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DE 002442654 A **JP 110098868 A**
JP 030159584 A

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(54) Abstract Title: **Electricity generating apparatus**

(57) An electric generating device includes two capacitors 1 and 2, each having a pair of concentric electrodes and in-series connection to inductor 3 and 4. Each capacitor has an electrode connected to a high voltage dc source 5 and another connected to a low voltage or earth terminal 6. An AC Power output may be produced from terminals between each capacitor and inductor or from a transformer where the inductor is the primary winding. Electricity production may be sustained by drawing energy from the vacuum medium surrounding the electrodes.

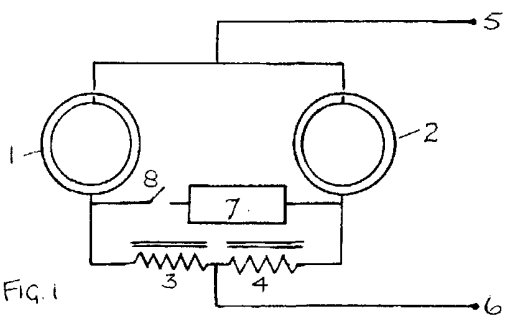

FIG. 1

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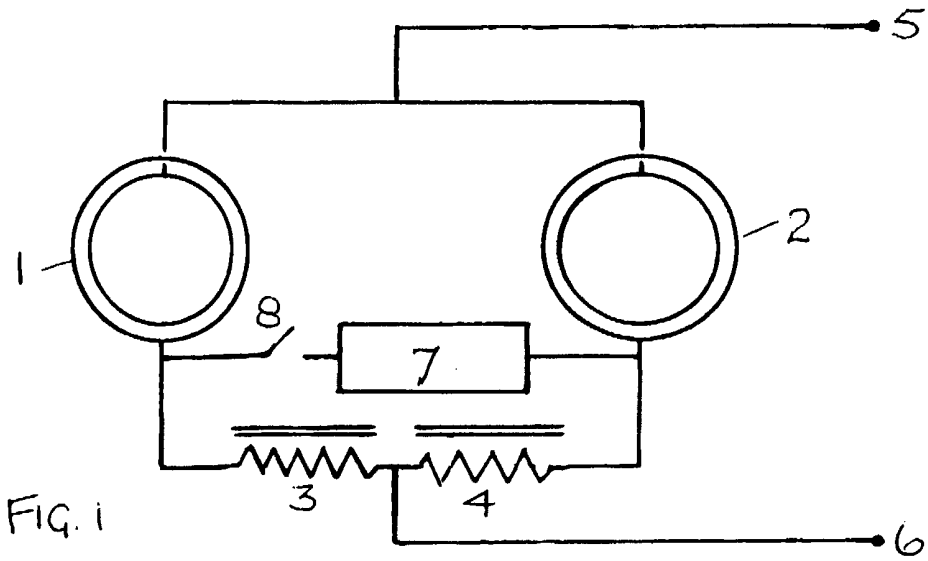

