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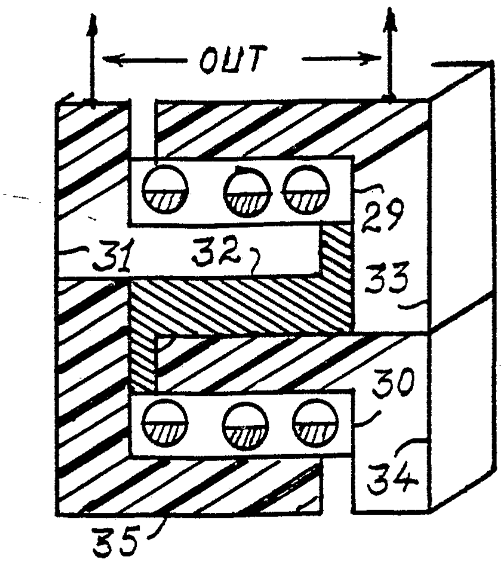

(57) Abstract

Both surfaces of thin sheets (29, 30) of non conductive material are implanted with free electrons (24) (0.16 microns deep) by controlled acceleration in vacuum chamber (7), and passed through high intensity magnetic field (M6, M7) for uniformalizing the polar orientations of the oppositely implanted electrons. Both surfaces of these sheets (29, 30) are then coated with electrically conductive material (31, 32, 34, 35) and assembled into a disk, with parallel connections, and two output terminals are brought out. When this finished disk is placed on the flat pole face of a permanent magnet (M4), in repelling orientation against the electrons, they will tilt and precess with an output electrical energy across said terminals.

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Solid State Generator of Electron Precession

This invention relates to a method and apparatus for restructuring a solid containing free electrons, and inducing processional gyrations thereto by a permanent magnetic field for obtaining output energies. Its main object is to implant uniformly polarized free electrons on both surfaces of thin sheets of a non conducting material, so that they can be stacked up into a solid disk containing a large volume of uniformly polarized electrons, for obtaining a magnified output energy when subjected to precessional gyrations by an applied directional magnetid field.

Brief embodiment of the invention

Both surfaces of a very thin sheet of non conductive material, for example, plastic or glass, are implanted with free electrons by a controlled accelerating voltage in vacuum chamber, so adjusted that the depth of particles, for example 0.16 microns deep, contains no more than one hundred layers of electrons. At such depth, the polar axes of the implanted electrons orient perpendicular to the planar surface of the sheet. If this penetration were deeper, the electrons would be randomly polarized, and cause suppression of gyratory functions of the uniformly polarized electrons by resonating with induction, and tilting them randomly. This sheet is then passed through a high intensity magnetic field for uniformalizing the oppositely polarized electrons on its opposite surfaces. Finally, the opposite surfaces of the sheet are coated with electrical conductors as output terminals. When this finished sheet is placed on the flat pole face of a permanent magnet, the implanted electrons will precess as long as the magnet remains in position, or permanently.

In an experimental observation, electrons implanted on one surface of a 2.54 cm. square ceramic plate has produced an output of 40 milliamps. Thus, when both surfaces of plastic sheets of this size, and 28 microns thick are implanted with electrons and 1000 sheets are stacked up in parallel, the total output current obtained would be 80 amperes, which can be useful for many purposes.

General consensus to precessional function of the electron

In general teachings of electron precessional function, reference is made to the practice of NMR (Nuclear Magnetic Resonance), stating that, the nuclea in a subject body precess within the cylindrical magnet by tilting their polar orientations, but they do not radiate, according to tests and observations. These tests and observations, however, are fallaciously erroneous, because just the mere act of applying a magnetic field to a spinning particle does not mean that it will wobble. In order to obtain gyratory motion of the particle, the applied magnetic field lines should be in an order of uniformity such that, the angular tilt of the particle should be constant throughout a complete gyration for freedom of precession. That is, even though the cyclindrical magnet in NMR represents a uniform magnetic field to the nuclea in the subject body, the nuclea are polarized randomly, and it is just impossible for any single one of them to be able to precess - this is the reason that precessional radiation cannot be observed in NMR. The true precessional function of a spinning particle, however, can be explained by an example of a wobbling top.

