of" should read --if--.

Column 7, line 51, "with" should read --within--.

Column 8, line 73, "rate-sensing" should read --rate-measuring--.

Column 11, line 10, "one" should read --the--.

Column 13, line 15, "reverseal" should read --reversal--.

Signed and sealed this 5th day of September 1972.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.   ROBERT GOTTSCHALK
Attesting Officer   Commissioner of Patents