FIG. 1

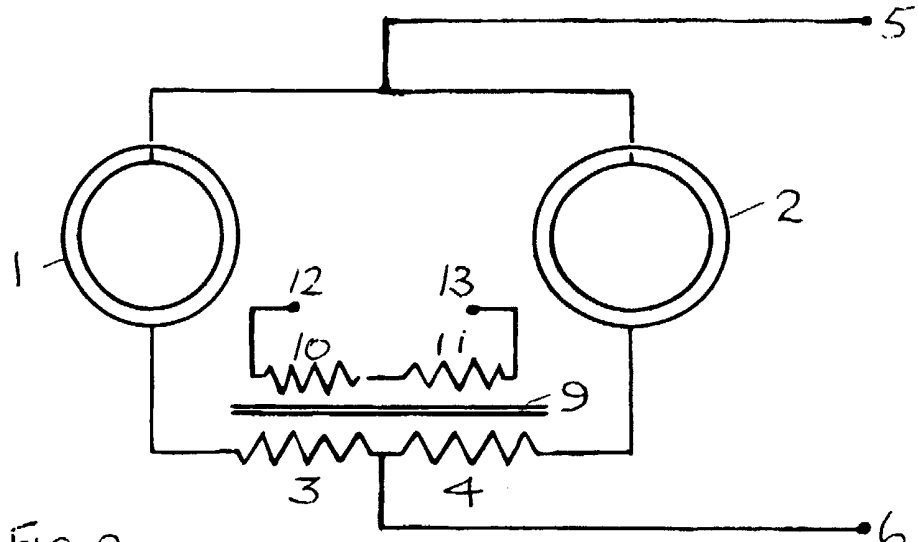

FIG. 2

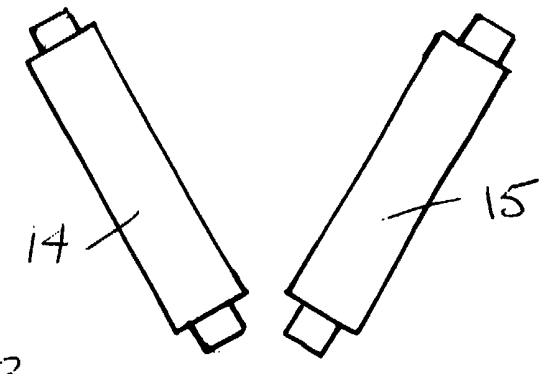

FIG. 3

ELECTRICAL POWER GENERATING APPARATUS

FIELD OF INVENTION

This invention relates to a new and non-conventional means for the generation of electrical power. The energy source is the quantum underworld of space, the aether medium of the vacuum state, long recognized for its ability to allow the storage of electric field energy by reacting as its intrinsic charge is displaced, a process understood by physicists by reference to the research findings of Clerk Maxwell.

BACKGROUND OF THE INVENTION

The current state of the art of electrical power generation does not recognize the possibility of ultimately tapping energy from the aether. Physics is taught on the basis that energy cannot be created or destroyed, inasmuch as it is conserved in all physical processes, though it can be degraded in its usefulness, as by burning of hydrocarbons and conversion into heat which dissipates as by radiation into outer space. The aether as a source or as an absorber of energy is not deemed to serve any specific role in the physics of energy deployment, it having been dismissed from consideration by invoking the notion of 'field energy' without admitting the specific physical reality of something in space that accounts for the properties involved.

Theoretical physicists have, however, come to suspect that space devoid of matter is nevertheless a seething sea of activity subject to sporadic energy fluctuations which can create electron-positron pairs that exist momentarily before decaying back into their quantum underworld. Yet those same physicists deny all possibility that this energy resource of space itself can be exploited to provide useful power on a scale large enough to rival the role played by atomic power plants and fossil fuel generating installations.

Curiously, they do subscribe to the belief that one day they may be able to generate power on a viable commercial scale from fusion reactors by processes replicating what they believe sustains the Sun's heat output as hydrogen is transmuted into different atomic forms. In contrast with this rather elusive objective, it having proved beyond reach even after half a century of effort, this invention is based on success in generating power by replicating, not the Sun's onward energy decay, but rather a process akin to that by which the Sun itself was created from energy drawn from the enveloping aether medium.

The invention to be described below has emerged from an in depth theoretical investigation into the properties of the aether and quite independently of any of the well known claims of published record which feature at the fringe of mainstream scientific literature. A recent and very well presented account of what amounts to a century of relevant energy history is the book 'The Search for Free Energy' by Keith Tutt, published in 2001 by Simon & Schuster (ISBN 0-684-86660-9). Here in this book is a comprehensive

background of information concerning the energy devices of several researchers but the references to Nikola Tesla and T. Henry Moray are particularly pertinent to the subject of this invention and, though imposing a limitation on what can be legitimately claimed by this patent application, they serve also as a basis for a very important lesson to those engaging in this field of invention.

The lesson is that it is not sufficient to build and demonstrate something that works, if you do not fully understand why what you have devised actually does work. This is especially the case here where one is claiming a source of energy hitherto unknown. The invention to be described below will, in its broadest sense, appear to be quite similar to what Henry Moray is said to have demonstrated in showing that substantial electrical power could seemingly be drawn from the aether using a simple wire antenna strung between two poles. However, as will be seen, the antenna is not needed and the reason is that the energy source is not the radiant emission by some process involving radio wave propagation through the aether, but rather what can best be described as a phase-lock that couples the apparatus with the quantized motion of electric aether charge. There is a technique, to be described below, by which it is possible to exploit this phase-lock condition by setting up an energy oscillation involving an apparatus component and its enveloping aether, the result being that energy in an immediately useful electrical form is imported into the apparatus from that aether.