The spinning top in wobbling motion

Accodding to the basic laws of travel motion, kinetic energy of a mass m traveling in a straight line, with a velocity v (air resistance being neglected) is:

$$E = \frac{1}{2} m v^2$$

Similarly, in a rotary motion, if a mass whose moment of inertia about an axis is I, and rotates with angular velocity about this axis, the kinetic energy of rotation is:

$$E = \frac{1}{2} I \omega$$

where energy is given in ergs if I is in $g - cm^2$, and ω in radians per second, and g in grams.

In comparison, accordingly, there is no difference in motion values between travel in straight line or in rotary motion, because point by point analysis of the rotary motion indicates that at any angular moment the travel motion is still in a straight line. For example, if a small segment of a top is cut and set in place loosely, and exert a sudden rotary motion to the top pivoted to ground, that cut segment of the top will fly away from the top in a straight line parallel to the plane of the earth.

Following the above given conditions, assume that the weight of the top is ideally perfectly balanced about its rotational axis; and it is spinning pivoted to the plane of the earth. The axis of the top will be perfectly parallel to the gravitational axis of the earth, because the gravitational pull to the body of the top about its axis is perfectly balanced. Thus, when the top loses its spin speed, it will remain in that vertical posture without experiencing wobbling motion.

Assume now that the top is tilted angularly from its vertical posture without interfering its spin motion. The top will not fall to ground, because the spin (travel) motion reacts against the gravitational force. But at this point, the axis of rotation of the top is no longer parallel with the gravitational axis of the earth, and the direction of travel (spin) motion is no longer parallel with the plane of the earth. Such an unbalanced condition now allows the spinning top freedom of throwing the whole body of the top in forward direction (direction of the spin) similar to the condition in which the top throws away a loose segment of the top, as referenced in two paragraphs above. In other words, a second type of motion is created automatically, which unlike the spin motion, it is a bodily travel motion, which is driven by the spin motion, and this motion represents acceleration motion in the form of gyration, for creating an output energy. These are the very basic rules of physics, which cannot be changed.

Electron spin resonance (ESR)

Up to this point it was explained that the spinning top is pivoted to groundfor holding it in stationary position, and the nucleus is already held in stationary position centrally by the magnetic forces of its orbiting electrons. The electron, however, is a free particle, and it must be held in a stationary position between magnetic forces of a pair of self bound atoms (in solids) such as shown in the drawing of Fig. 5.

In consideration of its primary assembly of an atom, it must be remembered that the magnetic attraction between the orbiting electron and the nucleus must be constant during each orbit, in order to prevent the orbiting electron flying away from the nucleus, and at the same time, the travel motion of the orbiting electron should create an equal reactionary force to prevent the electron from collapsing to the nucleus from a distance equal to the radius of the orbit. Both the electron and the nucleus are bipolar magnets, and therefore, in order to keep the mutual magnetic field between them constant, the orbitting electron must twist a complete 360 degree rotation during each orbit. This twist is absolutely necessary, because otherwise, all materials would be magnetic, and all matters would be stuck to each other into a one piece mass.

Mutual attraction of a pair of atoms is established by the magnetic fields of their orbiting electrons. For example, referring to the illustration of Fig. 5, the maximum mutual attraction between the orbiting electrons of the pair of atoms is at points 3, as indicated by their polar signs (N. S.). As mentioned in the above paragraph, the reactionary force created by the orbiting electron keeps the distance between the traveling electron and the stationary nucleus equal to half the diameter of the orbit. Whereas in the case of binding two atoms together, the orbiting electrons of both atoms are in travel motions, and therefore, the reactionary force generated between them is now twice the strength as before, which keeps the two atoms from each other at a distance equal exactly to the diameter of the orbit. In such a condition, if we insert a free electron z between the orbiting electrons of the pair of atoms in Fig. 5, it will remain there tightly bound in stationary position, without disturbing the original distance between the two atoms, because the electron z is stationary with respect to the orbiting electrons.

In adherance to the above given conditions, if we hold a permanent magnet M3 to the electron z of Fig. 5, in a similar fashion as shown in Fig. 4, the electron z will start precessing at a resonant frequency which is directly proportional to the field strength between the orbiting electrons and the magnet.

