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(54) **CEILING LAMP AND HEAT DISSIPATION SHROUD FOR SAME**

(57) A ceiling lamp includes a light body and a heat dissipation shroud. The light body includes a base platform to mount an illuminant thereat and two retention panels spacedly and upwardly extended from the base platform. The heat dissipation shroud has a plurality of heat dissipation holes and two elongated openings formed on the surrounding wall to guide the retention panels. The heat dissipation shroud further includes a fastener provided at a top edge of each of the elongated openings for detachably fastening with the base platform. When the ceiling lamp is installed into a ceiling, the heat dissipation shroud is covered by a thermal insulation layer above the ceiling, the heat dissipation shroud separates the light body from the thermal insulation layer for prevent heat being blocked by the thermal insulation layer, so as to prevent the overheat of the light body.

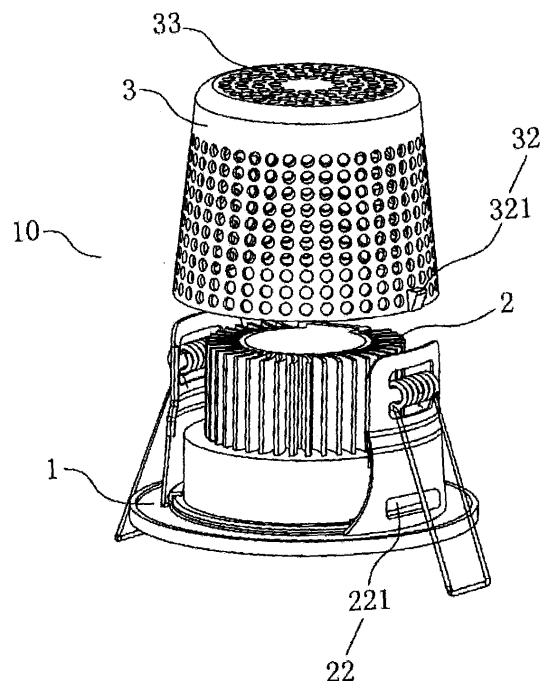


FIG. 8

Description

CROSS REFERENCE OF RELATED APPLICATION

[0001] This is a non-provisional application that claims priority to international application number PCT/CN2014/083996, international filing date 08/08/2014, the entire contents of each of which are expressly incorporated herein by reference.

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BACKGROUND OF THE PRESENT INVENTION

FIELD OF INVENTION

[0003] The present invention relates to a lighting fixture, and more particularly to a ceiling lamp with a heat dissipation shroud for ensuring heat dissipation of the ceiling lamp.

DESCRIPTION OF RELATED ARTS

[0004] Ceiling lights are considered as one of the illumination fixtures for mounting on a ceiling of a building. Generally speaking, there are two types of ceiling lights which is a hanging type that the ceiling light is suspendedly affixed at the ceiling and an embedded type that the ceiling light is embedded into the ceiling. The embedded ceiling light is named as a recessed light.

[0005] In addition, a light source of the lighting fixture can be generally classified into two categories, which are thermal radiation light source and gas discharge light source. The thermal radiation light source, such as incandescent light or halogen light, is heated to emit radiation for light generation. The gas discharge light source, such as fluorescent lamp, high pressure mercury lamp, high pressure sodium lamp or halogen lamp, is arranged for generating light when the gas inside a tube is electrified. However, these two light sources have the common drawback that they not only generates light energy but also generates heat energy. In particular, the temperature of the light source is extremely high during the operation. The heat is generated due to the operation of the light source and the activation of the power driver. Once the heat is accumulated within the lighting fixture and cannot be dissipated effectively, the service lifespan of the lighting fixture will be shortened and even will be burnt accidentally.

