

發明專利證書



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The invention includes; a sealed housing made of a plastic or metal material; a conductive plate made of a copper material, positioned in the center of the housing, and respectively connected to power lines so as to accumulate magnetic energy generated in an internal polymer-clay nano-composite; a base insulation plate having insulation characteristics so as to fix the conductive plate; electric wires which are power lines for transmitting the magnetic energy stored on the conductive plate to the outside; the polymer-clay nano composite filled in the bottom portion of the housing such that the conductive plate is submerged therein; an upper ceramic layer coated on the inner wall of the housing so as to promote the magnetic interaction of a ceramic compound in the upper space portion of the polymer-clay nano composite.

摘要 本發明：由塑料和金屬材料所製成的密封外殼；裝置內奈米複合材料填充在底部，在裝置內壁上塗覆陶瓷層，促進奈米複合材料跟陶瓷層的電磁交互作用。用絕緣板固定的銅導電板裝置在殼體中心，浸沒在奈米複合材料中，以積聚其產生的磁能。各銅導電板分別連接電線，將儲存在導電板上的電磁能量傳輸到外部電力線。

DEVICE FOR OPTIMIZING ELECTRICAL ENERGY

FIELD OF THE INVENTION

This invention comprises an electrical energy optimizing device.

In general, electrical energy transmission efficiency drop, i.e., energy loss occurring in homes and commercial/industrial facilities is closely related to the operating characteristics of their loads. In particular, the energy loss caused by the operating characteristic of an inductive load occupies the largest part of it.

As a solution to this, various techniques such as VFDs, Soft Starters, or high-efficiency motors have been introduced. However, not to mention the high cost, these are only applicable to low-capacity motors because they have low output range of 100 kW or less. In addition, such techniques still have problems such as difficult serial installation and space constraint due to the large volume of the devices.

On top of this, additional loss may be caused by various types of noise and fluctuation produced in the power transmission environment from the power plant, to the transmission substation, to the distribution substation, and to the electrical consumers, and caused by the specific resistance of the electrical line via which electric current flows during the electric supply process.

優化電能的裝置

技術領域

本發明包括電能優化裝置

一般來說，電能傳輸效率下降，即家庭和商業/工業設施中發生的能量損失與其負載的運行特性密切相關。特別是由感性負載的工作特性引起的能量損失佔據了最大部分。

已經引入了多種技術，作為解決方案。例如變頻，軟啟動器或高效電機。然而，這些方案除了高成本，且僅適用於低容量電機，因為它們的輸出功率範圍小於 100 kW。另外，由於設備的體積大，這些技術仍然存在諸如串聯安裝困難和空間限制等問題。

除此之外，由發電廠到輸電變電站，變電站和用電設施的輸電環境中產生的各種類型的噪聲和波動，在供電過程中電流流過電線的阻抗，也會造成額外的損失。

Furthermore, there is another prior art regarding power-saving devices that uses capacitors. This method can perform electrification stabilization; however it is not likely to perform the function of effective power consumption reduction by electricity users. This is because the line loss generated in the ordinary power transmission and distribution process is at 1-2%, which is significantly low.

Meanwhile, inductive loads, represented by motors, require electric power up to 6 times of the rated consumption at the initial starting period due to the operation principle that electrical energy shall be changed into kinetic energy. With the current state of technologies, high power consumption that exceeds the rated value at the starting period of an inductive load cannot be precisely controlled; therefore the high electric loss is also inevitably caused in this period.

Among these, various devices for addressing the noise and fluctuation problems during transmission have already been or are being introduced in many industrial facilities, as the technologies such as harmonic filters, UPSs or power factor correction are becoming more common. In addition, for the matter with the specific resistance of the electrical line, the materials for all the supplying routes should be replaced by ones with the higher conductivity, which is very costly and involves many issues of effectiveness. Even if this approach is realized, the energy loss can be reduced by at most 2%. Accordingly, doubt remains over effectiveness of this approach.

A far-infrared ray is a kind of an infrared spectrum of electromagnetic radiation, comprising the wavelengths up to 2.5-1000um. However, the usual range of the wavelengths used in industries is 2.5-30 um. Such far-infrared rays have physical properties of resonance absorption, radiation, and penetrating force. In addition, the molecules composing the substance show a unique deformation vibration, rotational vibration, and stretching vibration according to the array of so the atoms.

At this, when radiation energy is irradiated, if the vibration frequency of the radiating far-infrared rays and that of the molecules are identical, the molecules absorb far infrared radiation energy so that the vibration becomes more intense, which is called resonance absorption effect. Due to this operation, a part of kinetic energy is converted into activation energy, which activates the molecular motion.

