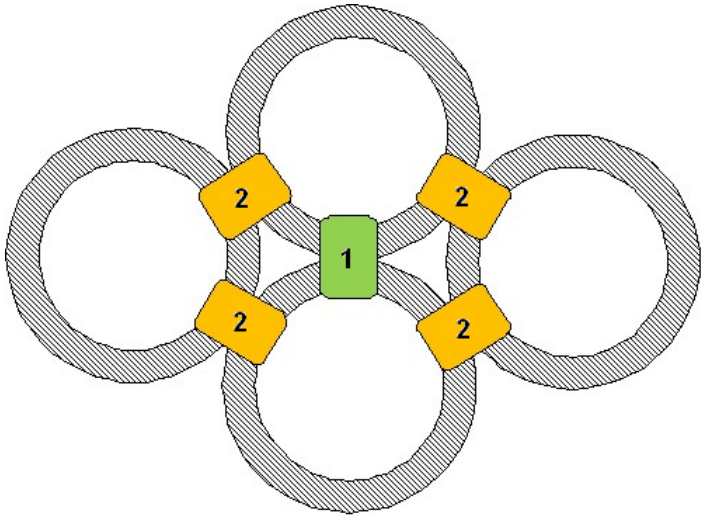
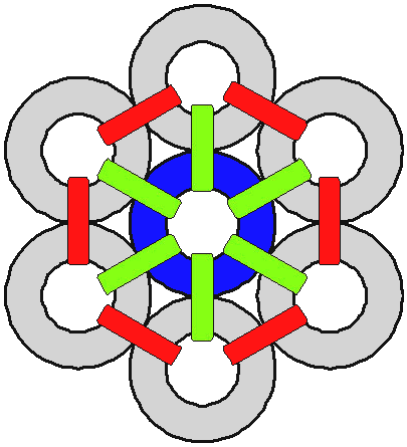


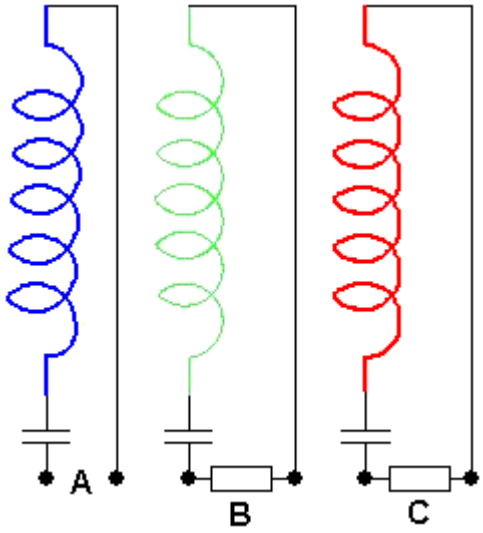
If these simple transformer arrangements operate as back-EMF-free devices as claimed, then the current draw from any, or all, of the secondary windings does not have any effect on the current flowing through the primary coil. This is quite unlike present day commercial transformers which are wound symmetrically, which in turn causes the current draw in the secondary coil to force an increased current in the primary winding.

Alex (http://www.radiant4you.net/) also shows another arrangement which uses seven toroids. He states that this arrangement is also free from the energy-wasting back-EMF designs used at present in most commercial items of equipment. He specifies that the intended operating frequency is 50 Hz which is the frequency of the mains as the difference between 50 Hz and the 60 Hz used in America is not significant in any way. This frequency suggests that the toroids could readily be made of iron as in commercial transformers. The prototype was wound with 0.5 mm diameter wire and aimed at a power level of 100 watts. The capacitors are high-power oil filled with capacitances up to 40 microfarad and rated at 450V when using 220V mains input. The tuning is very much like that of the RotoVerter shown in chapter 2. The physical layout is:

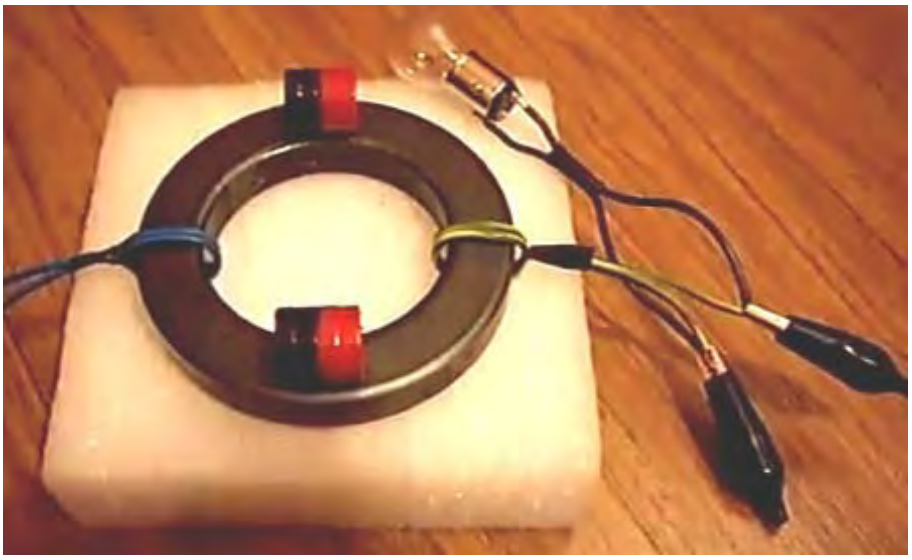


The central toroid is wound all around its circumference as indicated by the blue colour. This winding is fed directly with the input current source which would normally be from the mains or from a mains transformer, probably at a lower voltage.

There are then twelve output coils, six shown here in green and six shown in red. For best operation, each of these output coils need to be 'tuned' to the central coil and that needs to be done by altering the capacitor size by experiment to get the best performance from each coil. When properly set up, increasing the current draw from any of the output coils does not increase the power flowing into the central input coil. This contradicts what is normally taught in schools and universities as they are only familiar with symmetrically wound transformers and motors where increased output current does indeed oppose the input power, causing increased input current and heat waste. The circuit is:



The blue coil has the power input at “A” and the capacitor in series with each coil is there to get all of the windings to resonate at the same frequency. The items “B” and “C” represent the useful load being powered by each coil, although, obviously, only two of the twelve output coils are shown in the circuit diagram above, and there are an additional five green and five red coils which are not shown in the circuit diagram.