Having described the preferred embodiments of the invention, the practical aspects will now be given in the following specification, in connection with the accompanying drawings.

Brief description of the drawings

Fig. 1 illustrates a magnetic top for describing the basic principles of the invention. Fig. 2 illustrates a controlled top for describing the basic principles of the invention. Figs. 3 and 4 illustrate wobbling tops for describing simulated functional operation of the invention. Fig. 5 shows how an entrapped electron can be driven into wobbling atate by the control of a magnetic field, for generating output fields. Fig. 6 is an exemplary arrangement for producing perpetual electron precessional output by the use of permanent magnets. Fig. 7 shows an exemplary arrangement for implanting electrons on the surface of a roll of thin film. Fig. 8 shows how a roll of film with electrons implanted on both surfaces is passed through a pair of magnets for uniformalizing the oppsitely implanted electrons. Fig. 9 shows how an electron implanted long film may be rolled and inserted inside of a radially magnetized cylindrical magnet for obtaining output energy in a practical mode. Fig. 10 shows a cross sectional view of an assembly of two electron implanted sheets of film, with electrical connections, and an insulate therebetween. And Fig. 11 is another version of the invention.

Best mode of carrying out the invention

In view of the functional performance of the wobbling top in Fig. 4, the polar axes of the uniformly polarized electrons must be perpendicular to the flat pole face of a permanent magnet. Thus, in a practical mode, the restructured material may be formed into a disk by stacking up thin sheets of non conductive material, with two conductive end plates (electrodes) 2 and 3, as output terminals, as shown in the arrangement of Fig. 6. The precessing electron E in this disk is shown to indicate polar orientations of the uniformly pol rized electrons in the disk with respect to the polarized signs of the pole faces of the magnet M4.

In reference to electron implantation in a solid, the substrate may be in the form of plastic ribbon 18 in Fig. 7, transferred from one roll 20 to a second roll 18, in a steady travel motion by a driving roll 23. As this ribbon travels in a right to left direction, an accelerated beam of electrons 24 are projected upon its upper surface for electron implantation. Electron implantation in a solid is a conventional practice, the apparatus of which consists of a heated cathode 8 for emitting electrons; an anode 9 for drawing the emitted electrons into the upper section of the vacuum chamber 7, in a state of ionized plasma; and an external magnet M5 for condensing the electrons in the upper section of the chamber. Acceleration of the electrons is established by the extractor electrode 4, and the grid electrode 5 is used to prevent electron passage to the substrate until operation is to be started. A ground electrode 6 is also included in the apparatus. Thus, when the suppressing voltages from the grid and the ground electrode are removed, and a positive voltage is applied to the extractor electrode 4, the electrons are accelerated toward the upper surface of the ribbon 18 for electron implantation.

In commercial practice, the positive voltage applied to the collector is between 50 to 200 Kilovolts, depending upon the depth of electron penetration desired, and the maximum is about 5 microns deep, which represents about 3,000 layers of electrons. The first one hundred layers of electrons from the surface of the material are uniformly polarized with their axes being perpendicular to the surface plane of the material, and the rest randomly polarized. These randomly polarized electrons, however, are not desirable, because instead of precessing, they resonate by induction, and cause random tilts of the uniformly polarized electrons with destruction of their precessional functions. Thus, about 50 Kilovolts applied to the accelerating anode would be sufficient to allow no more than one hundred layers of electrons to be implanted.

After one surface of the film is implanted with electrons, the other surface is also implanted with electrons. In this case, the polar orientations of the implanted electrons on one surface must be reversed, in order to be uniform with the electrons in the opposite surface. This can be done by passing the film 25 from roll 26 to 27 through the high intensity magnets M6 and M7 in Fig. 8. As an alternative, electron implantation on one of the surfaces of the film may be performed by accelerating the electrons magnetically, so that the polar arrival of the electron to the surface of the film can be controlled.