Molecules are activated in a manner that when the far-infrared rays in a predetermined range of wavelengths are supplied to an electric line where currents are flowing, the molecules composing the conductor of the line cause resonance absorption vibration to absorb it.

a housing on the inner wall of which the ceramic layer is coated that generates rotating electromagnetic waves inside the space;

此外，關於使用電容器的節能裝置還有另一種現有技術。該方法可以執行電氣化穩定化；但不太可能發揮電力用戶有效降低功耗的功能。這是因為在普通的輸配電過程中產生的線損在 1-2%，這是非常低的。

同時，由電動機代表的感性負載，由於電能應變為動能的工作原理，在初始啟動期間需要高達 6 倍額定功耗的電功率。就目前的技術狀態而言，在感性負載起動階段超過額定值的高功耗無法精確控制；因此這段時間內也不可避免地造成高電損。

其中，隨著諧波濾波器，UPS 或功率因數校正等技術的普及，各種用於解決傳輸過程中的噪聲和波動問題的設備已經或正在引入許多工業設施。另外，對於電氣線路的電阻率問題，所有供電線路的材料若改用導電率較高的材料來代替，卻是非常昂貴的，並且涉及許多有效性問題。即使實現了這種方法，能量損失至多也只能降低 2%。因此，對這種方法的有效性仍是有懷疑的。

遠紅外線是一種電磁輻射的紅外光譜，其波長可達 2.5-1000um。但是，工業中使用的波長的通常範圍是 2.5-30 微米。這種遠紅外線具有共振吸收，輻射和穿透力的物理性質。另外，構成該物質的分子根據原子排列，顯示出獨特的變形振動，旋轉振動和伸縮振動。

當有與這些物質分子的振動頻率相同的遠紅外線輻射在這些物質時，則分子吸收遠紅外輻射能量，使得振動變得更強烈，這被稱為共振吸收效應。由於這種效應，一部分動能被轉化為激活能量，激活分子運動。

分子以這樣的方式被激活，即當將預定波長範圍的遠紅外線提供給電流流動的電線時，構成線路導體的分子引起共振吸收振動以吸收它。

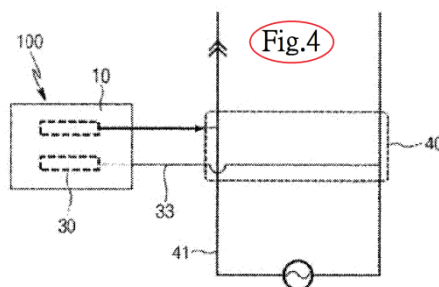
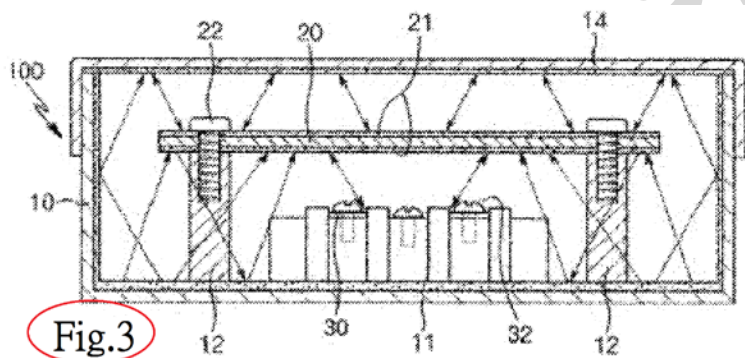
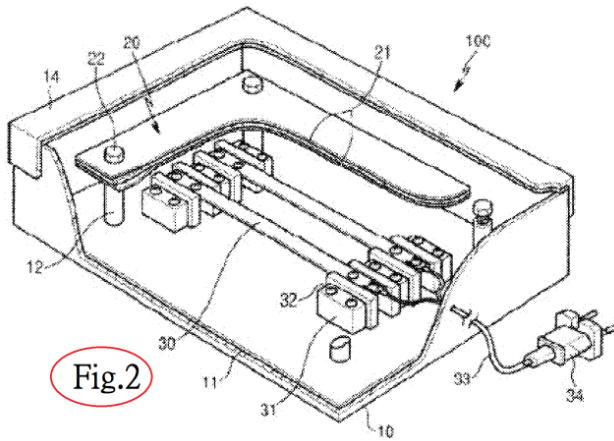
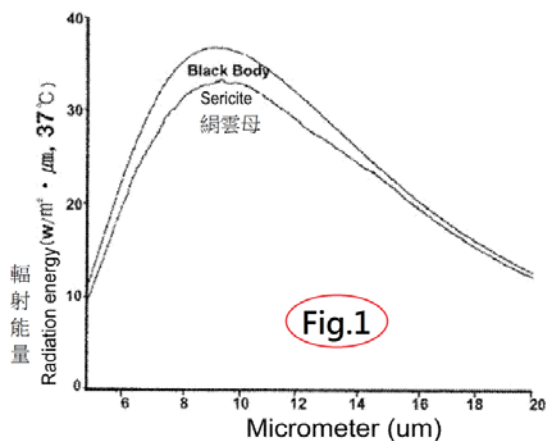
內壁上塗覆有陶瓷層的殼體，其在空間內產生旋轉電磁波；