It is probably worth remembering that adding a magnet to a toroid or closed-loop core transformer can boost the output provided that the permanent magnet is not strong enough to saturate the core completely and prevent oscillation of the magnetic flux. This has been shown by Lawrence Tseung, Graham Gunderson and others, and so it might be worth while to experiment further with these configurations along the lines shown in the video at https://www.youtube.com/watch?v=sTb5q9o8F8c&list=UUaKHAdY13gp-un2hn_HJehg&index=1&feature=plcp.

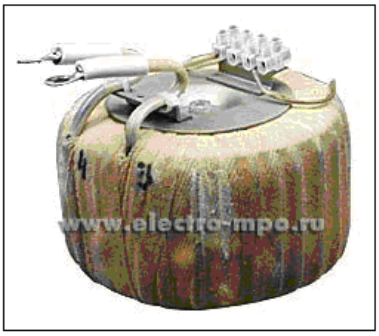
The Easiest Version:

Alexkor has produced a simplified Lenz-law-free design, using commercial toroids already wound as step-down mains transformers. One supplier is http://www.electro-mpo.ru/card8524.html#.VXsfKlIon7s with transformers of this type on offer:

OSM t 220 Step-Down (trasformatori di pianta Tulsky)

Sono destinati ad uso dei diversi strumenti e dispositivi elettrici (alimentatori, filtri, dispositivo di disaccoppiamento), così come un'applicazione separata.
Grado di protezione: IP 20.
Produttore: Trasformatori Tulskij Zavod.

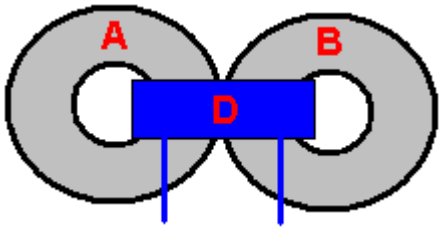
* È ordine fornito.



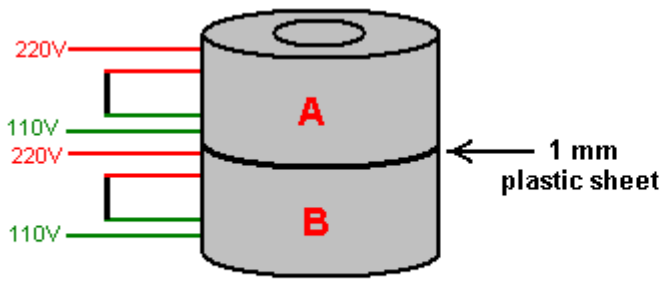
Mark	Potenza, kVA	Tensione primaria,	Tensione secondaria,	Dimensioni d'ingombro, mm	Massa, kg	N. p/l
OSM t 220/12-0, 025	0.025	220	12	65 × 40	0.45	**B3806**
OSM t 220/24-0, 025	0.025	220	24	65 × 40	0.45	**B3807**
OSM t 220/36-0, 025	0.025	220	36	65 × 40	0.45	**B3808**
OSM t 220/12-0, 04	0,04	220	12	90 × 35	0,7	**B3809**
OSM t 220/24-0, 04	0,04	220	24	90 × 35	0,7	**B3810**
OSM t 220/36-0, 04	0,04	220	36	90 × 35	0,7	**B3811 ***
OSM t 220/110-0, 04	0,04	220	110	90 × 35	0,7	**B3812**
OSM t 220/12-0, 063	0,063	220	12	90 × 45	0.9	**B3816**
OSM t 220/24-0, 063	0,063	220	24	90 × 45	0.9	**B3817**
OSM t 220/36-0, 063	0,063	220	36	90 × 45	0.9	**B3818**
OSM t 220/110-0, 063	0,063	220	110	90 × 45	0.9	**B3819**
OSM t 220/12-0, 1	0.1	220	12	95 × 50	1.2	**B3822**
OSM t 220/24-0, 1	0.1	220	24	95 × 50	1.2	**B3823**
OSM t 220/36-0, 1	0.1	220	36	95 × 50	1.2	**B3824**
OSM t 220/110-0, 1	0.1	220	110	95 × 50	1.2	**B3825**
OSM t 380/220, 0-1	0.1	380	220	95 × 50	1.2	**B3826**
OSM t 220/12-0, 16	0.16	220	12	120 × 60	2.1	**B3830**
OSM t 220/24-0, 16	0.16	220	24	120 × 60	2.1	**B3831**
OSM t 220/36-0, 16	0.16	220	36	120 × 60	2.1	**B3832**

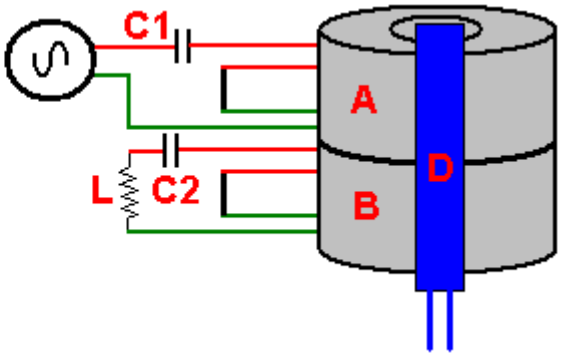
The technique is to remove the plate covering the central opening and connecting the 220V and 110V windings in series. Two of these transformers are used, each of them connected with their 220V and 110V windings wired in series and then the toroids either placed side by side or alternatively stacked on top of one another with a 1 millimetre thick sheet of plastic between them.

In the configuration where the toroids “A” and “B” are placed side by side, a power extraction winding “D” is wound between them:



In the case where the toroids “A” and “B” are arranged in a stack with 1 mm plastic sheet between them, the power extraction winding “D” is wound around the two toroids, enclosing them both:





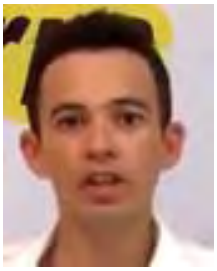
While the winding “D” is shown as a narrow strip in the diagram, that is only to make the drawing easier to understand as in reality, the winding “D” is continued all the way around the whole of the circumference of the toroids and it can be many layers deep to suit the desired output voltage.

