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Lámpa érzékelő funkcióval és kamerával

Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

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(54) **Bulb with Sensing Function and Camera**

Glühlampe mit Sensorfunktion und Kamera

Ampoule avec fonction de détection et caméra

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(56) References cited:
EP-A1- 1 881 261 US-A1- 2010 148 672
US-A1- 2010 277 082

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Description

(a) Technical Field of the Invention

[0001] The present invention relates a bulb with a sensing function and a camera, and more particularly to a bulb that contains a camera mounted adjacent to an infrared sensor thereof to allow the bulb to conduct the function of surveillance more effectively.

(b) Description of the Prior Art

[0002] Conventionally, security monitoring equipments are designed in the manner that an infrared sensor is installed separately from an camera. The conventional equipments are conspicuous in appearance and have a larger volume. Thus, it is easy for intruders to avoid the surveillance of the conventional equipments.

[0003] Currently, security monitoring equipments are manufactured in smaller volume to render them less noticeable. However, the design of the security monitoring equipments also leaves a way to avoid the attention and the monitoring scope of the equipments, thereby causing a failure in recording activities. There is still a room for further improvement.

[0004] In view of the foregoing, the applicant has contrived an improved bulb with a sensing function and a camera after disclosing the U.S. patent 7,327,254 to soften the drawback of the conventional equipments and meet the needs of users.

[0005] EP 1 881 261 A1 discloses an emergency and alarm lamp with video camera, which comprises red LED for alarming purpose and white LED for lighting purpose. However, no lighting is turned on in synchronization of the activation of camera in order to assist image taking by the camera. Further, the emergency and alarm lamp of EP 1 881 261 A1 comprises a human body detector that has a predetermined detection area, but the detection effected by the human body is not directional. In other words, the human body sensor cannot be set to effect detection in a given direction and the camera is also not set in the same direction for video recording and taking image in the given direction.

SUMMARY OF THE INVENTION

[0006] The primary object of the present invention is to provide a bulb with a sensing function and a camera, which can perform surveillance more effectively.

[0007] The bulb comprises a lower case, a circuit board, an upper case, a sleeve, a sensor cap, and a camera. The lower case is provided with an electrical contact portion at a bottom thereof. The circuit board is mounted within the lower case and provided with a plurality of light emitting elements and an infrared sensor. The upper case is mounted on an upper edge of the lower case and defines an opening at a center thereof. The sleeve is mounted to the lower case and fitted with the

opening of the upper case. The sensor cap is mounted on the sleeve for covering the infrared sensor. The camera is mounted between the upper case and the lower case and located adjacent to the infrared sensor. Thereby, when an infrared source enters the sensing scope of the infrared sensor, the camera can be triggered to take images and the light emitting elements can be turned on to perform illumination.

[0008] Other objects, advantages, and novel features of the present invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

FIG 1 is a 3-dimensional view of the present invention.

FIG 2 is an exploded view of the present invention. FIG 3 is a schematic view of the present invention. FIG 4 is another schematic view of the present invention.

FIG 5 is a partially schematic view of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] Turning now to FIGS. 1-4, a preferred embodiment of a bulb according to the present invention generally comprises an upper case 1, a lower case 2, and a camera 3. Preferably, the camera 3 is a type of miniature camera, so that it is not easy to be noticed by intruders.

[0011] As shown, the lower case 2 is provided with an electrical contact portion 22 at a bottom thereof to be threadedly connected to a lamp socket, which can afford the bulb AC electrical power. A ball fitting 24 may be provided between the electrical contact portion 22 and the lower case 2, so that the bulb can be orientated at a desired direction through adjustment of the ball fitting 24. A circuit board is mounted within the lower case 2. The upper case 1 is threadedly connected to an upper edge of the lower case 2 and defines an opening at a center thereof. The sleeve 13 is mounted to the lower case 2 and fitted with the opening of the upper case 1. Particularly, the sleeve 13 can be mounted to the lower case 2 around a central tube of the lower case 2 and fitted with the opening of the upper case 1 at a top thereof. The circuit board is provided with a plurality of light emitting elements 21 and an infrared sensor 23, wherein the light emitting elements 21 are arranged along a periphery of the circuit board, and the infrared sensor 23 extends out of the central tube of the lower case 2. The lower case 2 defines a slot 31 adjacent to the infrared sensor 23. The upper case 1 defines a hole 32 corresponding to the slot 31 of the lower case 2, whereby the camera 23 can be inserted into the slot 31 of the lower case 2 and fitted with