BRIEF DESCRIPTION OF THE INVENTION

According to one aspect of the invention, an electric power delivery circuit comprises two capacitors, each having a pair of electrodes formed by a pair of metal cylinders having concentric axes, each capacitor having an associated inductor series-connected to it to form a capacitor-inductor unit, d.c. voltage excitation means connected to a parallel combination of the two capacitor-inductor units, whereby to apply between corresponding electrodes of the capacitors a d.c. bias voltage which primes them with electric charge, and power output terminals, one at each point of connection between a capacitor and its associated inductor, whereby to provide for an a.c. power output owing to oscillations of electric charge between the two capacitors at the resonant frequency of the capacitor-inductor units.

According to another aspect of the invention, an electric power delivery circuit comprises two capacitors, each having a pair of electrodes formed by a pair of metal cylinders having concentric axes, each capacitor having an associated inductor series-connected to it to form a capacitor-inductor unit, d.c. voltage excitation means connected to a parallel combination of the two capacitor-inductor units, whereby to apply between corresponding electrodes of the capacitors a d.c. bias voltage which primes them with electric charge, each inductor being the primary winding of an electrical transformer, the secondary winding of which serves to provide an a.c. power output owing to oscillations

of electric charge between the two capacitors at the resonant frequency of the capacitor-inductor units.

According to a feature of the invention, the capacitors have no intervening solid or liquid dielectric medium separating their concentric electrodes.

According to another feature of the invention, the two inductors are coupled electromagnetically by having a common ferrite core and their primary windings are connected to their associated capacitors in the polarity configuration which assures that, in their mutually resonant state, electric charge is exchanged between the two capacitors.

According to yet another feature of the invention, the central axes of both cylindrical electrode capacitors are mutually parallel.

According to a further feature of the invention, an electrical power delivery system comprises a plurality of such electric power delivery circuits, wherein said central axes have different angular orientations as between the different circuits.

According to a still further feature of the invention, in such a power delivery system, the difference in angular orientation of the central axes is at least 60°.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows an electrical power generating circuit incorporating two concentric cylindrical capacitors having central axes that are parallel.

Fig. 2 shows a modified version of the circuit of Fig. 1 with a transformer system providing the inductors and an output winding.

Fig. 3 illustrates a mutually inclined capacitor system comprising two pairs of concentric cylindrical capacitors.

DETAILED DESCRIPTION OF THE INVENTION

The invention draws energy from the aether. To understand why the invention works one needs to understand the process by which the aether stores energy when an electric field is set up across the dielectric separating two capacitor plates. Moreover, one needs to understand the means by which the aether determines the quantum of action, specifically in the form of the Bohr magneton and the unit of angular momentum linked to Planck's constant.

It is not sufficient to imagine that electric charge in the aether is displaced from a rest position in a background continuum of opposite charge polarity to which it is attracted by a restoring force. Indeed, one must consider such action to be superimposed on a system of charge that has an underlying jitter motion, a quantum theory theme associated with the German physicist Heisenberg (Zitter-bewegung, which has the dictionary meaning 'Circular fluctuation movement, of spin'). When these two factors are combined, and the constraint added of there being a phase-lock which keeps that jitter motion in synchronism as between the charges, one finds that the physical theory involved has some very interesting consequences.

One of these consequences is that a spherical or cylindrical volume of aether, if spinning bodily about a central axis, will acquire a magnetic moment and set up an electric field inside that sphere or cylinder that is directed radially with respect to the spin axis. A summary analysis is presented in the Appendix to this specification, being in part a quotation from pages 31-33 of a booklet entitled 'The Theory of Gravitation' which the Applicant of this invention, Dr. Harold Aspden, authored in 1959 and duly published early in 1960.

The induction of electric charge by 'aether spin' was there shown to give a physical basis, both qualitative and quantitative, for the geomagnetic moment, the property of body Earth of setting up a magnetic field which created magnetic North and South poles at latitudes offset from the geographic poles, with the geomagnetic polar axis precessing slowly around the Earth's spin axis at a rate of several hundred years per revolution. By identifying its source as a rotation of a sphere of aether coextensive with body Earth, a volume of aether relative to which the Earth could have a component of motion even though the aether spin frequency is equal to that of the Earth, this axial tilt of some 17 degrees has a physical explanation. However, that aspect of the aether's role was not seen at the time as offering anything of promise technologically. The physics involved is nevertheless very relevant and directly pertinent to the experiments on which this invention is based, the findings of which would otherwise be quite baffling scientifically.