Toroid “A” has a tuning capacitor “C1” which is adjusted in value to achieve resonance in that circuit as that minimises the current flowing into toroid “A” from the mains.

Toroid “B” has a capacitor “C2” which is adjusted to give the highest output voltage (typically 600 volts) coming from toroid “B”. The purpose of toroid “B” is to divert the reverse magnetic flow in Toroid “A” and so, produce an

efficient working system. The load “L” is in theory, a dummy load, but in reality there is no reason why it should not be considered to be an actual working load if that output is convenient to use.

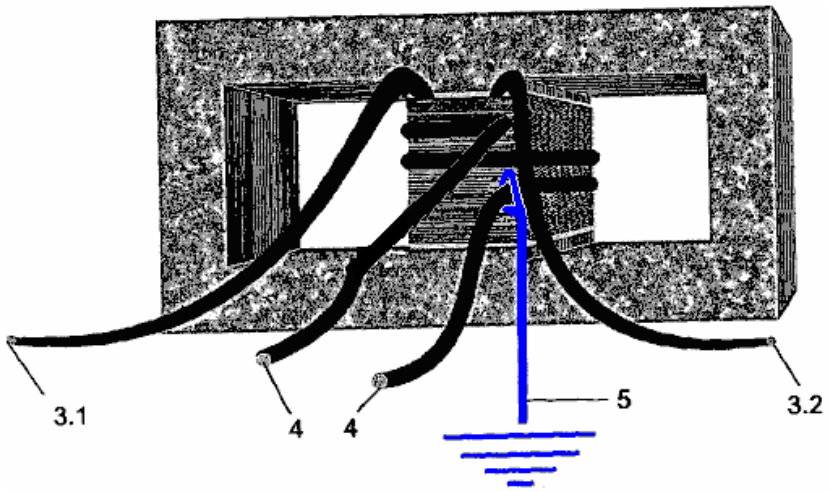
The output winding “D” is free of the Lenz law effect and the input current from the mains is not affected in any way when the current draw from coil “D” is increased, or even short-circuited. Alexkor stresses the fact that as the toroids are supplied already wound, this is actually a very easy design to replicate.



The Self-Powered Generators of Barbosa and Leal

In July 2013, two Brazilian men, Nilson Barbosa and Cleriston Leal, published a series of patents which appear to be very significant. Their patent WO 2013/104042 published on 18th July 2013, is entitled “Electromagnetic device for Capturing Electrons from the Ground to Generate Electricity” and has some very interesting features. It describes a simple device which they describe as an “electron trap”. Their patents are written in Portuguese.

An unusual feature of this design is the fact that it has a continuous conductive loop, in which it is claimed, current flows continuously, even without the need for an applied voltage. Instead, it is the magnetic fields of electromagnets which keep the current flowing. They state that an insignificant amount of input power produces a substantial power output, and they consider a COP of 100 to be about the minimum performance which can be expected from the design. That is a 1 watt input for a 100 watt output. One version of the electron trap looks like this:

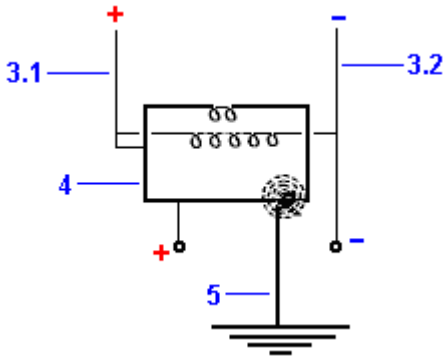


The inventors describe their device like this: “this electromagnetic-field-generating device, powered by a power source, produces an electromagnetic field which induces an electric current in a closed conductive circuit, creating an interaction between the magnetic poles of the equipment and the magnetic poles of the earth - through both electromagnetic attraction and repulsion. An endless supply of electrons is drawn from the earth into the conductive closed loop, which is connected to the ground through a conductive interconnected grid. The attracted electrons add to the current already flowing in the conductive closed loop, making power available for driving high-power loads, although the device itself is supplied with only a small amount of power.”

One very interesting feature is that the continuous-loop coil formed by wire **4** in the diagram above, is literally, only two turns of wire. The power-gaining mechanism, amazingly, is the earth wire (shown in blue) which is merely wrapped around wire **4** and not directly connected to it as the electron-transfer link is by induction. With this arrangement, the current circulating in the closed loop wire **4**, attracts more electrons from the ground, flowing through the wrapped connection of wire **5,** into wire **4**, augmenting the current flow there by a major amount. Wire **3** can have an alternating voltage applied to it in order to get alternating current in wire **4**, but please understand

that the current flowing in wire **4** is **not** the result of the current in wire **3**. If the current in wire **3** is DC, then the current in wire **4** will be DC as this is **not** a conventional transformer, but instead, it is an electron trap, operating in an entirely different way.

The electron trap can be connected in an AC circuit of this type:



Here, the earth wire **5** is wrapped around the continuous loop wire **4**, feeding it additional electrons captured from the ground. The ends of wire **4** are connected together to form the loop, and that connection also forms the positive side of the output (where a DC output is being produced). The magnetic field produced by the current flowing in wire **3**, acts on the electron flow coming from the earth, but as it does not provide any of the electric power flowing in wire loop **4**, the current flowing in wire **3** can be tiny, without affecting the power output.

In their patent WO 2013/104043, also of 18th July 2013, they show several different ways of connecting their electron trap in a useful circuit. For example, like this:

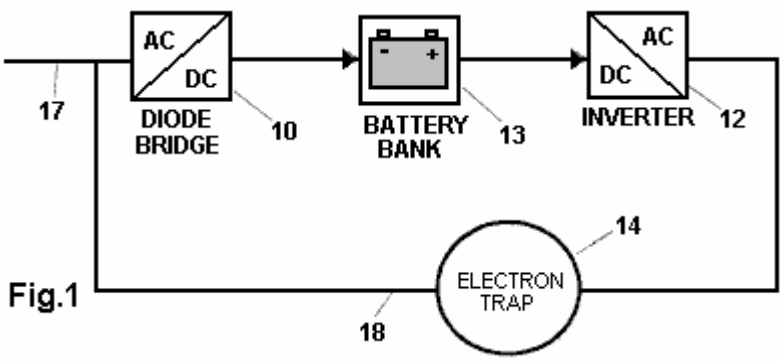
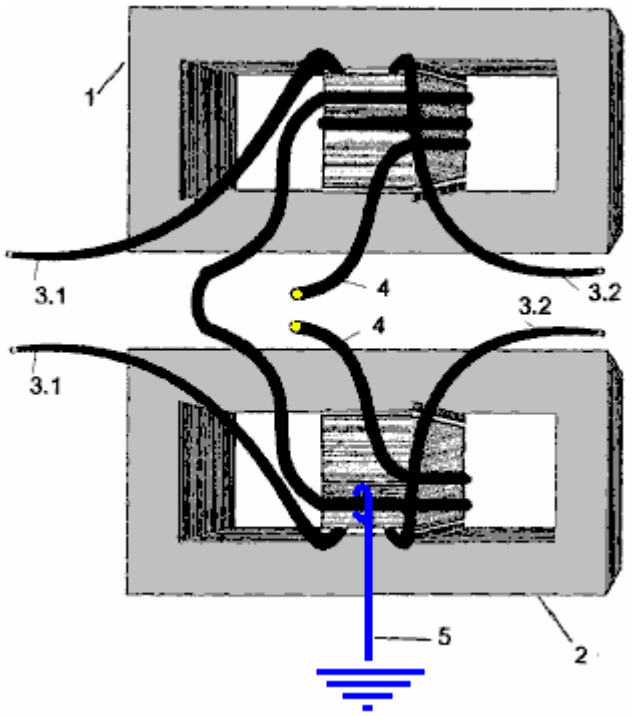


Fig.1

Here, the battery **13**, is used to power an ordinary inverter **12**, which produces a high alternating voltage, in this case, at very low power. That voltage is applied to the wire 3.1 to 3.2 of the electron trap, creating an oscillating magnetic field, which creates an oscillating inflow of electrons into the closed loop wire (4), which creates an amplified electrical output at the same frequency – typically 50 Hz or 60 Hz as those are the common mains frequencies. That amplified power output from the electron trap **14**, is passed along wire **18** to an ordinary diode bridge **10**, and the pulsing DC from the bridge is smoothed and used to replace the battery input to inverter **12**. The battery is now switched out of the circuit and, as well as making the overall circuit self-powered, the power coming from the electron trap is used to recharge the battery if it needs recharging (and/or, perhaps, to charge the batteries of an electric car). Because the electron trap needs almost no input power at all, the input power to the inverter is very small, and so a good deal of additional AC power can be drawn off through cable **17**, and used to drive powerful electrical loads, with no electrical power being needed from the battery. Being self-powered, the COP value for the circuit is infinity.

Just as there are several different ways of using an electron trap in a circuit, there are several ways of constructing and connecting an electron trap. While it is possible to arrange the components so that the power output is 2-phase or 3-phase, here we will just deal with the ordinary, household, single-phase power supply.

The first variation is to use more than one frame. Two frames can be connected like this:



This is the actual drawing from the patent and it presents a slight problem in that it is not physically possible to implement the number **4** wire in the way shown. Each frame will have two complete turns wound on it, although the drawing does not show this. Because of the inaccuracy of the drawing, I am not able to say if the coil turns on frame **2**, are in the same direction as those on frame **1**. There are four possible ways of winding these 2-turn coils when interconnecting them, so perhaps experimentation can be used to determine which method works best.

With this two-frame arrangement, there is just the one earth wire **5**, as before, again, it is wrapped around wire **4** rather than being physically connected to it. The continuous wire loop **4** has two ends as before, but there are now two **3.1** wire ends and two **3.2** wire ends. The Portuguese translation programs produce highly questionable results for this area of the patent, but I gather that the inventors intend the two 3.1 ends to be connected together and the two 3.2 ends to be connected together, and then the joined ends are treated exactly as before, effectively putting the two windings in parallel.

One disadvantage of this design is that it is not portable due to the earth connection. Barbosa and Leal deal with this problem in their patent WO 2013/104041 of the same date where they show a method of constructing an electron trap which collects excess electrons from the air. If you feel that there are no excess electrons in the air, then consider the fact that all of the aerial designs in chapter seven all extract and use those electrons. Also, consider the amount of electricity in a lightning strike, where much of the electrical energy comes from the air, and remember that world wide, there are between 100 and 200 lightning strikes every second.

The free-electrons-in-the-air electron trap is somewhat more complicated than the earth-wire electron trap, with four pairs of coils (**3** and **4**) being mounted inside two aluminium hemispheres (**1**):

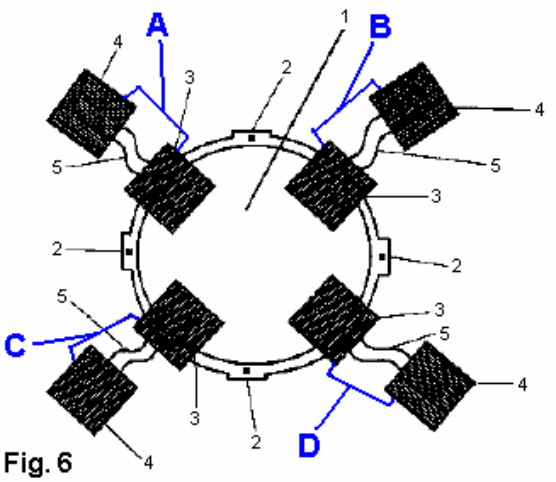


Fig. 6

The methods for using the air-electrons trap are the same as those for the earth-wire electron trap.

An earth-wire video demonstration is here: https://www.youtube.com/watch?v=SvcrqODpDY4 with 22 watts producing 6 kilowatts. To further research this invention, try the extensive information available via https://www.youtube.com/results?search_query=Barbosa+e+Leal

An attempted translation of one of the three Barbosa/Leal patents is here:

WO Patent 2013/104043 **18th July 2013** **Inventors: Nilson Barbosa and Cleriston Leal**

ELECTRIC ENERGY GENERATION SYSTEM WITH FEEDBACK

Note: These three patents are in Portuguese and what is shown here is a low-quality attempt at translation into English using a translation program. The originals can be downloaded free from: http://worldwide.espacenet.com/singleLineSearch?locale=en_EP.