an inner cover plate housing fixed at a predetermined height in the inner space and allows resonance absorption effect by repeatedly absorbing and emitting rotating electromagnetic waves generated from the ceramic layer;

a conductive plate which is a conductor placed at the space under the inner cover plate so as to collect the rotating electromagnetic waves generated from the ceramic layer; and an electric line that connects the conductor so as to discharge the rotating electromagnetic waves collected by the conductive plate.

內部蓋板殼體，所述內部蓋板殼體固定在所述內部空間中的預定高度處並且通過反復吸收和發射從所述陶瓷層產生的旋轉電磁波而允許共振吸收效應；

導電板，是放置在內蓋板下方的空間處的導體，以收集由陶瓷層產生的旋轉電磁波；以及連接導體以排出由導電板收集的旋轉電磁波的電線。



BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a graph showing energy waveforms by wavelength generated from ordinary ceramic layers;

FIG. 2 is a perspective cut-away view of a main part of the device of the prior art;

FIG. 3 is a cross-sectional view of FIG. 2;

FIG. 4 is a diagram showing a way how the device of the prior art is applied;

附圖說明

圖 1 是顯示陶瓷層產生的能量波形之曲線圖

圖 2 是現有裝置主要部分的透視剖視圖

圖 3 是圖 2 的截面圖

圖 4 是示出如何應用現有技術的裝置圖

FIGS. 2. The power-saving device (100) is configured so that a ceramic layer (11) (preferably with the thickness of 1 mm) generating the rotating electromagnetic waves is formed with materials including sericite on the inner wall of a metal or plastic housing (10) in which guiding wave to the outside is blocked;

圖 2 所示的節能裝置 (100)。在金屬內壁上用包括絹雲母的材料形成產生旋轉電磁波的陶瓷層 (11) (優選具有 1mm 的厚度) 或者塑料外殼 (10)，可以阻擋向外的導波；

an inner cover plate (20) is placed supported by a spacer rod (12) with a predetermined height inside the inner space; a conductive plate (30) penetrated by the induced rotating electromagnetic waves is placed on a base insulation plate (31) in the free air space between the inner cover plate (20) and the bottom surface; and the conductive plate (30) is connected to power connecting electric wires (33).

The inner cover plate (20) has a size so that certain space is maintained between the inner wall of the housing (10), while the inner cover plate (20) adjusts the height of base insulation plate (31) so as to be at the intermediate position from the bottom surface of the housing (10).

The reference numeral 21 refers to a covering ceramic layer; the reference numeral 22 refers to a screw that fixes the inner cover plate (20) to the spacer rod (12); the reference numeral 32 refers to a screw that allows the conductive plate (30) to be screw-fixed to the base insulation plate (31); the reference numeral 34 refers to a plug that connects a power source power line with a socket; and the reference numeral 14 refers to the cover of the housing (10).

As shown in FIG. 2, before or after assembling the power-saving device (100), the ceramic layer (11) is heated (preferably in a range of 100-150° C.; since at the temperature over 150° C. the housing (10) might be deformed, while at the temperature below 100° C. the ceramic layer activation is slow such that forming the desired rotating electromagnetic waves is difficult) before shipped to the market (it is desirable to flash-heat within the range where the housing is not deformed.).

Then covalent bond and crystallization pi bond of the ceramic layer (11) itself are activated due to the heat, generating the rotating electromagnetic waves. The waves are generated at the inside in countless wavelength forms as in FIG. 3, causing resonance absorption effect via the inner cover plate (20).

The covering ceramic layer (21) is formed on the upper and lower surfaces of the inner cover plate (20) configuring a metal plate so that more rotating electromagnetic waves are generated at the boundary layer between metal plate crystalline coherence and ceramic covalence bond, therefore radically increasing the rotating electromagnetic wave generation.

That is, continual conversion is caused that the rotating electromagnetic waves emitted from the coated surface of the ceramic layer (11) repeat reflecting and absorbing at the free air space with the covering ceramic layer (21) of the inner cover plate (20), changing into rotating electromagnetic waves.