[0006] According to energy conservation law, light en-

ergy and heat energy are concurrently generated during the operation of the lighting fixture. As continuously operating the lighting fixture, the temperature of the lighting fixture will be eventually increased. Therefore, when the lighting fixture is switched on, the surrounding ambient temperature of the lighting fixture will be gradually increased. Especially for the recessed light, the light device is embedded into the ceiling. Due to the building regulations and energy conservation, thermal insulating material is provided above the ceiling to retain the indoor temperature of the building so as to provide a comfortable indoor environment for the user. As a result, heat generated by the lighting fixture will be blocked by the thermal insulating material to dissipate to the space above the ceiling. As it is mentioned above, the heat is accumulated around the lighting fixture to shorten the service lifespan of the lighting fixture or even to burn the light device. In order to improve the heat dissipation of the lighting fixture, the lighting fixture comprises a housing to house the light source, such that the heat generated from the light source can dissipate to the interior space of the housing. However, the interior space of the housing is limited such that the heat from the light source cannot be effectively dissipated. In other words, the lighting fixture with the housing cannot solve the problem of increasing temperature of the light source after the continuous use.

[0007] Another improvement of the lighting fixture is to provide a cylindrical hood covering on top of the light source to keep the light source at distance from the thermal insulating material so as to create enough space for heat dissipation. However, the hood has several drawbacks. Since the hood only has a top opening, the air within the hood is heated by the light source and is dissipated through the top opening of the hood. In other words, the heat from the light source cannot be dissipated through the surrounding wall of the hood. Therefore, the heat from source can only dissipated through the top opening of the hood. When the heat generation rate of the light source is greater than the heat dissipation rate of the hood, the heat will be accumulated in the hood which will damage the lighting fixture seriously. In addition, the hood must be securely to a top thermal insulating casing and the lighting fixture via fasteners, the disassembly of the lighting fixture requires a particular tool to unfasten the fasteners to detach the hood from the light device. Even though this configuration can provide a better isolation of the light source, it is complicated and difficult to assemble or disassemble the lighting fixture. In other words, the hood not only fails to enhance the heat dissipation of the lighting fixture but also increases the overall manufacturing cost of the lighting fixture.

[0008] Heat dissipation of the lighting fixture is one of the important factors to determine the service lifespan of the lighting fixture. Due to the structural configuration of the lighting fixture, the failure rate of the lighting fixture is relatively low. In other words, the service lifespan of the lighting fixture is supposed to be relatively long. Therefore, most people will not frequently check the con-

dition of the lighting fixture. As a result, the overheat problem will be the major factor to shorten the service lifespan of the lighting fixture. The overheat problem of the lighting fixture not only heats up the surrounding ambient temperature of the lighting fixture to damage the surrounding structure but also cause fire to cause personal injury or property damage.

[0009] For energy conservation and environmentally friendly consideration, contactors will install an energy saving insulation to the building, wherein the energy saving insulation can be either built-in with the ceiling panel or placed above the ceiling. Preferably, the energy saving insulation is made of fiberglass to insulate the building so as to retain the interior temperature of the building. Since the energy saving insulation is overlapped on the ceiling, the location of the insulation must take into account for the installation of the lighting fixture to determine the affect of the lighting fixture by the insulation. Especially for the recessed light having a high luminous power or high intensity LED, it may generate a large amount of heat after a long period of continuous use. Therefore, it is required a heat sink to enhance the heat dissipation of the lighting fixture and to prevent the heat being accumulated in result of causing fire. During the installation of the lighting fixture, the user or the installer must consider the affect of the heat sink by insulation. It is because the heat sink may be surrounded or covered by the insulation to block the heat dissipation of the heat sink. As a result, the heat will be accumulated at the heat sink to shorten the service lifespan of the light source. More seriously, the accumulated heat will burn the light source, will damage the structure of the lighting fixture, and even will cause fire. Other improved lighting fixture may include a protection casing configured to have a square shape and upwardly extended from the ceiling to enclose the lighting fixture and to separate the lighting fixture from the insulation. However, the manufacturing cost and the installation cost of the lighting fixture with the protection casing will be increased, and the installation thereof will be more complicated. In addition, the protection casing may block the adjusting movement of the lighting fixture to adjust the lighting angle thereof. In fact, it is unnecessary to incorporate with the protection casing if there is no insulation above the ceiling. Since the protection casing is one of the installation components of the lighting fixture, the user or the installer cannot remove the protection casing from the installation of the lighting fixture.