the hole 32 of the upper case 1, so that the camera 3 is located adjacent to the infrared sensor 32. The camera 3 is electrically connected with the circuit board within the lower case 2 and can take images through the hole 32 of the upper case 1. Although the camera 3, the light emitting elements 21, and the infrared sensor 23 are mounted on the same circuit board, they can be each mounted on an individual circuit board to conduct its respective functions. Finally, the sensor cap 12 is mounted on top of the sleeve 13 through a latch means for covering the infrared sensor 23, so that the sensor cap 12 can prevent the intrusion of dusts and insects while allowing the infrared radiation to penetrate.

[0012] In use, the bulb of the present invention can be installed at a site, such as a door, a passageway, eaves, a garage, and so on. The bulb of present invention can be threaded into a bulb socket for connecting with an alternating current source, which can be converted into suitable sources for the electronic components of the bulb. When an infrared source (such as a human body) enters the sensing scope of the infrared sensor 23, the camera 3 can be triggered to take images and the light emitting elements 21 can be turned on to perform illumination. When the infrared sensor 23 does not detect an infrared source, the camera 3 will stay at a standby state. When the infrared sensor 23 detects an infrared source again, the camera 3 may be triggered again to take images and the light emitting elements 21 may be turned on again to perform illuminate. Furthermore, the camera 3 can be connected to a computer to allow a remote control and monitoring of the site where the bulb is installed, so as to perform surveillance more effectively in addition to the occult feature of the bulb.

[0013] Although the present invention has been described with a certain degree of particularity, it is understood that the present disclosure is made by way of example only and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention hereinafter claimed.

Claims

1. An improved bulb of the type including a lower case (2) provided with an electrical contact portion (22) at a bottom thereof; a circuit board mounted within said lower case (2), said circuit board being provided with a plurality of light emitting elements (21) and an infrared sensor (23); an upper case (1) mounted on an upper edge of said lower case (2), said upper case (1) defining an opening at a center thereof; a camera (3) is mounted between said upper case (1) and said lower case (2), said camera (3) is located adjacent to said infrared sensor (23), so that when an infrared source enters the sensing scope of said infrared sensor (23), said camera (3) can be triggered to take images and said light emitting elements (21) can be turned on to perform illumination

the bulb **characterized in that:** a sleeve (13) is mounted to said lower case (2) and fitted with said opening of said upper case (1); and a sensor cap (12) is mounted on top of said sleeve (13) for covering said infrared sensor (23).

2. An improved bulb of the type as claimed in claim 1, wherein said lower case (2) defines a slot (31) adjacent to said infrared sensor (23), said upper case (1) defines a hole (32) corresponding to said slot (31) of said lower case (2), whereby said camera (3) can be inserted into said slot (31) of said lower case (2) and fitted with said hole (32) of said upper case (1).
3. An improved bulb of the type as claimed in claim 1, wherein said infrared sensor (23), said camera (3), and said light emitting elements (21) can be each mounted on an individual circuit board.