Here, the inner cover plate (20) is formed as having a size that allows to maintain certain space between the inner wall of the housing (10), therefore performs so that kinetic energy is continuously generated to allow rotating electromagnetic waves to absorb and repeat along the upper and lower surface of the inner cover plate (20). In addition, the base insulation plate (31) serves to locate the conductive plate (30) at the intermediate position between the bottom surface and the cover plate (20),

內部蓋板 (20) 由內部空間內具有預定高度的間隔桿 (12) 支撐;由感應的旋轉電磁波穿透的導電板 (30) 被放置在內蓋板 (20) 和底面之間的自由空間中的基底絕緣板 (31) 上;並且導電板 (30) 連接到電力連接電線 (33)。

內蓋板(20)在殼體(10)的內壁之間保持一定空間的尺寸,同時內蓋板(20)調節基座絕緣板(31)處於從殼體 (10) 的底面開始的中間位置高度。

附圖標記 21 表示覆蓋陶瓷層;附圖標記 22 是指將內側蓋板 20 固定在隔離桿 12 上的螺釘。符號 32 是指將導電板 30 螺紋固定在基底絕緣板 31 上的螺釘,參考數字 34 是指將電源電力線與插座連接的插頭;並且附圖標記 14 指的是殼體 (10) 的上蓋。

如圖 2 所示,在組裝節能裝置(100)之前或之後,加熱陶瓷層 (11) (優選在 100-150°C 範圍內;因為在溫度超過 150°C (10) 可能變形,而在低於 100°C 的溫度下,陶瓷層激活慢,使得在運送到市場之前難以形成期望的旋轉電磁波)(期望 在殼體不變形的範圍內閃光)。

然後陶瓷層 (11) 自身的共價鍵和結晶 π 鍵由於熱而被激活,從而產生旋轉電磁波。如圖 3 所示,波形以無數波長的形式在內部產生,從而通過內蓋板 (20) 產生共振吸收效應。

覆蓋陶瓷層(21)形成在構成金屬板的內蓋板(20)的上表面和下表面上,使得在金屬板結晶相干性和陶瓷共價鍵之間的邊界層處產生更多的旋轉電磁波。從根本上增加了旋轉電磁波的產生。

也就是說,從陶瓷層 (11) 的塗覆表面發射的旋轉電磁波在內部蓋板 (20) 的覆蓋陶瓷層 (21) 在自由空氣空間處反復和吸收而發生連續轉換,變成旋轉的電磁波。

這裡,內蓋板(20)形成為具有能夠在殼體(10)的內壁之間保持一定空間的尺寸,因此沿著內蓋板 (20) 的上表面和下表面連續重複地產生和吸收旋轉電磁波。另外,基底絕緣板(31)用於將導電板(30)定位在底面和蓋板(20)之間的中間位置,

therefore maximizing the amount of rotating electromagnetic waves induced and absorbed to the conductive plate (30).

The rotating electromagnetic waves are activated the most at the free air space between the inner cover plate (20) and the bottom surface, and therefore are induced to the conductive plate (30) at the free air space. The conductive plate (30) is connected to a power terminal of the ordinary socket (40) that supplies power as in FIG. 4.

The power line (41) connected to the power terminal has its own flow of rotating electromagnetic waves. However, these waves are weaker than the rotating electromagnetic waves generated inside the housing (10) of the power-saving device (100).

Accordingly, if the plug (34) connected via the conductive plate (30) and electric wires (33) of the housing (10) as in FIG. 4 is connected to the socket (40), the rotating electromagnetic waves induced inside the housing (10) can be absorbed into the power line (41).

Advantageous Effects of Invention

The present invention provides a device for optimizing electrical energy that saves electrical energy by filling the bottom portion of the housing with a polymer-clay nano-composite so that the conductive plate is submerged inside the housing of an power-saving device, in which coating ceramic layers are coated on the inner wall of the housing, energy is activated on the inner cover plate, and the activated energy is collected on the conductive plate and supplied to electric wires;

The present invention provides a device for optimizing electrical energy that enables solving the common problems of the existing arts including limited applicable amount, limited space for installation due to the large volume, and difficulty in installing in series as well as optimizing the efficiency of electrical energy transmission under an inductive load.

The inventor of the present invention has found out that electromagnetic wave energy supply caused by interaction of the alternating magnetic field generated in the process of supplying AC electric power to the conductive plate sub-merged in the polymer-clay nanocomposite which are magnetic improves the mobility of conduction electrons flowing on the electric line and thus raises efficiency by 7-11% compared to the case with same power consumption under an inductive load, which means power consumption can be reduced by 7-11%.