The applicant has, over the 40 or so years since the theory was first published, given a great deal of consideration to the theoretical implication that, just as aether spin can set up electric charge displacement inside coextensive matter, so the setting up of an electric field directed radially with respect to an axis can induce aether spin about that axis and with it develop angular momentum. Indeed, in the author's onward publications on this subject, as, for example, 'Physics Unified' published in 1980 by Sabberton Publications, P.O. Box 35, Southampton, England (ISBN 0 85056 0098), it is shown how the onset of the force of gravitation when a disordered aether consolidated into an orderly structured form caused protons to accrete more rapidly that electrons, owing to their higher mutual rate of gravitational acceleration. This created stars with an initial positive charge and the associated aether spin resulted in the stars acquiring their spin states and shedding matter which consolidated into planets which share the angular momentum so generated. The aether with its property of spin as related by its electric charge density according to the formula presented in the Appendix is therefore the key factor if we attempt to account for the creation of the stars which populate our universe.

That same formula, however, is equally valid if applied to the circumstance where a radial electric field is set up between the concentric cylindrical electrodes of a capacitor formed around a hollow dielectric cylinder. It tells us how fast the aether within that dielectric will spin. The related theoretical analysis shows that the quantum phase-lock feature of the aether

imports from the external aether world an amount of energy equal to that supplied in setting up aether charge displacement, this imported energy being the dynamic energy corresponding to the acquired aether angular momentum. Guided by the argument concerning stellar creation one can see that this aether angular momentum can be transferred to matter and this process also has its energy transfer implications.

However, one can wonder what happens if, after setting up a radial electric field in that capacitor having concentric electrodes, the applied voltage is reduced, thereby withdrawing electric field energy from the capacitor. The imported energy present in kinetic energy form as a cylindrical shell of aether spins about the central axis of the capacitor will tend to sustain electric charge displacement. To conserve energy, since the aether phase-lock cannot force the expulsion of energy by obliging the enveloping aether universe to keep in step, this energy can only be shed by augmenting that released electrostatically. In other words the net result is that an up and down fluctuation of the electric charge condition of the capacitor must give rise to an electric energy output that is, for the lowest dielectric constant (the permittivity of the vacuum), double the input in each cycle of change. One can then envisage an oscillation escalating in energy content powered almost wholly by aether input before one taps into that source of power to draw off energy at a rate consistent with stable operation.

This is, of course, a bewildering prediction that no physicist could imagine as being at all possible and yet, given the relevance of the theoretical argument involved, as applied to the phenomenon of geomagnetism and stellar creation, which are supported by strong evidence in that book 'Physics Unified', once such a notion is conceived it surely has to be put to the test by experiment.

This then, after decades of effort before this realization has dawned, is the basis on which the Applicant has only now come to appreciate the amazing technological possibilities that lie before us and is asserting by this patent specification that energy can in fact be tapped from the aether on a commercially viable scale.

Given that aether theory indicates that the special form of capacitor described above will, if subject to an oscillatory charge condition, generate an excess of energy, a question to consider is why such a phenomenon has not manifested itself in bench-type experiments performed in numerous electrical laboratories over the past one hundred years. Ostensibly the implication is that the capacitor will exhibit a negative resistance if used with an inductor as a component in what would become a self-resonating circuit. The answer to this may be that if such a phenomenon has occurred it has passed unnoticed or been regarded as spurious or noise-related, being something connected with radio interference etc. Alternatively, and as a function of the size and scale of the apparatus, the effect may have lacked an exciting trigger needed to overcome an

energy threshold set by such factors as circuit contact resistance or contact potentials as well as the basic resistance of the inductors which, with the capacitors, form the resonant circuit.

