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(54) DEVICE FOR INCREASING FREE ELECTRONS INCIDING IN AN ELECTRICAL CONDUCTOR BODY

(57) The object of the present invention is a device for increasing free electrons inciding in an electrical conductor body, which comprises a metal body with an inner surface and an outer surface, and an insulated support connected to the metal body to electrically insulate it from the ground, wherein the outer surface of the metal body is configured to receive a bombardment of external photons and convert them into free electrons; and the inner surface of the metal body is configured to receive the electrical conductor body without physically coming into contact with it and direct the free electrons towards the electrical conductor body to increase the incident free electrons thereof.

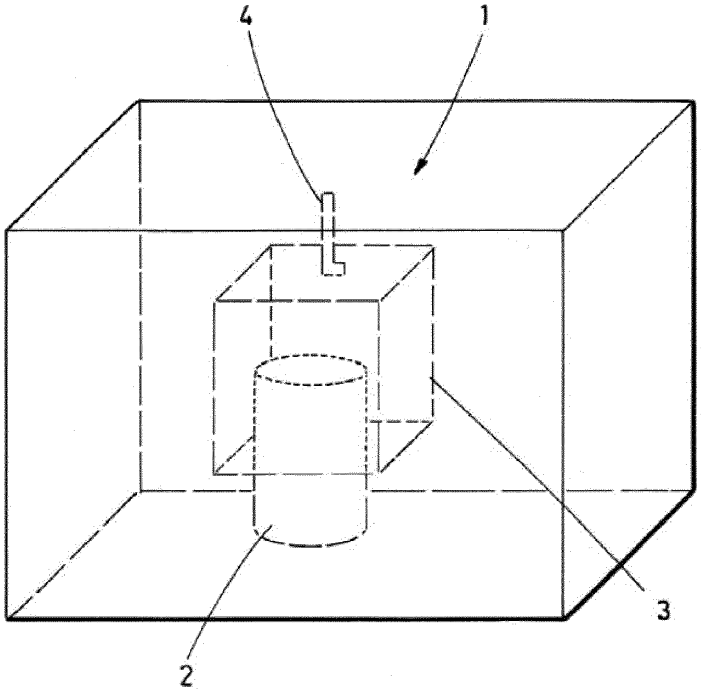

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The object of the present invention is a device for increasing free electrons inciding in an electrical conductor body.

BACKGROUND OF THE INVENTION

[0002] Currently, the photoelectric effect consisting of the emission of free electrons from a material when electromagnetic radiation incides thereon is known. In other words, the photons of electromagnetic radiation have a characteristic energy determined by the wave frequency of light, and when the material absorbs the energy of the photon, the electron is emitted if the energy of the photon is greater than the work function. This work function is the minimum energy required to extract an electron from a solid material.

[0003] The use of free electrons inciding in bodies has several medicinal and industrial applications; one example of these applications is described in the application WO2006082295A1 wherein it shows how to use incident electrons to test the state of electrical conductors. More specifically, this document describes how to generate free electrons by means of bombardment with ultraviolet light on a flat plate made from transparent or partially transparent material, which generates the photoelectric effect in order to convert photons into free electrons.

[0004] Despite this, this document only injects free electrons into specific points of the electrical conductor, mainly to form electrons conductor tracks inside the electrical conductor; however, it does not increase the free electrons inciding in the entire electrical conductor body.

DESCRIPTION OF THE INVENTION

[0005] The present invention describes a device for increasing free electrons inciding in an electrical conductor body. More specifically, this device comprises:

- a metal body with an inner surface and an outer surface, and
- an insulated support connected to the metal body to electrically insulate it from the ground,

wherein the outer surface of the metal body is configured to receive a bombardment of external photons and convert them into free electrons; and the inner surface of the metal body is configured to receive the electrical conductor body without physically coming into contact with it and direct the free electrons towards the electrical conductor body to increase the incident free electrons thereof.

[0006] Preferably, the height and the width, or diameter, of the metal body are comprised between 10 cm and 2 m. The dimensions of the metal body for both height and width (or diameter) can vary based on the application and the size of the electrical conductor body.

[0007] Preferably, the metal body comprises a configuration selected from the group consisting of: a three-dimensional helical configuration or a two-dimensional grating configuration.