SUMMARY OF THE PRESENT INVENTION

[0010] The invention is advantageous in that it provides a ceiling lamp with a heat dissipation shroud, which can be incorporated with the thermal insulation layer above the ceiling to ensure the heat dissipation of the ceiling lamp. In other words, the heat dissipation shroud can dissipate the heat from the ceiling lamp even though the heat dissipation shroud is covered by the thermal insulation layer.

[0011] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, especially for the recessed light, wherein a heat dissipation chamber is provided between the heat sink and the heat dissipation shroud for effectively dissipating the heat from the heat sink. In other word, the heat dissipation shroud serves as a divider to divide the heat sink with the thermal insulation layer, such that the heat from the heat sink can be effectively dissipated through the heat dissipation chamber without being blocked by the thermal insulation layer.

[0012] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud has a plurality of heat dissipation holes communicating with the heat dissipation chamber for enhancing the air circulation within the heat dissipation shroud.

[0013] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud can prevent the heat sink being directly contacted with the thermal insulation layer to block the heat dissipation from the heat sink and to simplify the installation of the ceiling lamp at the ceiling having the thermal insulation layer thereon.

[0014] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud is detachably mounted to the ceiling lamp to install the ceiling with or without the thermal insulation layer. In other words, if the thermal insulation layer is installed above the ceiling, the heat dissipation shroud is mounted to the ceiling lamp to separate the heat sink from the thermal insulation layer for heat dissipation. If there is no thermal insulation layer above the ceiling, the heat dissipation shroud is detached from the ceiling lamp for reducing the manufacturing cost of the ceiling lamp.

[0015] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, especially for the recessed light, wherein the heat dissipation chamber is provided at a surrounding space between the heat sink and the heat dissipation shroud for effectively dissipating the heat from the heat sink.

[0016] Another advantage of the invention is to a ceiling lamp, wherein the ceiling lamp as a recessed light can be installed into the ceiling without the thermal insulation layer by simply removing the heat dissipation shroud from the ceiling lamp.

[0017] Another advantage of the invention is to a ceiling lamp, wherein after the recessed light is installed into the ceiling, the heat dissipation shroud can prevent the heat sink being directly contacted with the thermal insulation layer to block the heat dissipation from the heat sink and to simplify the installation of the ceiling lamp at the ceiling having the thermal insulation layer thereon.

[0018] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud has two windows communicating with the heat dissipation chamber to serve as an adjustment window for enabling the light projecting angle adjustment

of the ceiling lamp.

[0019] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, which is easy to install and manufacture.

[0020] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, which can be covered by the thermal insulation layer without affecting the heat dissipation of the ceiling lamp.

[0021] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, which prevent the heat accumulated at the ceiling lamp to cause the overheat of the ceiling lamp so as to prolong the service lifespan of the ceiling lamp and to lower the maintenance cost of the ceiling lamp.

[0022] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the illuminant of the ceiling lamp will be operated under a normal temperature to prevent the damage of the illuminant due to the overheat problem.

[0023] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the ceiling lamp is separated from the thermal insulation layer by simply mounting the heat dissipation shroud to the ceiling lamp.

[0024] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud has a plurality of heat dissipation holes for heat dissipation effectively.

[0025] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat from the ceiling lamp can be effectively dissipated through the heat dissipation shroud.

[0026] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud can be incorporated with any existing lighting fixture for heat dissipation thereof.

[0027] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation holes of the heat dissipation shroud are formed in elongated configuration for enhancing the heat dissipation ability.

[0028] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud has two openings for simplifying the installation of the ceiling lamp with the heat dissipation shroud.