Note that, even for a capacitor of quite large physical dimensions, having regard to its accommodation on top of a laboratory bench, the actual capacitance is necessarily quite small, being of the order of a billionth of a farad. This means that a capacitor charge fluctuation of the order of a volt would only imply energy fluctuations that are of the order of a billionth of a joule per cycle. The situation is quite different if, perchance a d.c. bias voltage of, say, 5,000 volts is applied to the capacitor. Then a small superimposed voltage fluctuation makes the related energy fluctuations very much larger with much greater prospect of an escalating self-resonance being triggered.

With this in mind the applicant perceived a possible prior art link with the experimental claims reported by Dr. Moray who, in 1929 is said (see pages 46-50 of the above-referenced recently-published book by Keith Tutt) to have powered six 100 watt light bulbs plus a standard 575 watt electric flat iron, merely by providing an earth connection and coupling an input lead to an overhead wire antenna. The apparatus involved had no other source of input power but included a special arrangement of capacitors and presumably some kind of high frequency inductor/transformer unit.

In spite of the attention given to the Moray demonstrations it seems that the secrets involved in the design and construction of the apparatus remain

unknown and so cannot feature in the prior art of published record. Nor, indeed, can the anecdotal evidence of Moray's efforts serve to show that the subject invention has been put to prior use. The technology as to how to replicate the Moray device, always assuming it did perform as claimed, has therefore to be rediscovered and, indeed, given that there is reference to his detectors incorporating some special substance which was referred to as 'Swedish stone', possibly the dielectric he used in his capacitor construction, there is a considerable mystery to unravel. More to the point, however, one is led to believe that Moray was implying that the energy he was tapping was radiant energy drawn from the aether, with that antenna featuring prominently because, without it being connected, the energy output fell to zero. However, as he surely may well himself have known, one just cannot draw power on such a scale from a simple overhead wire strung between two poles and so, without know how, he would have suspected that the energy inflow was coming into his capacitors via the action of that mystery substance he called 'Swedish Stone'.

The applicant here suggests that, based on an insight into the quantum workings of the aether medium as outlined above, the curious discovery demonstrated decades ago by Dr. Moray may have been attributable to setting up an oscillation in a resonant circuit including a concentric cylindrical electrode capacitor which had a voltage bias of the order of a thousand and more volts fed from a connection to that overhead antenna but drawing no significant current from that antenna other than enough to prime his capacitor

with charge and stimulate a high frequency fluctuation which could initiate an escalating circuit oscillation tapping aether energy from the aether spin induced in the capacitor dielectric.

This is speculation, but it is sufficient to justify the Applicant's interest in constructing a capacitor and seeking to verify the assumptions just made.

Notwithstanding the reference above to Dr. Moray and the note below concerning Nikola Tesla, what it leads to is new invention by virtue of full disclosure of details of operation and manufacture of something hitherto unknown, the actual means by which to harness a source of energy latent in the aether medium and deemed by those familiar with state of the art knowledge to be beyond man's reach. Furthermore, there are supplementary inventive features of a special nature because of the way the subject invention exchanges energy between two capacitors and also because the optimization of aether power output from the capacitors is found to be a function of the orientation of the capacitor axes relative to the cosmic background owing to the Earth's rotation.

It seems here appropriate to mention something described by Nikola Tesla in his U.S. Patent No. 685,958. This was filed on 21 March 1901 and granted on 5 November 1901. It was entitled: 'Apparatus for the Utilization of Radiant Energy'. By installing two metal plates, one high above the ground and the other at ground level, with wires connecting the plates to separate electrodes of a capacitor, it was stated that the capacitor became charged to a very high

potential, the energy input being that radiated to Earth from outer space. This may well have motivated the efforts of Henry Moray, but, so far as this Applicant's invention is concerned, no such input from overhead components is necessary as a quite different energy source is at work, namely the zero-point vacuum energy activity of our quantum underworld.

Referring now to Fig. 1, two capacitors 1, 2 formed by concentric cylindrical metal electrodes and having their central axes parallel form part of a resonant circuit combination by each being series-connected to an inductor 3, 4 having a ferrite core. Their inner electrodes are connected to a high voltage d.c. source 5 and their outer electrodes are separately connected through their corresponding inductors to a low voltage or earth terminal 6. A resistive load device 7 is connected via switch 8 between the junction points of the capacitors and inductors.