The final assembly of the electron implanted film into a module 1 of Fig. 6 may be fabricated by cutting the film into square sheets, and stacking them up into a square solid. As an alternative, the film can be rolled into a solid shaft 28 and inserted into a cylindrical magnet M8, as shown in Fig. 9. In this case,magnetization of the cylinder whould be radial (from the inner surface to the outer surface) to allow freedom of electron gyration. Also, the film may be rolled around a soft iron round bar, in order to reduce magnetic traversal through the center of the cylinder.

In the case of cutting the film into square sheets, and piling up into solid block, the assembly may be in the form as shown in Fig. 10, which is a cross section view of two square sheets of film 29 and 30, containing implanted electrons as shown, are coated with matallic conductors 31, 32, and 34, 35 on both of their surfaces, as shown. Thus, the upper surface conductor coatings are connected in parallel, and the under coating conductors are connected in parallel, so that two output terminals can be brought out, as shown. This parallel connection is for increasing the output current. For voltage amplification, they may be connected in series. The insulating film 32 in between the metallic surfaces is to prevent short circuiting the parallel conneetions. When the assembly of Fig. 10 is used in practice, the two ends of the block 1 in Fig. 6 may be secured by two solid conductors 2 and 3, as output terminals.

In the process of fabricating the film, strips of metal conductors may be attached to the sides of a roll of film. Then, after electron implantation has been established, both surfaces of the film may be coated with metallic conductors and electrically connected to their respective strips. Then, the insulator film is coated on one surface of the film. Further, the metal strips may be sputtered with metal, in order to equalize the height with that of the thickness of the insulator.

Finally, and referring to the behaviorial characteristics of the electron polar motion, a bipolar output does not have to be obtained from both poles of the gyrating electron, and it can also be obtained from a single polar motion of the electron. For example, assuming that electrons have been implanted on the flat surface of a solid substance, the polar axes of the electrons are perpendicular to that flat surface. When these electrons are caused to gyrate by a direct magnetic field, and a length of conductive strip is placed on this surface, the uniformly gyrating electrons will resonate the electrons along the length of the strip and a bipolar voltage (or current) will appear across the two end terminals of the strip. Thus, if this strip had some ohmic value, and connected to an ammeter, voltage or current will be indicated. I have proven this condition to be true by an actually operating module.

Such an arrangement is shown in Fig. 11, wherein, the electron implanted surface of the square film 39 is coated with a back and forth parallel lined conductor strip 40, the two ends of which are brought out as output terminals. The film is placed on the flat pole face of a magnet M10 in repelling polar direction for effecting the required precessional function.

As described in the foregoing, the gyrating electron will also radiate an electromagnetic field in a direction to its polar axis. Therefore, an RF output may also be obtained by a coil L2, as shown in Fig. 6.

What I claim, is:

CLAIMS

1- The method of generating electron precessional energy output from an artificially treated select material, comprising the steps of:

implanting uniformly polarized free electrons on the flat surface of a select solid material; and

applying a directional permanent magnetic field in repelling orientation to said implanted electrons, for tilting their polar axes angularly, and thereby causing precessional gyrations for effecting energy output.

2- The method of implanting free electrons on the surface of a select solid material in an order of sensitivity to electron precession under the influence of a directional magnetic field, the method comprising the steps of:

implanting electrons on the flat surface of a select solid material; and

controlling the depth of penetration of said implanted electrons in an order such that, they are uniformly polarized with their polar axes perpendicular to said flat surface, thereby effecting sensitivity to precessional gyration when tilted angularly by a directional magnetic field in repelling orientation.

3- The method as set forth in claim 2, including:

adjusting said control of said electron implantation, in an order so that said implantation does not exceed approximately 0.16 microns deep.

4- The method as set forth in claims 1, 2 and 3, wherein:

implanting free electrons on said surfaces is limited to electron acceleration of about 50 kilovolts, for avoiding random polarization by deeper penetration than about 0.16 microns, depending upon atomic density of said material.

5- The method as set forth in claims 1, 2 and 3, including:

forming conductive electrodes upon the surfaces of said material, for deriving energy output when said implanted electrons are induced into precessional gyrations.

6- The method as set forth in the preceding claims, wherein:

said material has two oppositely parallel flat surfaces with uniformly polarized electrons implanted therein, respectively; and

both of said surfaces being coated with conductive electrodes for deriving energy output therefrom when said implanted electrons are gyrating.