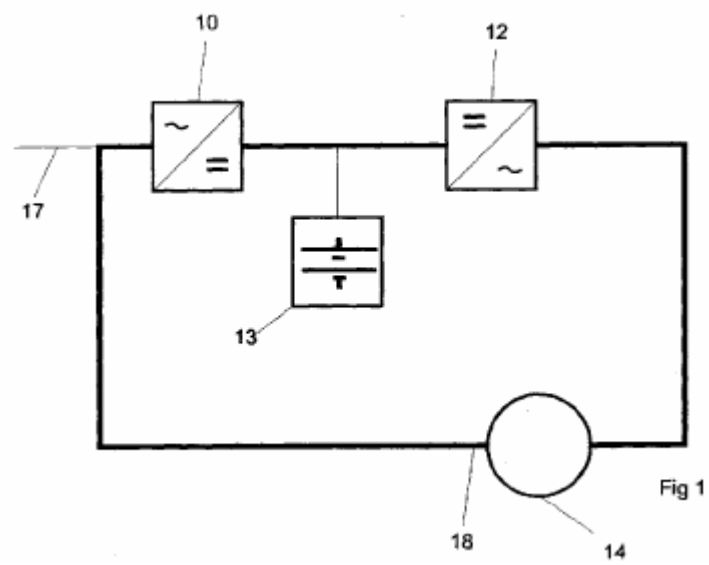


Fig 1

Abstract:
The present invention relates to electric energy generation equipment comprising a basic circuit formed by a rectifier (**10**), for example, an AC/DC converter connected in series to an inverter (**12**), for example, a DC/AC converter, and a bank of batteries (**13**) connected in series between the rectifier (**10**) and the inverter (**12**). An electron-capturing element (**14**), which can be either a free space electron-capturing element or, alternatively, an earth electron-capturing element, is connected in series to the basic circuit formed by the rectifier (**10**), the inverter (**12**) and the battery assembly (**13**). The bank of batteries (**13**) powers the basic circuit because it is

connected to the system. Consequently, the inverter (**12**) converts direct current into alternating current and supplies this current to the electron-capturing element (**14**). After receiving the electric current from the inverter (**12**), the electron-capturing element (**14**) starts capturing electrons from the alternating current and powering the rectifier (**10**), which converts the alternating current into a direct current in order to recharge the bank of batteries (**13**) and power the inverter (**12**) which powers the electron-capturing element, closing the feedback loop, and also providing electric energy for consumption by external loads.

WIPO Patent Application WO/2013/104043 Filing Date: 01/11/2013
Application Number: BR2013/000016 Publication Date: 07/18/2013

Assignee: EVOLUÇÕES ENERGIA LTDA (Rua Santa Tereza 1427-B Centro - Imperatriz -MA, CEP -470 - Maranhão, 65900, BR)

SELF-POWERED ELECTRICITY GENERATOR.

Technical field
The present invention relates to a device for generating electricity, in particular self-powered equipment for generating electricity.

Description of the Related Art
There are many methods for generating electricity using electromagnetism, but all of these are electromechanical devices using magnets and have limited generating capacity and an ecological impact which makes them unsuited to large scale projects.

Objectives of the Invention
The aim of this invention is the sustainable generation of electricity, using a generator which is able to produce large amounts of electricity from an extremely low input current, which initially is supplied by a bank of batteries, but subsequently is supplied by the output from the generator which is also able to power external loads.

The above objective, and other objectives, are achieved by the present invention through the use of a typical Uninterruptible Power Supply circuit comprising of an AC/DC rectifier feeding a battery bank which powers a DC/AC inverter, which is connected to a device to trap electrons from space (as described in Brazilian patent application No. BR1020120008378 of 13th January 2012) or alternatively, a device which extracts electrons from the Earth (as described in Brazilian patent application No. BR1020120008386 of 13th January 2012), which then passes the extracted electrons to the AC/DC rectifier, charging the battery bank, thus closing the loop as well as providing electricity to power external loads.

The self-powered system for generating electricity from the present invention can be fixed or mobile. It is fixed when using electron capture from the earth due to the ground connection, or mobile when using electron capture from space.

The self-powered electricity generating system of this invention may be configured in several different ways, each using the same inventive concept but using different arrangements of components. Different versions include single-phase, two-phase or three-phase versions, producing outputs of any power and voltage.

Brief Description of the Drawings
The present invention will now be described with the aid of drawings, but this patent is not limited to the versions and details shown in these drawings, although they show additional details and advantages of the present invention.

The drawings:

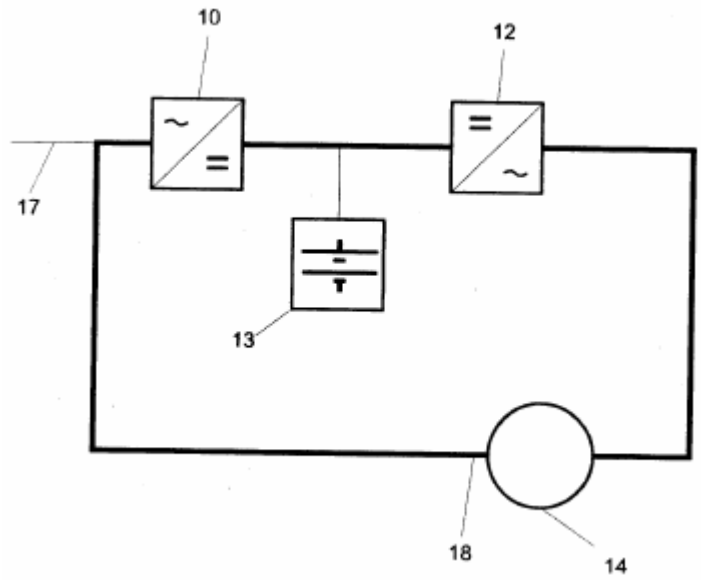


Figure 1 - shows a basic circuit system for self-powered electricity generation of the present invention