In addition, when it comes to a resistive load, represented by a lamp, the same power consumption reduction could not be achieved as under an inductive load, for the operation principle of the resistive load which does not have specific electric consumption period is different from that of the inductive load. However, energy efficiency improvement due to the raised mobility of conduction electrons can improve intensity of illumination by about 3%.

因此使得感應並吸收到導電板的旋轉電磁波的量最大化(30)。

旋轉的電磁波在內蓋板(20)和底表面之間的自由空氣空間處最活躍，因此在自由空間處被引導到導電板(30)。如圖4所示，導電板(30)連接到供電的普通插座(40)的電源端子。

連接到電源端子的電力線(41)具有自己的旋轉電磁波流。然而，這些波比在省電裝置(100)的殼體(10)內產生的旋轉電磁波弱。

因此，如圖4所示，如果經由導電板(30)和殼體(10)的電線(33)連接的插頭(34)與插座(40)連接，則在殼體內引起的旋轉電磁波(10)可被吸收到電力線(41)中。

發明的有益效果

本發明提供一種用於優化電能的裝置，通過使用奈米複合材料聚合物填充殼體的底部來節省電能，使得導電板浸沒在節能裝置的殼體內，其中陶瓷塗層被塗覆在殼體的內壁上，內部蓋板上的能量被激活，並且激活的能量被收集在導電板上並被提供給電線；

本發明提供了一種用於優化的裝置解決現有電能技術中常見的問題，包括容量的適用量有限，安裝空間有受限，串聯安裝困難，以及優化感性負載電能傳輸效率。

交流電在向交疊的導電板供應交流電的過程中，與奈米複合材料聚合粘土產生的電磁波相互作用而引起的交變磁場，這磁性改善了在電線上電子的傳導率。

比較相同功耗的感性負載，效率提高了7-11%，這意味著功耗可以降低7-11%。

另外，以燈為代表的阻性負載，不能與感性負載實現相同的功耗降低，因為電阻負載的工作原理不同於感性負載，阻性負載沒有感性負載特定的耗電週期。然而，由於電子傳導率的提高，能量效率可以提高約3%的照明強度。

If the composition of the polymer-clay nanocomposite of the present invention is as the following Table 1, the test result before and after connecting to a domestic power supply is as described in FIGS. 6 to 9.

TABLE 1

Substance	Weight ratio (wt %)	Note ⁴⁾
Main components ⁴⁾		
SiO ₂	64.19	Bentonite clay mineral ⁴⁾
Al ₂ O ₃	16.1 ⁴⁾	
Fe ₂ O ₃	3.68 ⁴⁾	Optional additives ⁴⁾
CaO	2.92 ⁴⁾	
Na ₂ O	2.6 ⁴⁾	
K ₂ O	0.87 ⁴⁾	
Accessory components ⁴⁾		
TiO ₂	3.42	Specific inductive capacity improved ⁴⁾
BaO	3.01	Specific inductive capacity improved ⁴⁾
Optional additives ⁴⁾		
Y ₂ O ₃	0.27	Magnetism improved ⁴⁾
Bi ₂ O ₃	1.95	Low-temperature sintering improved ⁴⁾
CuO	0.99	Dielectric loss improved ⁴⁾

本發明的納米複合材料 - 聚合粘土的組成如下面的表 1 所示，那麼連接到家用電源之前和之後的測試結果如圖 6-9 所示

TABLE 2

	Before installing	After installing
Institution (TLJV Austria)		
228.8 V	229.6 V	
Average voltage during the test	3 min 51.8 sec	3 min
Time until reaching to 90° C.	104.4 Wh	104.4 Wh
Power consumption until reaching to 90° C.		
Institution (TUV Austria)		
Before installing		
Final power consumption after operating for 30 min	659.35 Wh	626.60 Wh