7- Apparatus for generating electron precessional energy output, comprising:

a flat faced plate of a select material, one of the faces having been subjected to implantation of uniformly polarized electrons;

an electrode on said electron implanted surface of the plate, in the form of a long strip attached firmly thereto, and covering the entire surface of the plate in back and forth lines, and the two ends of said strip being brought out as electrical output terminals; and

a permanent magnet having a flat pole face attached in parallel to said plate, in an orientation of repelling the poles of said electrons, whereby tilting their poles angularly, and thereby causing precessional gyrations of said electrons for obtaining energy output therefrom.

8- Apparatus for generating electron precessional energy output, comprising:

a flat faced plate of a select material, containing uniformly polarized electrons, their polar axes being perpendicular to the flat face of said material; and

a permanent magnet having a flat pole face attached in parallel to said plate, in an orientation of repelling the poles of said electrons, whereby tilting their poles angularly, and thereby causing precessional gyrations of said electrons for obtaining energy output.

9- Apparatus for generating electron precessional energy output, comprising:

a flat faced plate of a select material, both faces of said plate having been subjected to implantation of uniformly polarized electrons respective of each other's poles, and their polar axes being perpendicular to the flat surfaces of the plate;

electrical electrodes on both surfaces of said plate, for deriving two output terminals; and

a permanent magnet having a flat pole face attached in parallel to said plate, whereby tilting their poles angularly, and thereby causing precessional gyration of said electrons with energy output.

10- The apparatus as set forth in claims 8 and 9, wherein said implanted electrons of said surfaces are not deeper more than approximately 0.16 microns deep, for avoiding randomly polarized electrons.

SUBSTITUTE SHEET

11- Apparatus for generating electron precessional energy output, with amplification, comprising:

plurality of flat faced plates of a select material, both faces of each one of said plates having been subjected to implantation of uniformly polarized electrons, respective of electron poles on both surfaces of each plate, and their polar axes being perpendicular to the flat surfaces of said plates;

electrical electrodes on both surfaces of said plurality of plates, and means thereto for bringing out as output terminals;

electrically insulating coatings on the electrode surfaces of said plurality of plates;

means for stacking up said plurality of plates securely in parallel, forming a solid block, and parallel or series connections of said output terminals by said means associated therewith; and

a permanent magnet having a flat pole face attached in parallel to said block, in an orientation of repelling the poles of electrons in said plurality of stacked plates, whereby tilting their poles angularly, and thereby causing precessional gyrations of said electrons for effecting energy output with amplification by way of said plurality of plates functioning simultaneously.

12- The apparatus as set forth in claim 11, wherein said plurality of plates are of non conductive material about 28 microns thick.

13- Apparatus in the form of an artificially structured solid block, containing uniformly polarized electrons, sensitive to precession function for radiating output energy, under the influence of a directional magnetic field, comprising:

plurality of flat faced plates of a select material;

means for implanting uniformly polarized electrons on both surfaces of said plates;

means for uniformalizing the polar orientations of the oppositely poled electrons on both surfaces of said plates;

electrical electrodes on both surfaces of said plurality of plates, and means thereto for bringing out as output terminals;

electrically insulating coatings on the electrode surfaces of said plurality of plates; and

means for stacking up said plurality of plates securely in parallel, forming a solid block, and parallel or series connections of said output terminals by said means associated therewith, whereby effecting sensitivity to electron precession under said magnetic influence.

14- Apparatus in the form of an artificially structured solid block, containing uniformly polarized electrons, sensitive to precessional function for radiating output energy under the influence of a directional magnetic field, comprising:

plurality of flat faced plates of a select material;

means for implanting uniformly polarized electrons on both surfaces of said plates;

means for uniformalizing the polar orientations of the oppositely poled electrons on the opposite surfaces of said plates; and

means for assembling said plurality of plates in parallel for forming a solid block, in an order for retaining said polar uniformity of the electrons, whereby effecting sensitivity to electron precession for radiating output energy under the influence of said directional magnetic field.