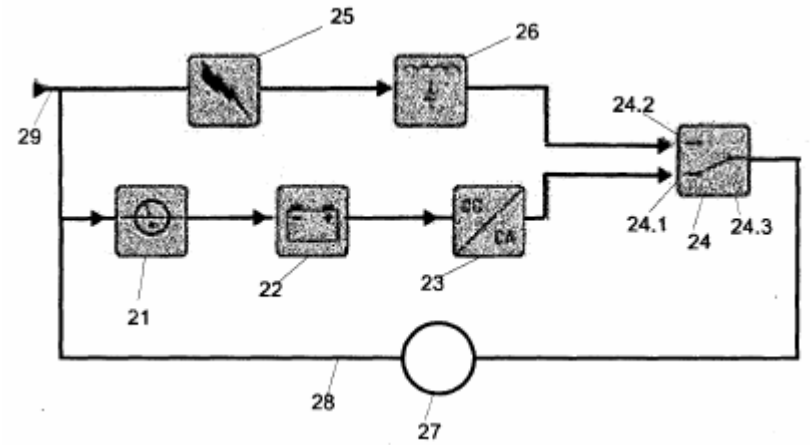


Figure 2 - shows a first embodiment of the constructive system for self-powered electricity generation of the present invention;

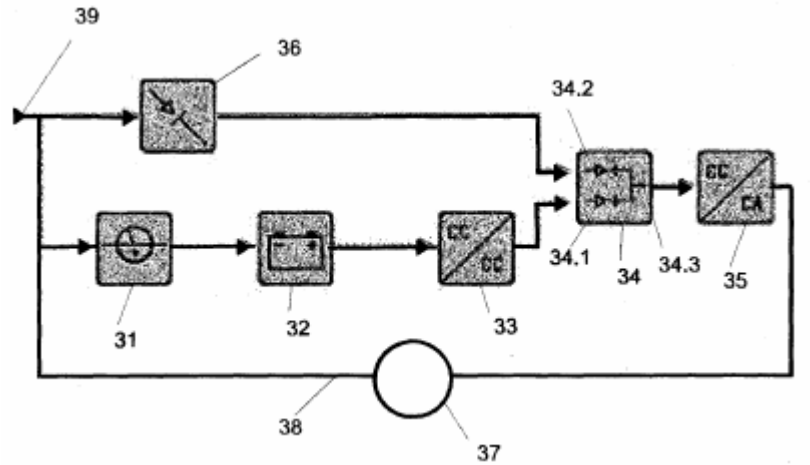


Figure 3 - shows a second embodiment of the self-powered system for generating electricity of the present invention;

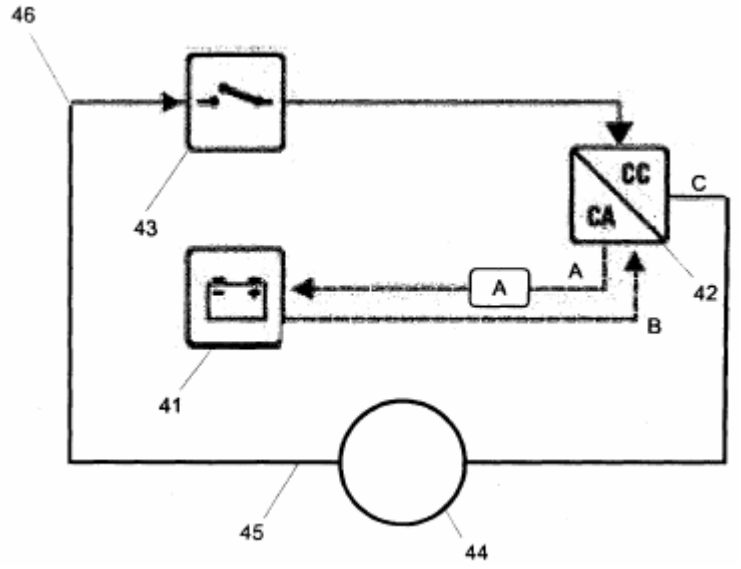


Figure 4 - shows a third embodiment of the self-powered system for generating electricity of the present invention;

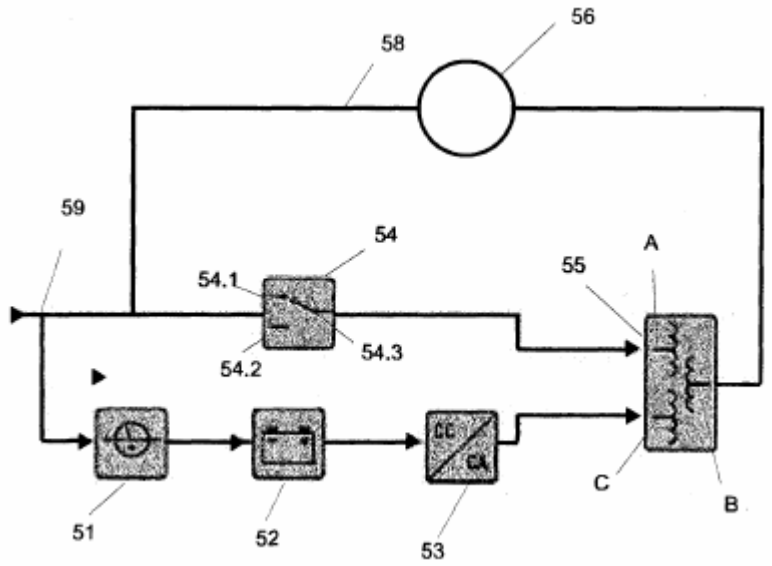


Figure 5 - shows a fourth embodiment of the self-powered system for generating electricity of the present invention;