In operation, owing to spurious electrical signals induced in the inductors or to an imposed electrical stimulus provided by means not shown, the priming electric charge of the two capacitors will develop oscillations as charge is exchanged between the two capacitors. There is energy inflow owing to the quantum coupling of electric charge displaced between the concentric electrodes of each capacitor and the quantum activity of the underworld of the enveloping aether. This affords an electrical energy output which is supplied upon closure of switch 8.

Referring to Fig. 2, the inductors 3, 4 are shown to have a common ferrite core 9 and to have secondary windings 10, 11, which, by transformer action, can supply electrical power output between terminals 12 and 13.

The apparatus of Figs. 1 and 2 will, when viewed in side elevation, appear as having a capacitor form with an outer cylindrical electrode within which there is a slightly elongated inner cylindrical electrode, whereby to facilitate the high voltage connection to that inner electrode. Fig. 3 shows, in very simple diagrammatic form, two such arrangements 14, 15, with the central axes of the two pairs of capacitors mutually inclined. There may, however, be three or more such pairs of capacitors, each pair constituting a circuit such as is depicted in Figs. 1 or 2.

The reason for configuring multiple capacitor systems, each with its own power output, in a combined manner with the outputs merged to supply an overall energy producing system is that the aether energy output of each capacitor unit is a function of axis orientation. This is because the quantum activity of the aether has its own preferred axis and, as the Earth rotates there is variation of the relative axial orientation in a daily cycle. Also, one needs to cater for systems applying this invention in a mobile application, which also implies change of orientation and by having the mutually inclined capacitor axis configurations one can be assured that the potential power output avoids the null situation that can occur if the capacitor axes of a stand-alone unit of Fig. 1 or Fig. 2 were to be at right angles to the aether quantum spin axis.

The capacitor electrodes can be of thin metal sheet form and so of light weight and preferably are not spaced apart by any dielectric medium, whether liquid or solid. They need to be held apart by a simple insulating frame structure. The reason is that the only dielectric medium that is operative in the functioning of the invention is the vacuum medium and to have a normal dielectric present implies more capacitance and so extra current oscillation without extra energy gain per cycle of oscillation. The key factor assuring operation is the need for circuit resistance to be low compared with capacitance that is solely attributable to the vacuum medium combined with the high voltage priming which greatly enhances the power output to weight factor.

The two capacitors of a pair are preferably of identical capacitance and structure, as are the inductors, so that the oscillation period of the two resonant sectors of the circuit are the same. The common ferrite core feature of the Fig. 2 configuration assists in this role.

The apparatus will normally be designed to operate at a capacitor frequency of the order of 100 kHz or more and a voltage of 10,000 V or higher and so the transformer output of Fig. 2 will be preferable with voltage duly adjusted to suit the application. The high frequency a.c. so produced can then be converted as needed by using the appropriate technology of known form.

APPENDIX

Extract from pp. 30-31 of 'The Theory of Gravitation', 1960 printed publication by the Applicant. Note that the earlier pages explained that the aether comprises a system of electric particles in a cubic crystal-like distribution set in a uniform background continuum of opposite charge polarity, the particle system and the continuum both sharing a common circular orbital motion of radius r and the relative velocity between the particles and continuum being the speed of light.

The Effect of Aether Rotation

Consider what happens when a large volume of the aether is rotating bodily. The continuum and particle system rotate together. There will be no resultant magnetic moment unless the particle distribution is disturbed. An evident disturbance is the centrifugal effect arising from aether rotation, but for the angular velocities of magnitude found in the solar system this effect is of negligible consequence. A much more important effect arises from the synchronizing interaction between particles in the rotating volume. This requires that the particles shall move about their neutral points at the same angular velocity. Thus if a particle is to have a velocity component V directed in the plane of its orbit, whilst retaining a mean velocity c/2, its speed along its orbit must be of the form $c/2+V\cos\theta$, where θ is the angle subtended by a line joining the particle and the centre of its orbit relative to a fixed reference datum in the inertial frame. To satisfy the above requirement the cntre of the orbit

cannot be the neutral point. Evidently the particle is distant from this neutral point by $r+(2Vr/c)\cos\theta$. As V is much less than c the effect of this is that the particle is moving around a circular orbit whose centre has been displaced a distance 2Vr/c perpendicular to V in the plane of the orbit. If V is much less than $\varpi x\cos A$, where ϖ is the angular velocity at which the aether rotates, x is the distance of the aether particle from the axis of rotation, and A is the angle of tilt of the axis to the common axial direction of the aether particle system, this displacement distance is $2(\varpi xr/c)\cos A$. Consider a disc-like section of the rotating aether of radius x and unit thickness. Then, the effective charge displacement arising from the effective physical displacement of the particles is $2\pi x\sigma(2\omega xr/c)\cos A$. The disc has acquired a uniform charge density of $4(\omega r\sigma/c)\cos A$ esu/cc. The polarity of this charge depends upon the direction of rotation of the aether.