[0029] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud has a wiring channel formed thereon for allowing the electrical wire to extend through the heat dissipation shroud, so as to simplify the electrical configuration of the ceiling lamp.

[0030] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the bottom edge of the heat dissipation shroud is slightly bent inwardly or outwardly to prevent the contact with the components of the ceiling lamp for enhancing the installation of the ceiling lamp.

[0031] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the guiding mechanism is provided to guide the attachment between the heat dissipation shroud and the ceiling lamp to ensure the alignment therebetween.

[0032] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, wherein the heat dissipation shroud is designed for fitting different types of ceiling lamp.

[0033] Another advantage of the invention is to a ceiling lamp with a heat dissipation shroud, which can prolong the service lifespan of the ceiling lamp.

[0034] Additional advantages and features of the invention will become apparent from the description which follows, and may be realized by means of the instrumentalities and combinations particular point out in the appended claims.

[0035] According to the present invention, the foregoing and other objects and advantages are attained by a ceiling lamp, comprising:

a base platform;

a heat sink coupled on the base platform; and

a heat dissipation shroud mounted to one of the base platform and the heat sink to define a heat dissipation chamber between the heat dissipation shroud and the heat sink.

[0036] Accordingly, the heat dissipation shroud is detachably mounted to the heat sink.

[0037] Accordingly, the heat dissipation shroud is mounted to the heat sink via a threaded mechanism.

[0038] Accordingly, the heat dissipation shroud comprises a threaded shaft and the heat sink has a threaded hole, wherein the threaded shaft is rotatably engaged with the threaded hole to detachably couple the heat dissipation shroud to the heat sink.

[0039] Accordingly, the heat dissipation shroud is detachably mounted to the base platform.

[0040] Accordingly, the heat dissipation shroud is mounted to the base platform via a clipping mechanism.

[0041] Accordingly, the heat dissipation shroud comprises a first clipping member and the base platform comprises a second clipping member, wherein when the first and second clipping members are coupled with each other, the heat dissipation shroud is detachably coupled with the base platform.

[0042] Accordingly, the first clipping member is a hook shaped clipper and the second clipping member is a clipping slot, wherein the hook shaped clipper is detachably engaged with the clipping slot.

[0043] Accordingly, the hook shaped clipper is formed at the bottom portion of the heat dissipation shroud at the outer side thereof, and the clipping slot is a through slot formed at the base platform to detachably engage with the hook shaped clipper.

[0044] Accordingly, the first clipping member is a clipping latch while the second clipping member can be a curved shaped clipping slot, wherein the clipping latch is detachably engaged with the curved shaped clipping slot.

[0045] Accordingly, the clipping latch is formed at the bottom portion of the heat dissipation shroud at the outer side thereof, and the curved shaped clipping slot is a through slot formed at the base platform to detachably engage with the clipping latch.

[0046] Accordingly, the heat dissipation chamber is formed within the heat dissipation shroud at a position above the heat sink.

[0047] Accordingly, the heat dissipation shroud has a plurality of heat dissipation holes.

[0048] Accordingly, each of the heat dissipation holes is a circular through hole.

[0049] Accordingly, the heat dissipation shroud has a conical shape.

[0050] Accordingly, the heat dissipation shroud has a wiring channel for allowing an electrical wire to extend therethrough.

[0051] Accordingly, the wiring channel has a vertical elongated shaped configuration or T-shaped configuration.

[0052] Accordingly, the heat sink is mounted on the base platform via a screw.

[0053] Accordingly, the ceiling lamp of the present invention is a recessed light.

[0054] Accordingly, the ceiling lamp further comprises an illuminant mounted at the base platform, wherein the illuminant can be a LED provided at the base platform.

[0055] In accordance with another aspect of the invention, the present invention comprises a ceiling lamp which comprises a light body and a heat dissipation shroud.