15- The apparatus as set forth in claim 13, wherein, each one of said plates consists of thin non conductive sheet, with two conductive metal stripes at opposite edges of the plate; and

said electrodes on opposite surfaces of the plate are conductive coatings making electrical connections with their respective metal stripes, so that when the plates are assembled in parallel, with insulations in between, the two end stripes of the plurality of plates make electrical contact for securing two output terminals.

16- The apparatus as set forth in claim 13, wherein, said plurality of plates are fabricated by a process, comprising:

forming a roll of film of non conducting material with conductive stripes at the two edges of the film, said roll wound on a first spool;

means for transferring said roll to a second spool in a vacuum chamber, and means for implanting accelerated electrons on one surface of the film during said transfer, and means repeating said electron implantation on the opposite surface of said roll of film;

poling means, and means for passing said roll of electron implanted film through said poling means for uniformalizing the oppositely poled electrons on the two surfaces of the film;

means for coating one surface of said electron implanted roll of film with electrical insulation, short of said stripes;

means for sputtering said stripes with metal for equalizing their thicknesses with the heights of said insulation coatings, respectively; and

means for cutting said roll of film in its finished form, into sheets for said stacked up parallel assembly into a solid block.

17- The apparatus as set forth in claim 13, wherein, said plurality of plates are fabricated by a process, comprising;

forming a roll of film of non conductive material with conductive stripes at the two edges of the film, said roll wound on a first spool;

means for transferring said roll to a second spool in a vacuum chamber for implanting accelerated electrons on one surface of the film during said transfer, and means for repeating said electron implantation on the opposite aurface of said roll of film;

poling means and means for passing said roll of electron implanted film through said poling means for uniformalizing the oppositely poled electrons on the two surfaces of the film;

means for coating one surface of said electron implanted roll of film with electrical insulation, short of said stripes;

means for rolling said roll of film into the form of a shaft; and

means for setting said shaft inside of a cylindrical permanent magnet, direction of magnetization of said cylinder being radial, for effecting precessional function of said electrons.

18- An apparatus for generating electron precession field under the influence of a directional magnetic field, the apparatus being substantially as herein described with reference to and illustrated by Fig. 6 of the accompanying drawings, or as further modified by any of Figs 9, 10 and 11 of the accompanying drawings.