Patentansprüche

1. Verbesserte Glühbirne mit einem unteren Gehäuse (2) mit einem elektrischen Kontaktteil (22) auf einem Boden davon; eine Leiterplatte, die in dem unteren Gehäuse (2) montiert ist, wobei besagte Leiterplatte mit einer Vielzahl von Licht ausstrahlenden Elementen (21) und einem Infrarotsensor (23) ausgestattet ist; ein oberes Gehäuse (1), das an eine Oberkante des unteren Gehäuses (2) montiert ist, wobei besagtes oberes Gehäuse (1) eine Öffnung in einer Mitte davon definiert; eine Kamera (3) ist zwischen besagtem oberem Gehäuse (1) und dem unteren Gehäuse (2) montiert, wobei die Kamera (3) sich angrenzend an den Infrarotsensor (23) befindet, so dass, wenn eine Infrarotquelle in den Abtastbereich des Infrarotsensors (23) tritt, die Kamera (3) ausgelöst werden kann, um Bilder aufzunehmen, und die Licht ausstrahlenden Elemente (21) können zwecks Beleuchtung angeschaltet werden, wobei die Glühbirne **dadurch gekennzeichnet ist, dass** eine Hülse (13) an das untere Gehäuse (2) montiert ist und mit der Öffnung des oberen Gehäuses (1) zusammenpasst, und eine Sensorkappe (12) auf der Hülse (13) zum Abdecken des Infrarotsensors (23) montiert ist.
2. Verbesserte Glühbirne nach Anspruch 1, wobei das untere Gehäuse (2) einen Schlitz (31) angrenzend an den Infrarotsensor (23) definiert, besagtes oberes Gehäuse (1) ein Loch (32) entsprechend besagtem Schlitz (31) des unteren Gehäuses (2) definiert, wodurch die Kamera (3) in den Schlitz (31) des unteren Gehäuses (2) eingefügt und in das Loch (32) des oberen Gehäuses (1) eingepasst werden kann.
3. Verbesserte Glühbirne nach Anspruch 1, wobei der Infrarotsensor (23), die Kamera (3) und die Licht ausstrahlende Elemente (21) jeweils auf eine einzelne

Leiterplatte montiert werden können. Korrigierte Patentansprüche laut Regel 137(2) EPÜ.

Revendications

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1. Ampoule améliorée du type comprenant un boîtier inférieur (2) pourvu d'une portion de contact électrique (22) sur une partie inférieure; une carte de circuit montée dans ledit boîtier (2), ladite carte de circuit étant équipée d'une pluralité d'éléments émettant de la lumière (21) et d'un capteur à infrarouges (23); un boîtier supérieur (1) monté sur un bord supérieur dudit boîtier (2), ledit boîtier supérieur (1) présentant une ouverture au centre; une caméra (3) est montée entre ledit boîtier supérieur (1) et ledit boîtier inférieur (2), ladite caméra (3) est placée adjacente audit capteur à infrarouges (23), de telle sorte que, lorsqu'une source infrarouge s'introduit dans le champ de détection dudit capteur à infrarouges (23), ladite caméra (3) peut être déclenchée pour prendre des images, et lesdits éléments émettant de la lumière (21) peuvent être activés afin de fournir un éclairage.
ampoule **caractérisée en ce que**: un manchon (13) est monté sur ledit boîtier inférieur (2) et s'adapte à l'ouverture dudit boîtier supérieur (1); et un capuchon du capteur (12) est monté au-dessus dudit manchon (13) afin de couvrir ledit capteur à infrarouges (23).
2. Ampoule améliorée du type revendiqué dans la revendication 1, où ledit boîtier inférieur (2) possède une rainure (31) adjacente audit capteur à infrarouges (23), ledit boîtier supérieur (1) présente un orifice (32) correspondant à ladite rainure (31) dudit boîtier inférieur (2), où ladite caméra (3) peut être insérée dans ladite rainure (31) dudit boîtier inférieur (2) et s'adapter audit orifice (32) dudit boîtier supérieur (1).
3. Ampoule améliorée du type revendiqué dans la revendication 1, où ledit capteur à infrarouges (23), ladite caméra (3), et lesdits éléments émettant de la lumière (21), peuvent être montés chacun sur un circuit individuel.
Revendications modifiées conformément à l'article 137(2) EPC.