BRIEF DESCRIPTION OF DRAWINGS

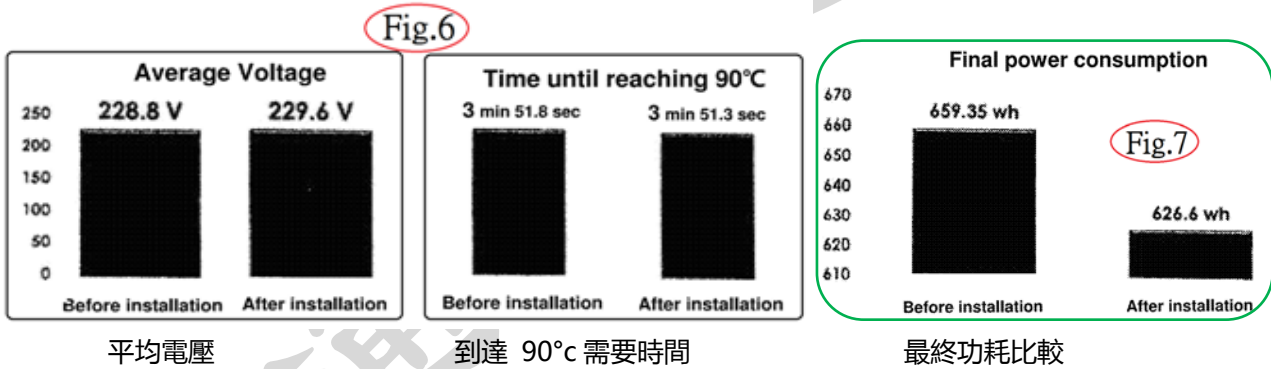
FIG. 6 is a diagram showing the average voltage before and after installation, the time until reaching 90° C.,

附圖說明

圖 6 是表示被測量的設備在安裝本發明裝置前後的平均電壓，直到達到 90°C 為止的時間。

FIG. 7 is a diagram showing final power consumption;

圖 7 是表示安裝本發明裝置的設備，最終功耗圖。



BEST MODE FOR CARRYING OUT THE INVENTION

實施本發明項目的最佳模式

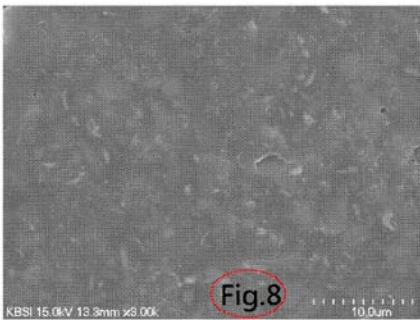
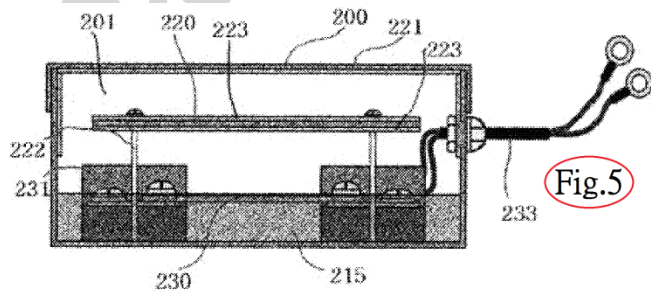


FIG. 5 is a cross-sectional view of a device according to the present invention;

圖 5 是根據本發明的裝置橫截面圖

FIG. 8 is an enlarged photograph of the polymer-clay nanocomposite employed in the present invention;

圖 8 是本發明中使用的聚合物 - 奈米複合材料的放大照片。

200; Housing
215; Polymer-clay nanocomposite
220; Inner cover plate
221; Upper ceramic layer
222; Spacer rod
223; Inner ceramic layer
230; Conductive plate
231; Base insulation plate
33; Electric wires

200：殼體
215：聚合物 - 奈米複合材料
220：內蓋板
221：上陶瓷層
222：隔離柱
223：內部陶瓷層
230：導電板
231：底座絕緣板
233：電線

Application of the upper ceramic layer (221) of far-infrared radiation and the inner ceramic layer (223)

In the present invention, the inner ceramic layers (223) are formed on the upper and lower surfaces of the cover plate (220), and the upper ceramic layers (221) are formed on the inner walls of the upper and lower cases of the housing.

This inner ceramic layers (223) and upper ceramic layers (221) may be formed of any metallic oxide (Al_2O_3 , SiO_2 , TiO_2 , ZrO_2 or other oxides of transition elements) or metallic carbide (SiC Wc).

If these substances are made as heating elements and heated or applied with electric currents, heat is generated due to the great electric resistance.

Here, with the heat are generated radiant rays with various wavelengths as well as far-infrared rays.

As is known until now, far-infrared rays are radiated due to the vibration from metal-oxygen combination, the more oxygen combined in the compound (for example, V_2O_5) the more far-infrared rays are generated.

Therefore, every oxide can be used as material for far-infrared radiation.

Considering from this point of view about material for generating far-infrared rays, every matter emits heat and certain amount of light when heated. Light or heat generation is different depending on the atomic structure and combination status of the matter used as a heating element, using specific matter is required.

Considering these points, the present invention allows that the far-infrared radiation ceramic layer on the inner wall of the housing (200) can be added or mixed aside from the main material with matters to reinforce generation of far-infrared rays and anions including tourmaline, titanium, loess, nephrite, or zirconia. The range of efficient wave lengths is 8-11 nm.