[0008] Said three-dimensional helical configuration is formed by the generatrix of a surface of revolution that rotates around a central axis of said surface and it has a helical elevation view and a circular, ellipse or spiral plan view; in other words, the three-dimensional helix has a cylindrical helical configuration, a spherical helical configuration or a semi-spherical helical configuration or a conical helical configuration.

[0009] Preferably, the insulated support is a hook made from electrical insulated material that comprises a first end intended to be connected to an external element lifted higher than the height of the metal body and a second end connected to the upper part of the metal body.

[0010] Alternatively, the insulated support is a first insulated body comprising a wooden plank with four insulated wood feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end connected to the wooden plank, and in turn, the wooden plank is connected to and surrounded by the cylindrical helix, lifting it off the floor or the ground.

[0011] Alternatively, the insulated support is a second insulated body comprising a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end that passes through the wooden plank to connect to the two-dimensional grating and lift it with respect to the floor or the ground.

[0012] Alternatively, the insulated support is a third insulated body comprising a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end connected to the wooden plank, and in turn, the wooden plank is connected to the cylindrical helix such that the cylindrical helix is inserted into the side of the wooden plank in order to be lifted with respect to the floor or the ground.

[0013] Alternatively, the insulated support is a fourth insulated body comprising a wooden plank with two poles of insulated wood facing each other, wherein the wooden plank is intended to rest on the floor or the ground, and each pole comprises a first end intended to be positioned on the wooden plank and a plurality of hooks distributed equally along the poles and connected to the cylindrical helix to lift it with respect to the floor or the ground.

[0014] It is worth noting that the tests were carried out on the ground soil atop a hill, wherein the ground contains clay and it is located at a distance of 150 m from a train station and at an air-line distance of 500 m from a river.

[0015] In this way, a device is obtained that converts external photons into free electrons to incide in the entire

outer surface of the electrical conductor body and thus increase the free electrons inciding therein.

DESCRIPTION OF THE DRAWINGS

[0016] As a complement to the description provided herein and for the purpose of helping to make the characteristics of the invention more readily understandable, in accordance with a preferred practical embodiment thereof, said description is accompanied by a set of drawings constituting an integral part of the same, which by way of illustration and not limitation represent the following:

Figure 1 shows a schematic view of the present invention.
Figure 2 shows a schematic view of different preferred embodiments of the present invention.
Figure 3 shows a schematic view of another preferred embodiment of the present invention.
Figure 4 shows a schematic view of another preferred embodiment of the present invention.
Figure 5 shows a schematic view of another preferred embodiment of the present invention.
Figure 6 shows a schematic view of another preferred embodiment of the present invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0017] In a preferred embodiment of the invention, as shown in Figure 1, the device (1) is configured to increase free electrons inciding in an electrical conductor body (2).

[0018] More specifically, the device (1) comprises a metal body (3) with an inner surface and an outer surface, and an insulated support connected to the metal body (3) to electrically insult it from the ground. The insulated support is a hook (4) made from electrical insulated material that comprises a first end intended to be connected to wall with a height that is taller than the height of the metal body (3) and a second end connected to the upper part of the metal body (3).

[0019] The outer surface of the metal body (3) is configured to receive a bombardment of external photons and convert them into free electrons; and the inner surface of the metal body (3) is configured to receive the electrical conductor body (2) without physically coming into contact with it and direct the free electrons towards the electrical conductor body (2) to increase the incident free electrons thereof.

[0020] Preferably, the height and the diameter of the metal body (3) are comprised between 10 cm and 2 m depending on the dimensions of the electrical conductor body (2) and it comprises a three-dimensional helical configuration or two-dimension grating configuration (3F).

[0021] More specifically, as shown in Figure 2, the three-dimensional helix has a cylindrical helical configuration (3A), a spherical helical configuration (3B), a semi-spherical helical configuration (3C) or a conical helical configuration (3D).

[0022] In another preferred embodiment, as shown in Figure 3, the insulated support is a first insulated body (5A) that comprises a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end connected to the wooden plank, and in turn, the wooden plank is connected to and surrounded by the cylindrical helix (3A) lifting it off the floor or the ground.

[0023] In another preferred embodiment, as shown in Figure 4, the insulated support is a second insulated body (5B) that comprises a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end that passes through the wooden plank to connect to the two-dimensional grating (3F) and lift it with respect to the floor or the ground.