When evaluated from the aether data already presented the charge density is found to be:

$$4.781\ \omega\cos A \text{ esu/cc.}$$

This charge density represents a charge component which rotates with the aether.

Calculation of the Geomagnetic Moment

For Earth, ω is $7.26\ 10^{-5}$ rad/sec and A is 23.5°. Thus the earth's charge density is, from the above expression, 0.000319 esu/cc. The rotation of this charge gives rise to a magnetic moment of:

$$(0.000319)(4\pi/15)\omega R^5/c$$

where R is here the radius of the earth's aether. If R is greater than the earth radius ($6.378\ 10^8$ cm) by a small factor k, the earth's theoretical magnetic moment becomes $(1 + 5k)6.8\ 10^{25}$ emu. This may be compared with the measured value of the earth's magnetic moment of $8.06\ 10^{25}$ emu.

An upper limit of 0.035 is imposed on k, suggesting the earth's aether terminates at a mean height of about 140 miles above the earth's surface. This suggests that the ionosphere may be a phenomenon arising at the aether boundary.

CLAIMS

1 An electric power delivery circuit comprising two capacitors, each having a pair of electrodes formed by a pair of metal cylinders having concentric axes, each capacitor having an associated inductor series-connected to it to form a capacitor-inductor unit, d.c. voltage excitation means connected to a parallel combination of the two capacitor-inductor units, whereby to apply between corresponding electrodes of the capacitors a d.c. bias voltage which primes them with electric charge, and power output terminals, one at each point of connection between a capacitor and its associated inductor, whereby to provide for an a.c. power output owing to oscillations of electric charge between the two capacitors at the resonant frequency of the capacitor-inductor units.

2 An electric power delivery circuit comprising two capacitors, each having a pair of electrodes formed by a pair of metal cylinders having concentric axes, each capacitor having an associated inductor series-connected to it to form a capacitor-inductor unit, d.c. voltage excitation means connected to a parallel combination of the two capacitor-inductor units, whereby to apply between corresponding electrodes of the capacitors a d.c. bias voltage which primes them with electric charge, each inductor being the primary winding of an electrical transformer, the secondary winding of which serves to provide an a.c. power output owing to oscillations of electric charge between the two capacitors at the resonant frequency of the capacitor-inductor units.

3 An electric power delivery circuit according to Claim 1 or 2, wherein the capacitors have no intervening solid dielectric medium separating their concentric electrodes.

4 An electric power delivery circuit according to Claim 1 or 2, wherein the capacitors have no intervening liquid dielectric medium separating their concentric electrodes.

5 An electric power delivery circuit according to Claim 1 or 2, wherein the two inductors are coupled electromagnetically by having a common ferrite core and their primary windings are connected to their associated capacitors in the polarity configuration which assures that, in their mutually resonant state, electric charge is exchanged between the two capacitors.

6 An electric power delivery circuit according to Claim 1 or 2, wherein the central axes of both cylindrical electrode capacitors are mutually parallel.

7 An electric power delivery system comprising a plurality of electric power delivery circuits according to Claim 6, wherein said central axes have different angular orientations as between the different circuits.

8 An electric power delivery system according to Claim 7, wherein the difference in angular orientation of the central axes is at least 60°.

Application No: GB 0205577.0 **Examiner:** Tony Davies
Claims searched: 1-8 **Date of search:** 3 November 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
A		DE 2442654 A	(POGGENSEE) see abstract and figures
A		JP 11098868 A	(TERUMO) see abstract and figures
A		JP 03159584 A	(OSAKA GAS) see abstract and figures

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC[V]:

H2A

Worldwide search of patent documents classified in the following areas of the IPC[7]:

H02N

The following online and other databases have been used in the preparation of this search report:

Online: WPI, EPODOC, JAPIO