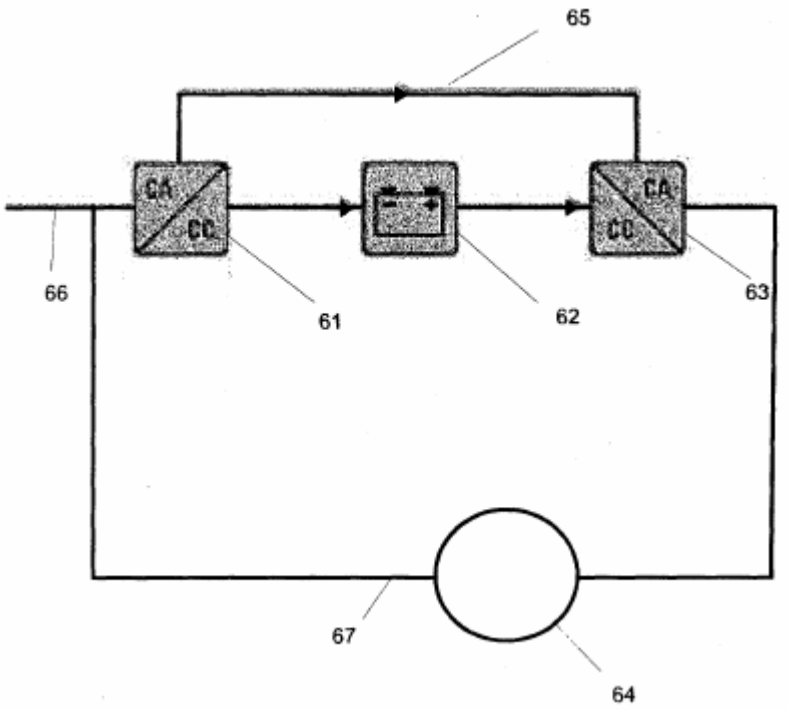


Figure 6 - shows a fifth embodiment of the self-powered system for generating electricity of the present invention;

Detailed description of the Invention:

There are different ways of closing the self-feeding cycle depending on the circuit configuration chosen. Some of these arrangements are shown in **Figures 2** to **6**, wherein the main circuitry continues to oscillate, continuously generating instant electricity.

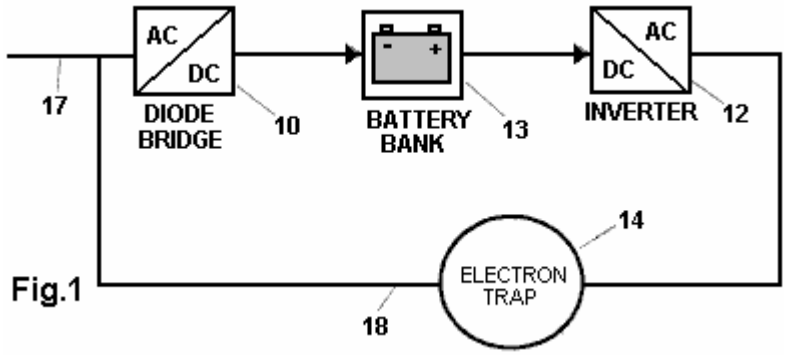


Fig.1

As shown in **Fig.1**, the self-powered system for generating electricity comprises a basic circuit consisting of a rectifier (AC/DC converter) **10** which is connected in series to an inverter (DC/AC) **12**. A bank of batteries **13** is connected between the rectifier **10** and the inverter **12**. The output from the DC/AC inverter **12**, connects to an electron-trap **14** which can extract electrons from space (as described in Brazilian patent application No. BR1020120008378 of 13th January 2012) or alternatively, extracts electrons from the Earth (as described in Brazilian patent application No. BR1020120008386 of 13th January 2012).

When connected, the battery bank **13** provides power to the DC/AC inverter **12** which converts the direct current into alternating current and provides current to the electron-trap **14**. The output of the electron trap **14** is passed through wire **18**, to the AC/DC bridge rectifier **10**, which keeps the battery bank charged as well as powering the DC/AC inverter **12**. Additional power is passed to external equipment through wire **17**.

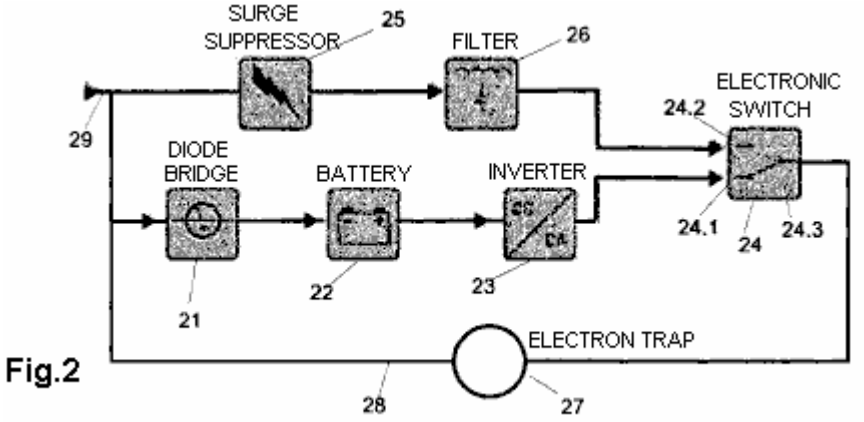


Fig.2

Fig.2, shows another embodiment of the system of this self-powered electric power generation equipment. It comprises a typical Uninterruptible Power Supply circuit of a battery charger (AC/DC converter) **21** connected to a drive device (a DC/AC inverter) **23** and between them, a battery bank **22** forming the basic circuit. Additional devices are an electron-trap **27** which may collect free electrons from space (as defined in Brazilian patent application No. BR1020120008378 of 13th January 2012) or, alternatively, collects electrons from the Earth (as described in Brazilian patent application No. BR1020120008386 of 13th January 2012). The 3-phase electronic switch **24** normally connects **24.1** to **24.3** connecting the electron trap **27** to inverter **23**. Connected in parallel is the surge suppressor **25**, which, when activated, via filter **26**, causes switch **24** to disconnect the **24.3** to **24.1** link and instead, connect **24.3** to **24.2**.

An alternative arrangement for use in emergency situations, is to use the system no longer self-powered. For this, the system is comprised of a power input from an external power source, directly to the interconnection point **29** to provide power to surge suppressor **25**, which provides power to feed the power output point **28** in order to power external loads. When the electron-trap **27** is turned off, the electronic transfer switch **24** reverts to its default position which connects point **24.1** to point **24.3** causing the circuit to function, once again, in its self-feeding mode. As soon as the electron sensor **27** provides sufficient power to the over-voltage sensor **25**, it operates the transfer switch **24** through filter **26**, ending the self-feeding phase and supplying energy directly to the power output point **28**, in order to feed external loads.