[0056] The light body comprises a base platform. The base platform has a center through slot to mount an illuminant thereat. The light body further comprises two retention panels spacedly and upwardly extended from the base platform, wherein each of the retention panels is slightly tilted outward to strengthen the base platform and to guide the heat dissipation shroud to be coupled with the base platform. The heat dissipation shroud, having a cavity, is coupled on the light body for heat dissipation. Accordingly, the heat dissipation shroud has a plurality of heat dissipation holes formed on a top wall and a surrounding wall of the heat dissipation shroud, wherein each of the heat dissipation holes is an elongated through hole for enabling air circulating from an interior of the heat dissipation shroud to an exterior thereof, so as to prevent the heat being accumulated within the heat dissipation shroud. The heat dissipation shroud further has two elongated openings formed on the surrounding wall of the heat dissipation shroud at two opposite sides thereof and extended from the bottom edge to match with the retention panels, wherein a spring-loaded end of a retention member is located within the elongated opening when the heat dissipation shroud is coupled on the base platform. The heat dissipation shroud further comprises

a fastener provided at a top edge of each of the elongated openings for detachably fastening with the base platform. The heat dissipation shroud further comprises two locking panels outwardly protruded from two side edges of each of the elongated openings, wherein the retention panel is guided to locate between the two locking panels when the heat dissipation shroud is coupled on the base platform so as to prevent an excessive rotational movement of the heat dissipation shroud with respect to the base platform. The heat dissipation shroud further has a wiring channel formed thereon for allowing an electrical wire extended through the heat dissipation shroud. Accordingly, when the ceiling lamp of the present invention is covered by the thermal insulation layer, the heat dissipation shroud will provide a separation to keep the illuminant of the ceiling lamp at distance from the thermal insulation layer to prevent the heat being accumulated within the ceiling lamp. Each of the heat dissipation holes of the heat dissipation shroud is an elongated through slot to enhance the heat dissipation. In addition, the heat dissipation shroud can be incorporated with different lighting fixtures.

[0057] In accordance with another aspect of the invention, the present invention comprises a heat dissipation shroud for a ceiling lamp, which comprises:

a top wall;

a surrounding wall; and

two fasteners, wherein the surrounding wall has an upper wall portion downwardly extended from the top wall and two lower wall portions spacedly and downwardly extended from the upper wall portion, wherein the upper wall portion has two edge portions each defined between the two lower wall portions, wherein a plurality of heat dissipation holes are formed at the top wall and the surrounding wall, wherein an elongated opening is formed at the surrounding wall between the two lower wall portions thereof for serving as an installation opening, wherein the two edge portions of the upper wall portion of the surrounding wall are two top edges of the elongated opening respectively, wherein the fasteners are downwardly extended from the two edge portions of the upper wall portion of the surrounding wall for detachably engaging with the ceiling lamp, wherein the heat dissipation shroud has a receiving chamber defined within the top wall and the surrounding wall for receiving the heat sink of the ceiling lamp.

[0058] Still further objects and advantages will become apparent from a consideration of the ensuing description and drawings.

[0059] These and other objectives, features, and advantages of the present invention will become apparent from the following detailed description, the accompanying drawings, and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0060]

Fig. 1 is a perspective view of a ceiling lamp with a heat dissipation shroud according to a first preferred embodiment of the present invention. 5

Fig. 2 is an exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above first preferred embodiment of the present invention. 10

Fig. 3 is a partially exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above first preferred embodiment of the present invention. 15

Fig. 4 is a bottom perspective view of the ceiling lamp with the heat dissipation shroud according to the above first preferred embodiment of the present invention. 20

Fig. 5 is a sectional view of the ceiling lamp with the heat dissipation shroud according to the above first preferred embodiment of the present invention. 25

Fig. 6 is a perspective view of a ceiling lamp with a heat dissipation shroud according to a second preferred embodiment of the present invention. 30

Fig. 7 is an exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above second preferred embodiment of the present invention. 35

Fig. 8 is a partially exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above second preferred embodiment of the present invention. 40

Fig. 9 is another perspective view of the ceiling lamp with the heat dissipation shroud according to the above second preferred embodiment of the present invention. 45

Fig. 10 is a sectional view of the ceiling lamp with the heat dissipation shroud according to the above second preferred embodiment of the present invention. 50

Fig. 11 is a perspective view of a ceiling lamp with a heat dissipation shroud according to a third preferred embodiment of the present invention. 55

Fig. 12 is an exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above third preferred embodiment of the present

invention.