[0024] In another preferred embodiment, as shown in Figure 5, the insulated support is a third insulated body (5C) that comprises a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end joined to the wooden plank, and in turn, the wooden plank is joined to the cylindrical helix (3A) such that the cylindrical helix (3A) is inserted into the side of the wooden plank to be lifted with respect to the floor or the ground.

[0025] In another preferred embodiment, as shown in Figure 6, the insulated support is a fourth insulated body (5D) that comprises a wooden plank with two poles of insulated wood facing each other, wherein the wooden plank is intended to rest on the floor or the ground, and each pole comprises a first end intended to be positioned on the wooden plank and a plurality of hooks distributed equally along the poles and joined to the cylindrical helix (3A) to lift it with respect to the floor or the ground.

Claims

1. A device (1) for increasing free electrons inciding in an electrical conductor body (2) **characterized in that** it comprises:

   - a metal body (3) with an inner surface and an outer surface, and
   - an insulated support connected to the metal body (3) to electrically insulate it from the ground,

   wherein the outer surface of the metal body (3) is configured to receive a bombardment of external photons and convert them into free electrons; and the inner surface of the metal body (3) is configured to receive the electrical conductor body (2) without

physically coming into contact with it and direct the free electrons towards the electrical conductor body (2) to increase the incident free electrons thereof.

2. The device (1) according to claim 1, **characterized in that** the height and the width, or the diameter, of the metal body (3) are comprised between 10 cm and 2 m.

3. The device (1) according to claim 2, **characterized in that** the metal body (3) comprises a configuration from the group consisting of: a three-dimensional helical configuration or a two-dimensional grating configuration (3F).

4. The device (1) according to claim 3, **characterized in that** the three-dimensional helix has a cylindrical helical configuration (3A), a spherical helical configuration (3B), a semi-spherical helical configuration (3C) or a conical helical configuration (3D).

5. The device (1) according to claim 4, **characterized in that** the insulated support is a hook (4) made from electrical insulated material that comprises a first end intended to be connected to an external element lifted higher than the height of the metal body (3) and a second end connected to the upper part of the metal body (3).

6. The device (1) according to claim 4, **characterized in that** the insulating support is a first insulated body (5A) that comprises a wooden plank with four insulated wood feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end joined to the wooden plank, and in turn, the wooden plank is joined to and surrounded by the cylindrical helix (3A), lifting it off the floor or the ground.

7. The device (1) according to claim 3, **characterized in that** the insulated support is a second insulated body (5B) that comprises a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end that passes through the wooden plank to connect to the two-dimensional grating (3F) and lift it with respect to the floor or the ground.

8. The device (1) according to claim 4, **characterized in that** the insulated support is a third insulated body (5C) that comprises a wooden plank with four insulated wooden feet, each one placed on a corner of the wooden plank, wherein each foot comprises a first end intended to be positioned on the floor or ground and a second end joined to the wooden plank, and in turn, the wooden plank is connected to the cylindrical helix (3A) such that the cylindrical helix (3A) is inserted into the side of the wooden plank to be lifted with respect to the floor or the ground.

9. The device (1) according to claim 4, **characterized in that** the insulated support is a fourth insulated body (5D) that comprises a wooden plank with two poles made of insulated wood facing each other, wherein the wooden plank is intended to rest on the floor or the ground, and each pole comprises a first end intended to be positioned on the wooden plank and a plurality of hooks distributed equally along the poles and connected to the cylindrical helix (3A) to lift it with respect to the floor or the ground.