遠紅外輻射的上陶瓷層 (221) 和內陶瓷層 (223) 應用

在本發明中，內部陶瓷層 (223) 形成在蓋板 (220) 的上表面和下表面上，並且上部陶瓷層 (221) 形成在上部殼體和下部殼體的內壁上。

該內陶瓷層 (223) 和上陶瓷層 (221) 可以由任何金屬氧化物 (Al_2O_3 , SiO_2 , TiO_2 , ZrO_2 或過渡元素的其他氧化物) 或金屬碳化物 (SiC Wc) 形成。

如果將這些物質製成加熱元件並加熱或施加電流，則由於高電阻而產生熱量。

熱量產生不同波長的輻射線以及遠紅外線。

直到現在已知，由於金屬 - 氧氣結合的振動，會照射遠紅外線，化合物中結合的氧越多 (例如 V_2O_5)，產生越多的遠紅外線。

因此，每種氧化物都可以用作遠紅外輻射的材料。

從這種觀點來看，關於產生遠紅外線的材料，每一種物質在加熱時都會發熱並產生一定量的光。根據用作加熱元件的物質的原子結構和組合狀態，光或熱的產生是不同的，需要使用特定的物質。

考慮到這些問題，本發明允許在殼體 (200) 的內壁上的遠紅外輻射陶瓷層可以與主材料一起添加或混合物質以加強遠紅外線和陰離子的產生，包括電氣石，鈦，黃土，軟玉或氧化鋁。有效波長的範圍是 8-11 nm。

Interaction Between Far-Infrared Rays and the Polymer- Clay Nanocomposite (215)

Clay solids such as the polymer-clay nanocomposite (215) have specific vibration frequencies depending on the shape, treating method, tension, elasticity' and density, and clay liquids have specific vibration frequencies depending on the shape of the surrounding solid, treating method, tension, elasticity and density.

This vibration frequency is called natural vibration frequency or natural frequency.

That is, various molecular structures composing each matter have unique frequency of vibration and rotation depending on different gathering methods of the mass structure, arrangement, and gathering force of the atoms.

If the radiation energy when radiating far-infrared rays to matters and the vibration frequency of the matter are identical, the molecules absorb far-infrared radiation energy so that the vibration becomes more intense, which is called resonance absorption effect.

Described in more detail, the upper ceramic layer (221) on the inner wall of the housing (200) and the inner ceramic layers (223) on the inner cover plate (220) of the present invention vibrate in resonance at the frequency of 8-11 μm .

Here, in the present invention, the polymer-clay nanocomposite (215) is added, and when the polymer-clay nanocomposite (215) contacts with the far-infrared rays radiated from the ceramic layers (221, 223) and vibrating in resonance, the energy becomes activation energy gradually increasing in a form of electromagnetic wave, and the energy (further described below) inductively transmitted to the conductive plate submerged in the polymer-clay nanocomposite (215).

Application of the Alternating Magnetic Field (Generation of Spin Energy) Flowing currents generate magnetic fields according to Flemming's right-handed screw rule, and the form of magnetic fields is decided by the flowing direction of currents.

Application of the Alternating Magnetic Field (Generation of Spin Energy) Flowing currents generate magnetic fields according to Flemming's right-handed screw rule, and the form of magnetic fields is decided by the flowing direction of currents.

That is, mains electricity AC power supplies alternate (polarity periodically changes between positive (+) and negative (-)), thus generating alternating magnetic field.

When the device according to the present invention is installed, the electricity supplied to the installation space, that is, the alternating magnetic field generated by the alternating current flow enters into the housing (200) via electric wires (33), and this magnetic field and electrons within the polymer-clay nanocomposite (215) magnetically interact.

遠紅外線與聚合物 - 粘土納米複合材料之間的相互作用 (215)

固態的奈米複合材料聚合物粘土 (215) 特定振動頻率，根據形狀，處理方法，張力，彈性和密度而具有特定的振動頻率。液態粘土的特定振動頻率，取決於周圍固體的形狀，處理方法，張力，彈性和密度。

這個振動頻率被稱為自然振動頻率或固有頻率。

也就是說，構成每個物質的各種分子結構具有獨特的振動和旋轉頻率，取決於原子的質量結構，排列和聚集力的不同聚集方法。

如果輻射遠紅外線對物質的輻射能量與物質的振動頻率相同，則分子吸收遠紅外輻射能量，從而振動變得更強烈，這被稱為共振吸收效應。

更詳細地描述，在本發明的殼體 (200) 上陶瓷層 (221) 的內壁上和內部蓋板 (220) 上的內部陶瓷層 (223) 以 8-11 μm 的頻率諧振振動。

在此，在本發明中，添加聚合物 - 粘土納米複合物 (215)，並且當聚合物 - 粘土納米複合物 (215) 與從陶瓷層 (221, 223) 輻射的遠紅外線接觸時和在共振中振動時，能量變成以電磁波形式逐漸增加的活化能，並且該能量 (下面進一步描述) 感應地傳遞到浸沒在納米複合材料 - 聚合粘土 (215) 中的導電板。