Fig. 13 is a partially exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above third preferred embodiment of the present invention.

Fig. 14 is a perspective view of a ceiling lamp with a heat dissipation shroud according to a fourth preferred embodiment of the present invention.

Fig. 15 is an exploded perspective view of the ceiling lamp with the heat dissipation shroud according to the above fourth preferred embodiment of the present invention.

Fig. 16 is a perspective view of a ceiling lamp with a heat dissipation shroud according to a fifth preferred embodiment of the present invention.

Fig. 17 is a perspective view of the heat dissipation shrouds being stacked with each other according to the above preferred embodiments of the present invention.

Fig. 18 illustrates the ceiling insulation layer directly covering on the ceiling lamp with the heat dissipation shroud according to above preferred embodiments of the present invention.

Fig. 19 illustrates the ceiling insulation layer directly covering on the existing protection casing of the conventional ceiling lamp.

Fig. 20 illustrates an alternative mode of the ceiling lamp with the heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 21 is a perspective view of the alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 22 is a perspective view of the ceiling lamp with the alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 23 illustrates a second alternative mode of the heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 24 illustrates different perspective views of the second alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 25 is a perspective view of the ceiling lamp with

the second alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 26 illustrates a third alternative mode of the heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 27 is a perspective view of the ceiling lamp with the third alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 28 is a perspective view of the third alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 29 is a bottom perspective view of the third alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

Fig. 30 is a perspective view of a base platform of the ceiling lamp incorporating with the third alternative heat dissipation shroud according to the above fifth preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0061] The following description is disclosed to enable any person skilled in the art to make and use the present invention. Preferred embodiments are provided in the following description only as examples and modifications will be apparent to those skilled in the art. The general principles defined in the following description would be applied to other embodiments, alternatives, modifications, equivalents, and applications without departing from the spirit and scope of the present invention.

[0062] Referring to Figs. 1 to 5 of the drawings, a ceiling lamp according to a first embodiment of the present invention is illustrated, wherein the ceiling lamp 10, such as a recessed light, is arranged to be installed into a light installation hole 201, i.e. the light installation hole 201 of a ceiling 200. In order to install a thermal insulation layer 400 on the ceiling 200, the thermal insulation layer 400, such as a fiberglass layer, can directly cover on top of the ceiling lamp of the present invention. According to the preferred embodiment, the ceiling lamp 10 comprises a base platform 1, a heat sink 2 upwardly extended from the base platform 1, a heat dissipation shroud 3 which is either coupled at the base platform 1 or the heat sink 2 to enclose the heat sink 2 and to define a heat dissipation chamber 4 between the heat sink 2 and the heat dissipation shroud 3.

[0063] For the first case, the heat dissipation shroud 3 is coupled to the heat sink 2 with any existing attachment structure. The heat dissipation shroud 3 can be perma-

nently coupled to the heat sink 2 via welding method. Likewise, the heat dissipation shroud 3 can be detachably coupled to the heat sink 2 via screws, clipping mechanism, or the like. As shown in Figs. 2 to 5, the heat dissipation shroud 3 is detachably coupled to the heat sink 2 via a screw structure.

[0064] Any existing screw structure can be employed to detachably couple the heat dissipation shroud 3 with the heat sink 2. As shown in Figs. 2 to 5, the heat dissipation shroud 3 comprises a threaded shaft 31 downwardly extended from a center of a top side of the heat dissipation shroud 3, wherein the heat sink 2 has a threaded hole 21 formed at a center of a top portion thereof, such that the threaded shaft 31 is rotatably engaged with the threaded hole 21 to detachably couple the heat dissipation shroud 3 to the heat sink 2.