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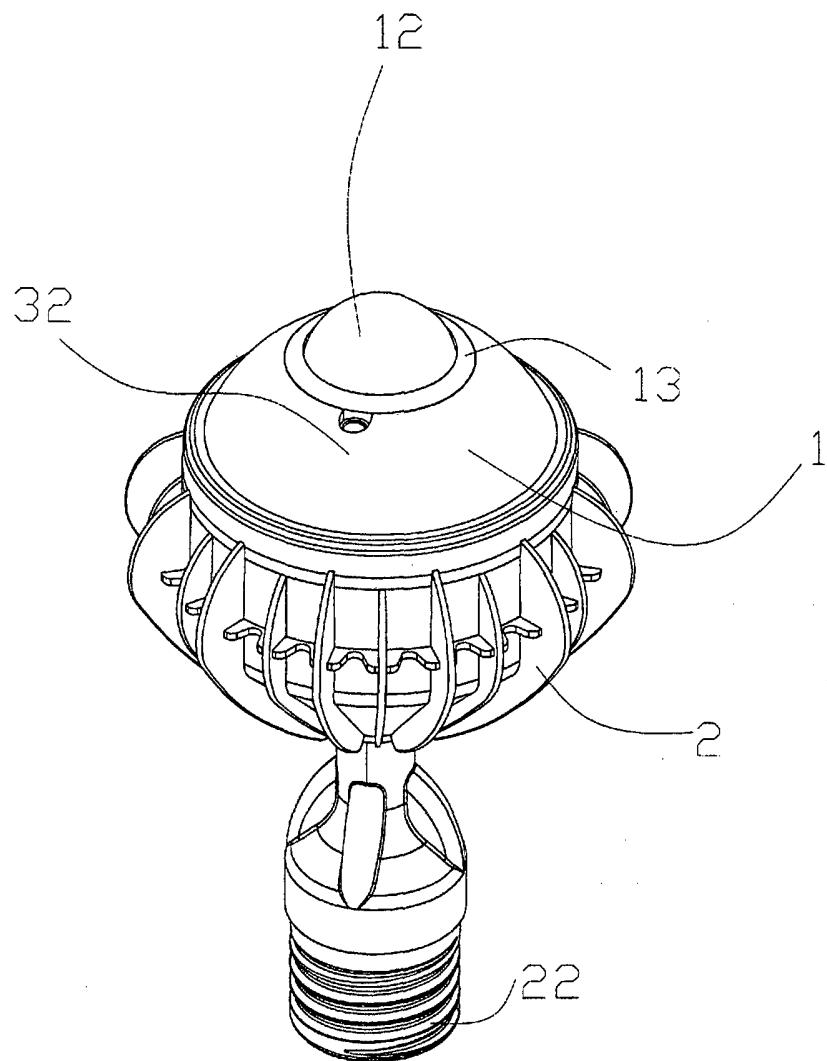