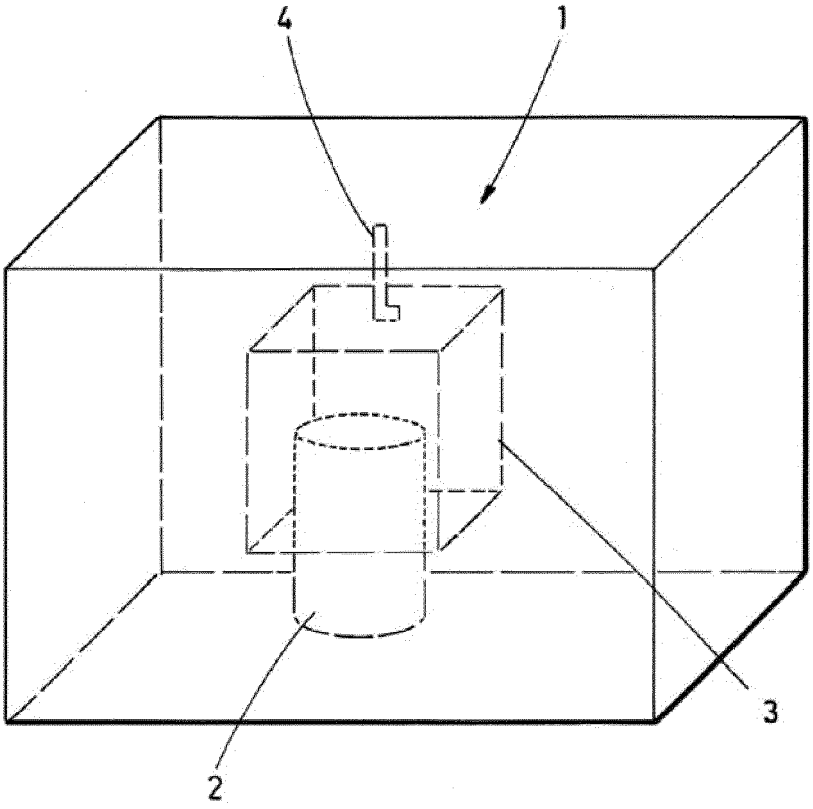

FIG.1

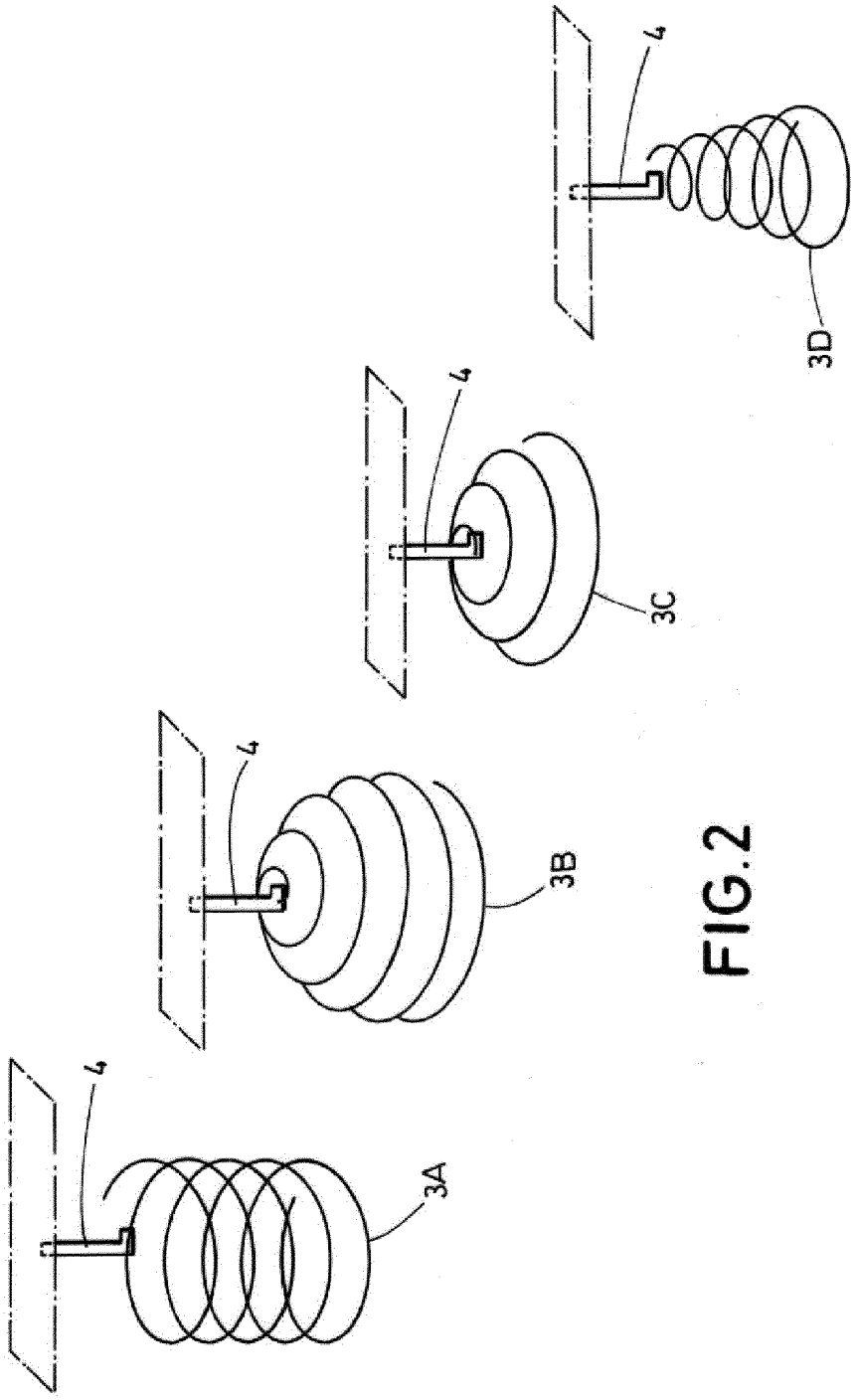

FIG.2

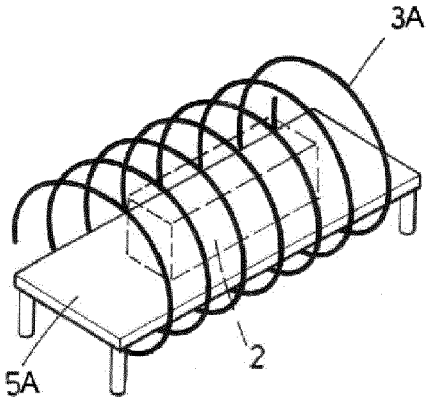

FIG.3

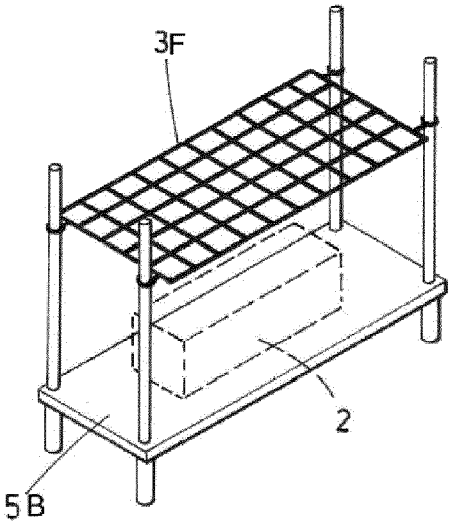