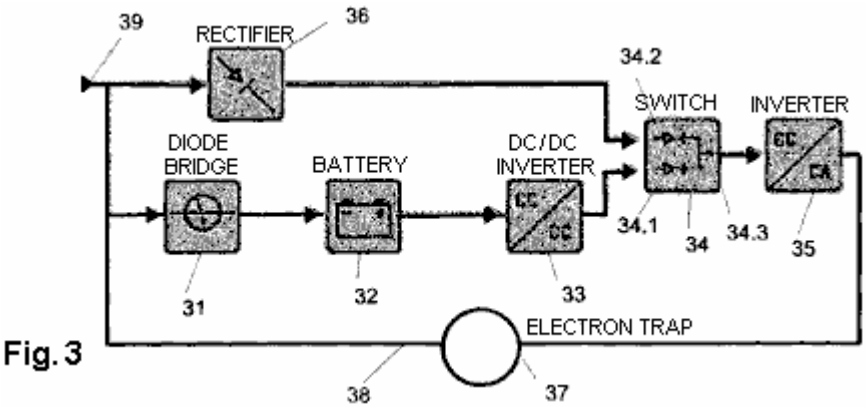


Fig. 3

Fig.3 shows another embodiment of the self-powered system for generating electricity, comprising a device which includes the basic circuit of a typical Uninterruptible Power Supply, consisting of a battery charger (AC/DC converter) **31** connected to a drive device (inverter DC/AC) **35** and attached to them, a battery bank **32**. This basic circuit together with other devices is connected to an electron-trap **37** for collecting free electrons from surrounding space or, alternatively, an Earth-connected electron trap **37**. We have then, a bank of batteries **32** connected to the DC/DC converter **33**, which is connected to the phase transfer switch **34 / 34.1** which is connected to point **34.3**, which connects to the inverter **35**, and so, the electron-trap **37**.

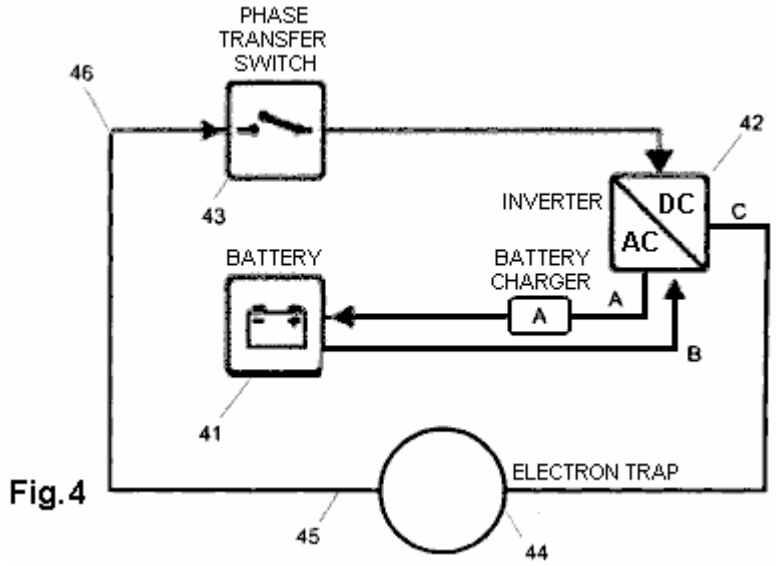


Fig. 4

Fig.4 shows another embodiment of the system for self-powered electricity generation which is comprised of a basic circuit of a typical uninterruptible power supply, consisting of a battery charger (AC/DC converter) **A** connected to an inverter (DC/AC) **42** and attached to them, battery bank **41**, and this basic circuit together with other devices are connected to a free space electron-capture device **44** or an earth-connection electron-trap **44**. Comprising thus, a battery charger **A** connected to a battery bank **41**, which is connected in series with inverter **42** at point **B** which is in series with point **C** of inverter **42** which is in series with the electron sensor **44**, which is in series with the phase transfer switch **43** via the three-phase load output connection point **45**. The phase transfer switch **43** is in series with the inverter **42**, which is connected in series the (AC/DC converter) battery charger **A** feeding the battery bank **41**.

An alternative construction for use in emergency situations, in which the system ceases to be self-powered, the system may include power input from an external power source, via the interconnection point **46**, thus providing electricity output **45**, to power external loads. The battery bank **41** provides power to the inverter **42** which converts the direct current into alternating current and feeds the electron trap **44**. The phase transfer switch closes when the batteries need recharging.

Sensor **44** captures electrons, producing alternating current, which feeds the phase transfer switch **43** with alternating current input power. The phase transfer switch **43** feeds the inverter **42** which charges the batteries, closing the self-powering loop which provides power at the output **45**, feeding both the power input and any external loads.

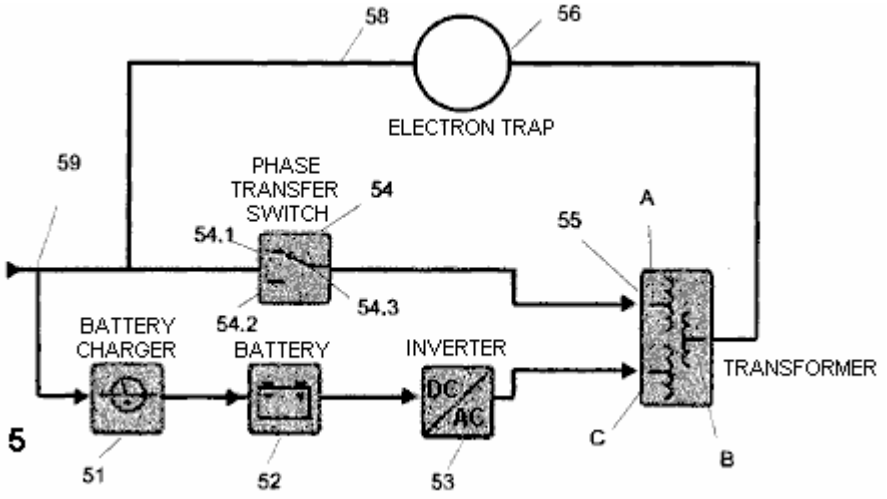


Fig. 5

Fig.5 shows another embodiment of the system for self-powered electric power generation equipment comprising a circuit which includes a typical uninterruptible power supply comprising a battery charger (AC/DC converter) **51** connected to a DC/AC inverter **53** and attached to them, a battery bank **52**. This basic circuit together with other devices are connected to a space free-electron capture device **56** (as defined in Brazilian patent application No. BR1020120008378 of 13/1/12) or, alternatively, an earthed free-electron collector **56** (as defined in Brazilian