FIG.1

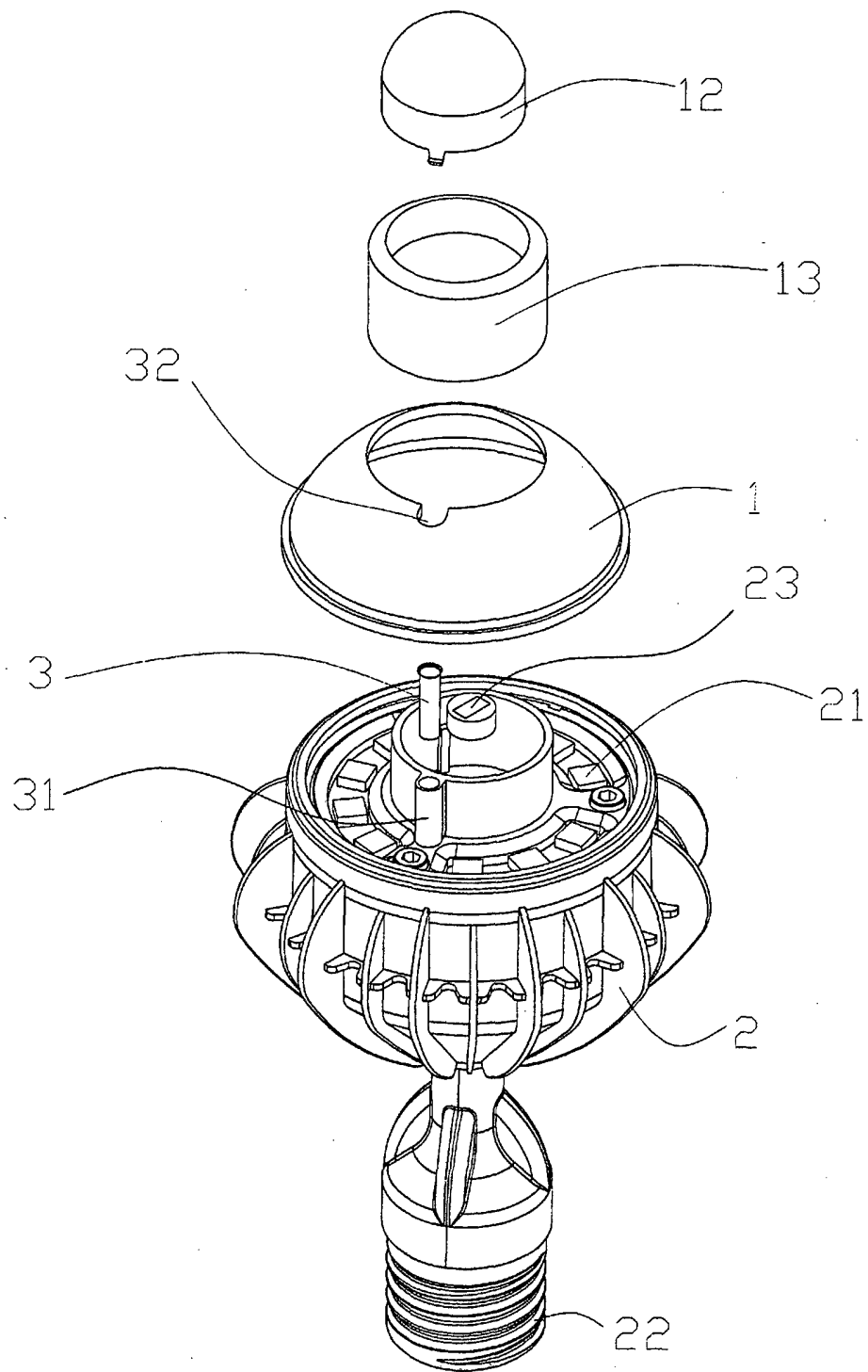


FIG.2

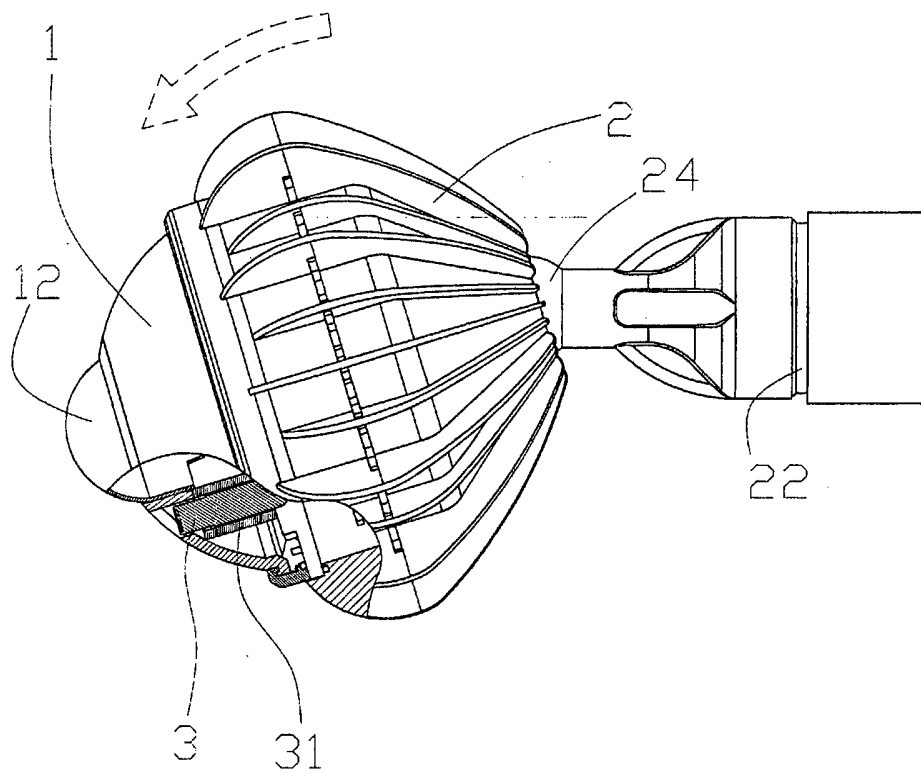


FIG.3

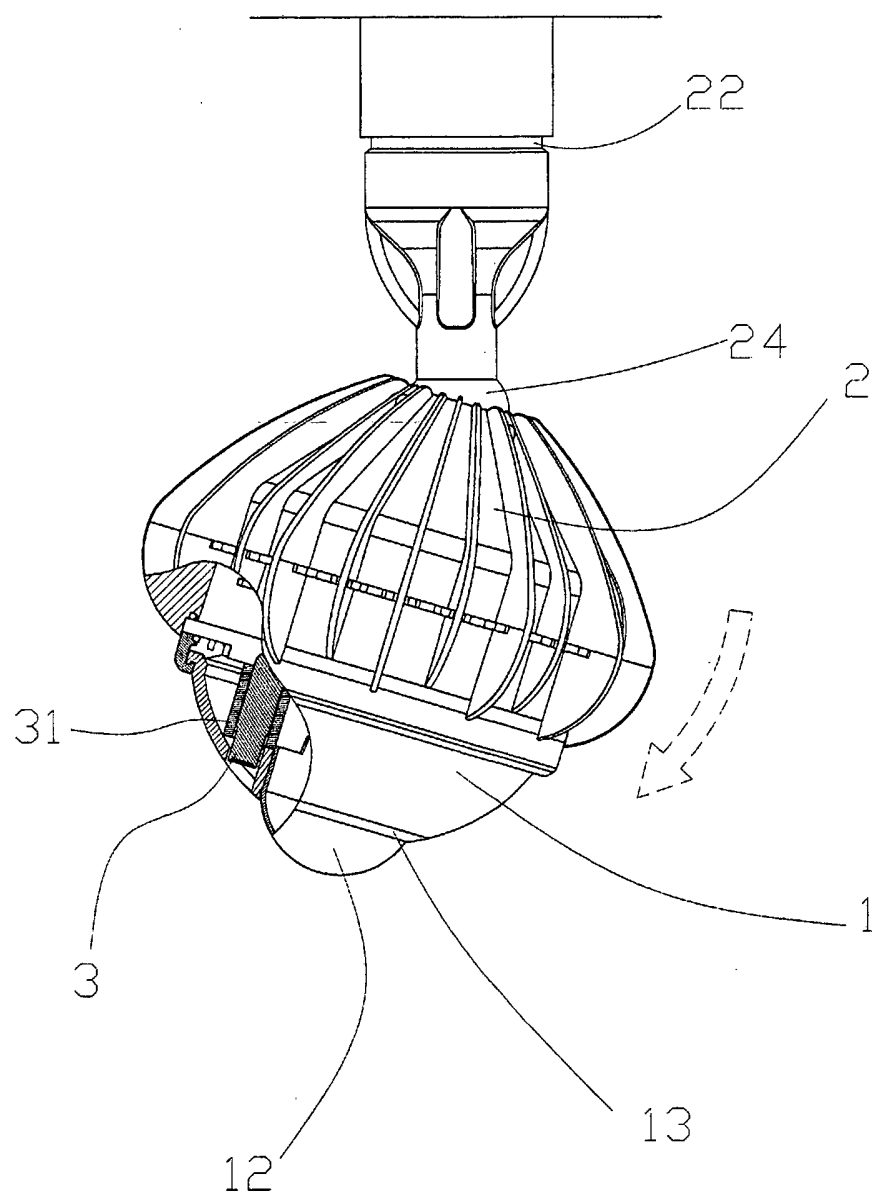


FIG.4

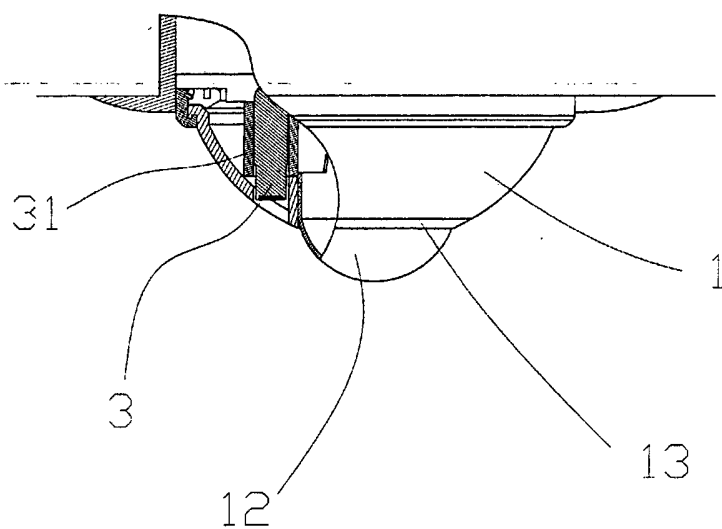


FIG.5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 7327254 B [0004]
- EP 1881261 A1 [0005]

713151/MK (EP 2 570 723)

Szabadalmi igénypontok

1. Javított lámpa amelynek alsó házrésze (2) tartalmaz az alján egy villamos csatlakozó részt (22); az alsó házrészbe (2) szerelt áramkört lapot, ahol az áramkört lap tartalmaz több fénykibocsátó elemet (21) és egy infravörös érzékelőt (23); és az alsó házrész (2) felső peremére szerelt felső házrészt (1), ahol a felső házrész (1) közepén nyílás található; és ahol a felső házrész (1) és az alsó házrész (2) közé egy kamera (3) van beépítve, a kamera az infravörös érzékelő (23) közelében helyezkedik el úgy, hogy amikor egy infravörös forrás belép az infravörös érzékelő (23) érzékelési tartományába, a kamera (3) képfelvétele elindítható és a fénykibocsátó elemek (21) bekapcsolhatók a megvilágítás érdekében, azzal jellemezve, hogy egy henger (13) van szerelve az alsó házrészre (2), amely illeszkedik a felső házrész (1) nyílásához; és egy érzékelő sapka (12) van szerelve a henger (13) tetejére, amely letakarja az infravörös érzékelőt (23).
2. Az 1. igénypont szerinti javított lámpa, amelynél az alsó házrész (2) egy rést (31) határoz meg az infravörös érzékelő (23) közelében, és a felső házrész (2) egy nyílást (32) határoz meg, az alsó házrészen (2) kialakított réssel (31) egybeesően, ahol a kamera (3) behelyezhető az alsó házrész (2) részébe (31) és beilleszthető a felső házrész (1) nyílásába (32).
3. Az 1. igénypont szerinti javított lámpa, amelynél az infravörös érzékelő (23), a kamera (3) és a fénykibocsátó elemek (21) külön-külön egy-egy saját áramkört lapra szerelhető.