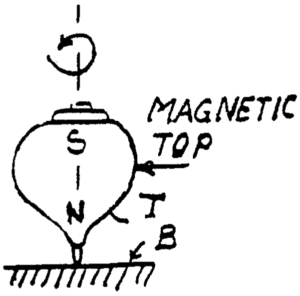

Fig. 1

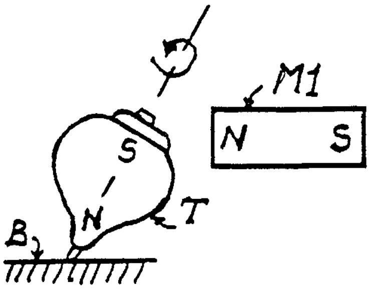

Fig. 2

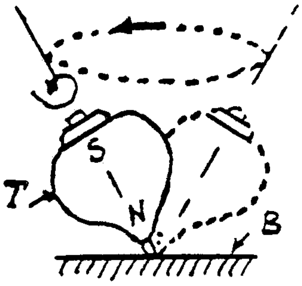

Fig. 3

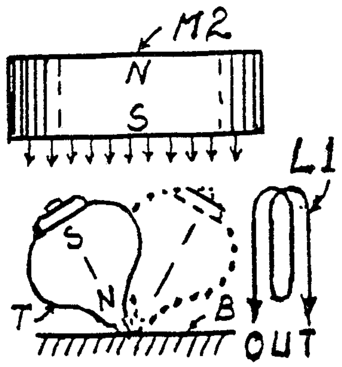

Fig. 4

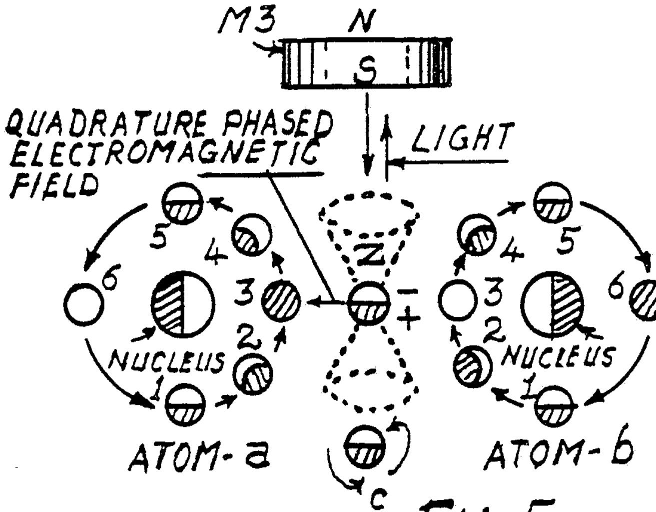

Fig. 5

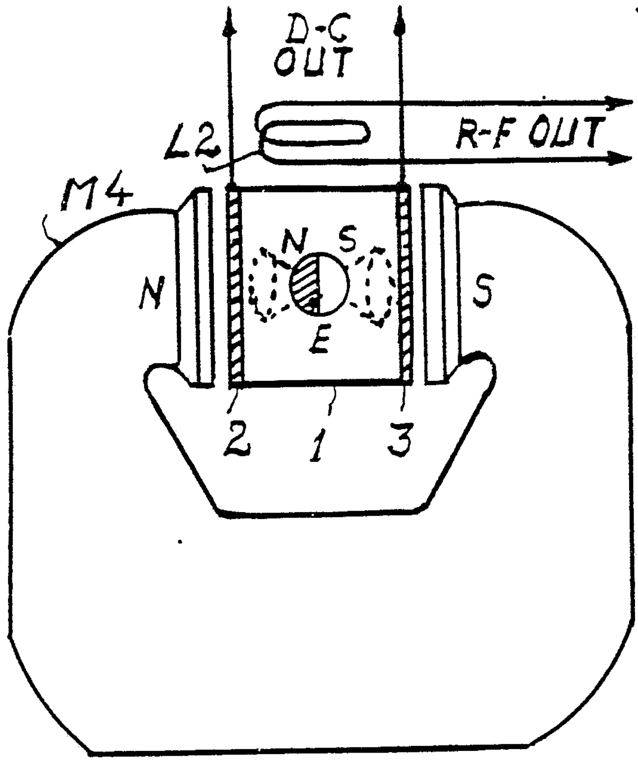

Fig. 6

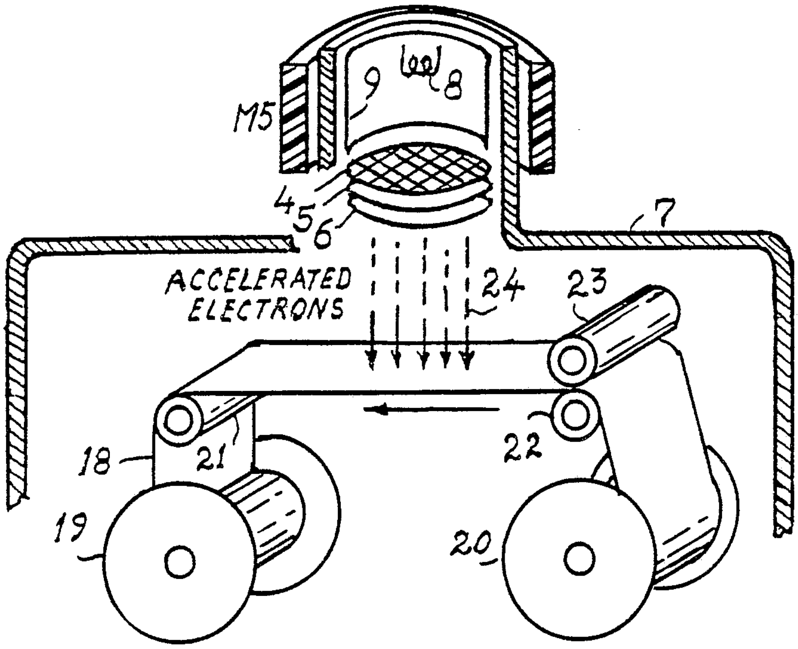

Fig. 7

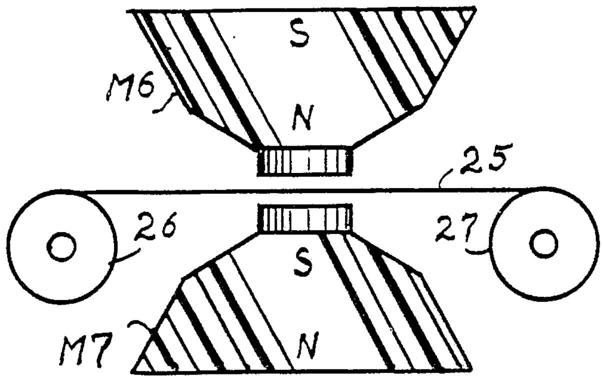

Fig. 8

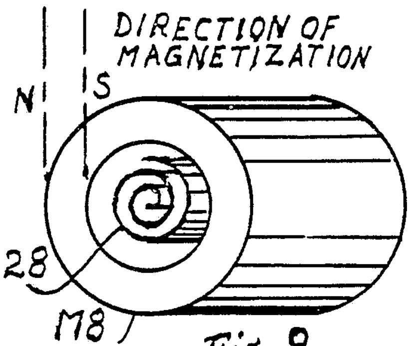

Fig. 9

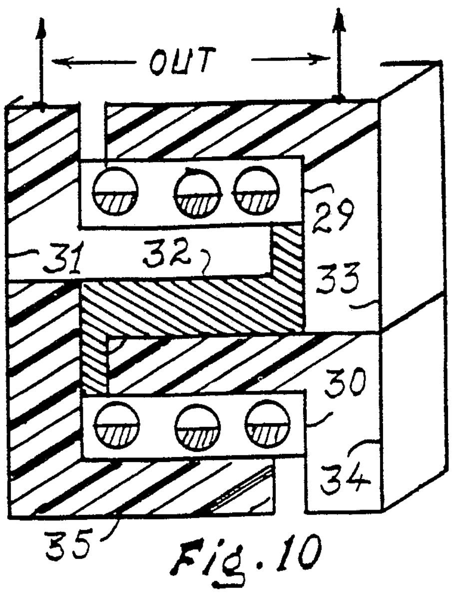

Fig. 10

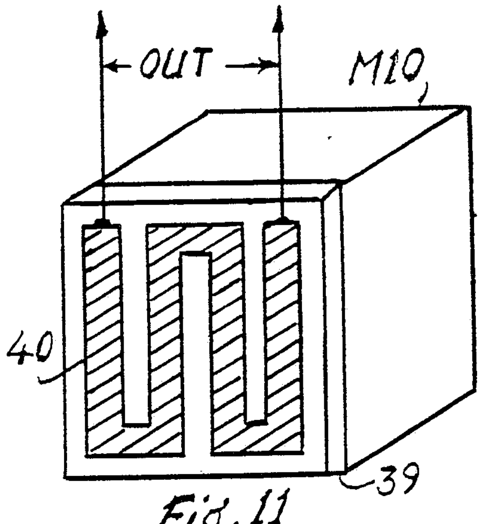

Fig. 11

INTERNATIONAL SEARCH REPORT

International Application No PCT/US87/01190

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC

INT CL (4) G01R 33/20; C04B 35/00; H01F 1/08
US CL 324/300; 148/31.57; 29/608

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
US	324/300; 148/31,57; 29/608

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [5]

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
A	US, A, 4,531,093 (Rollwitz et al.) 23 July 1985. Rollwitz et al teaches generation and sensing of free electron precession in a particulate substance, coal. (See column 4, lines 5-21).	1-18
A	US, A, 4,284,440 (Tokunaga et al.) 18 August 1981. Tokunaga et al. shows product formation by powder material compression in a magnetic field. (See column 2, lines 54-66).	1-18

* Special categories of cited documents: [15]

"A" document defining the general state of the art which is not considered to be of particular relevance

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"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search [2]	Date of Mailing of this International Search Report [3]
23 February 1988	05 APR 1988

International Searching Authority [1]	Signature of Authorized Officer [10]
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