FIG.4

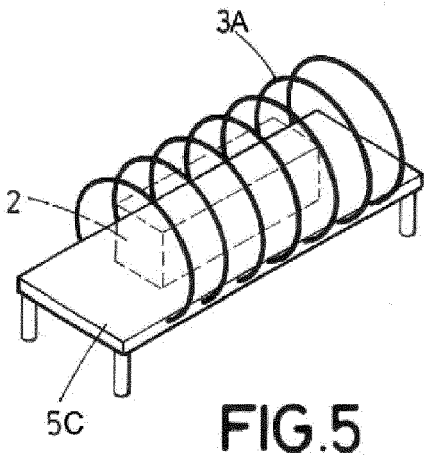

FIG.5

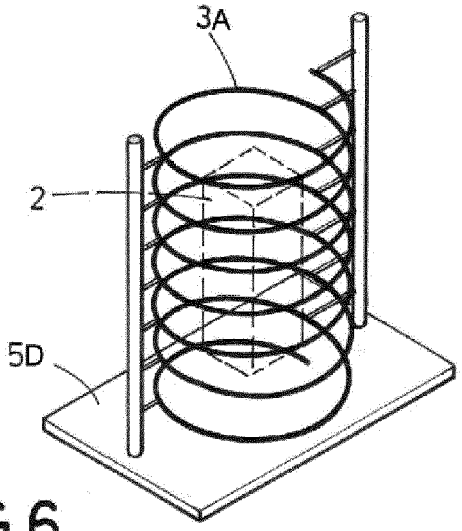

FIG.6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2006082295 A1 **[0003]**