交變磁場的應用 (產生自旋能量) 流動電流根據弗萊明的右手螺旋法則產生磁場，磁場的形式由電流的流動方向決定。

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也就是說，市電交流電源交替 (極性在正極 (+) 和負極 (-) 之間週期性變化)，從而產生交變磁場。

根據本發明安裝裝置時，接上電源後，即由交流電流產生的交變磁場經由電線 (33) 進入殼體 (200)，此磁場並與納米複合材料 - 聚合粘土 (215) 內電子的磁性相互作用。

The magnetic interaction refers to the forces of attraction and repulsion generated between alternating energy (the energy of which polarity periodically changes between positive (+) and negative (-)).

As electrons have negative (-) energy, attractive force is generated when the electrons contact with positive (+) energy, and repulsive force is generated when contacting with negative (-) energy.

If the polymer-clay nanocomposite (215) inside the housing (200) was a conductive matter in which electrons can move with ease, currents would have been generated.

However, the polymer-clay nanocomposite (215) has strong insulation property, causing the atomic vibration rather than electronic movement (physical atomic lattice vibration).

This results in the energy generation due to lattice vibration caused by magnetic interaction (transmission of magnetic energy), more specifically, transmission of electron spins (each momentum contained in electrons) between the adjacent electrons.

In short, magnetic waves (spin energy) generated by regular electron spin transmission are supplied to the power line connected to the conductive plate (230) inside the housing (200) of the present invention.

Spins form the magnetic dipole moment, which interacts with the magnetic field, generating potential energy.

Supply of Magnetic Waves (Function of the Spin Energy)
The magnetic waves supplied from the housing (200) to the power line also alternates between positive (+) and negative (-), because lattice vibration generating magnetic waves is caused by alternating magnetic field generated in the installation space.

Here, the ultimate difference between alternating magnetic fields generated by mains electricity AC power supplies and magnetic waves generating from the inside of the housing (200) of the present invention is that the magnetic waves can affect electron spin change of internal atoms of the power line because the magnetic waves enable direct transmission between atoms by transmitting electron spins of atoms of a substance.

Therefore, electron spins of the electrons (atoms) of the power line regularly change according to the change of supplied magnetic waves. Under ordinary conditions of current generation, electronic movement is disturbed by the random directional nature due to lattice vibration and irregular state of electron spins.

The polymer-clay nanocomposite produced by this method have dielectric property improved several times compared to generic dielectric material depending on the temperature and time when mixing the master batch and conditions of post-cure of composite material.

磁性相互作用是指在交替能量（極性在正（+）和負（-））之間週期性變化的能量之間產生的吸引力和推動力。

由於電子具有負（-）能量，當電子與正（+）能量接觸時，會產生吸引力，當與負（-）能量接觸時則產生排斥力。

如果殼體（200）內的納米複合材料 - 聚合粘土（215）是電子可以容易地移動的導電物質，則會產生電流。

然而，納米複合材料 - 聚合粘土（215）具有很強的絕緣性能，引起原子振動而不是電子運動（物理原子晶格振動）。

由於磁相互作用（磁能傳輸）引起的晶格振動而產生能量，更具體地說，由相鄰電子之間的電子自旋（包含在電子中的每個動量）的傳動因而產生能量。

簡言之，通過規則電子自旋傳動產生的磁波（自旋能量）提供給連接到本發明的機殼（200）內部導電板（230）的電源線。

自旋形成磁偶極矩，它與磁場相互作用，產生勢能。

從殼體（200）空間中因為交變磁場引起晶格振動產生的磁波（自旋能量的功能）供應到電力線也在正（+）和負（-）之間交替。

這裡，由市電交流電源產生的交變磁場與從本發明的殼體（200）內部產生的磁波之間的最終差異在於，該磁波可影響電力線的內部原子的電子自旋變化，因為磁波可以通過傳輸物質原子的電子自旋來實現原子之間的直接傳動。

因此，電源線的電子（原子）自旋隨著所提供的磁波的變化而有規律地變化。在通常的電流產生條件下，由於晶格振動和電子自旋的不規則狀態，電子運動受到隨機方向性質的干擾。

通過適當的溫度和時間，固化混合的母料和復合材料製成的聚合物 - 粘土納米複合材料具有比通用介電材料提高幾倍的介電性能。