[0065] It is appreciated that the threaded shaft 31 and the threaded hole 21 are interchangeable, wherein the threaded shaft 31 is upwardly extended from the top portion of the heat sink 2 and the threaded hole 21 is formed at the top side of the heat dissipation shroud 3, so as to detachably couple the heat dissipation shroud 3 to the heat sink 2.

[0066] Alternatively, the threaded holes 21 are respectively formed at the top side of the heat dissipation shroud 3 and the top portion of the heat sink 2, wherein the threaded shaft 31 is rotatably engaged with the threaded holes 21 to detachably couple the heat dissipation shroud 3 to the heat sink 2.

[0067] For the second case, the heat dissipation shroud 3 is coupled to the base platform 1 with any existing attachment structure. The heat dissipation shroud 3 can be permanently coupled to the base platform 1 via welding method. Likewise, the heat dissipation shroud 3 can be detachably coupled to the base platform 1 via screws, clipping mechanism, or the like. As shown in Figs. 6 to 13, the heat dissipation shroud 3 according to the second and third embodiments is detachably coupled to the base platform 1 via a clipping mechanism.

[0068] Any existing clipping mechanism can be employed to detachably couple the heat dissipation shroud 3 with the base platform 1. As shown in Figs. 6 to 13, the heat dissipation shroud 3 according to the second and third embodiments comprises a first clipping member 32 formed at a bottom side of the heat dissipation shroud 3, wherein the base platform 1 comprises a second clipping member 22 provided at the base platform 1, such that when the first and second clipping members 32, 22 are coupled with each other, the heat dissipation shroud 3 is detachably coupled with the base platform 1.

[0069] The first and second clipping members 32, 22 can be any existing clippers. As shown in Figs. 6 to 10, the first clipping member 33 according to the second embodiment is a hook shaped clipper 321 and the second clipping member 22 is a clipping slot 221 longitudinally formed at the base platform 1, such that the hook shaped clipper 321 is detachably engaged with the clipping slot 221.

[0070] It is appreciated that the first and second clipping members 32, 33 are interchangeable, wherein the hook shaped clipper 321 of the first clipping member 32 can be formed at the base platform 1 while the clipping slot 221 of the second clipping member 22 is longitudinally formed at the bottom side of the heat dissipation shroud 3 to detachably couple the heat dissipation shroud 3 to the base platform 1.

[0071] Alternatively, the first and second clipping members 32, 22 are two hook shaped clippers 321 formed at the heat dissipation shroud 3 and the base platform 1 respectively, wherein the hook shaped clippers 321 of the first and second clipping members 32, 22 are interlocked with each other to detachably couple the heat dissipation shroud 3 to the base platform 1.

[0072] Furthermore, the hook shaped clipper 321 can be formed at a desired location of the heat dissipation shroud 3. For example, the hook shaped clipper 321 can be formed at the inner side of the heat dissipation shroud 3 or the outer side thereof. The clipping slot 221 can be configured to any slot shape to fit the corresponding hook shaped clipper 321. As shown in Figs. 6 to 10, the hook shaped clipper 321 is formed at the bottom portion of the heat dissipation shroud 3 at the outer side thereof, according to the second embodiment, wherein the clipping slot 221 is a through slot formed at the base platform 1 to detachably engage with the hook shaped clipper 321.

[0073] Accordingly, the first and second clipping members 32, 22 can also be configured to have any clipping structure. As shown in Figs. 11-13, the first clipping member 32 according to the third embodiment is a clipping latch 322 while the second clipping member 22 can be a curved shaped clipping slot 222. The curvature of the curved shaped clipping slot 222 matches with a curvature of the base platform 1, wherein a width of the curved shaped clipping slot 222 is gradually reduced from one end thereof to the opposed end to define a wide end portion and a narrow end portion. The clipping latch 322 is detachably engaged with the curved shaped clipping slot 222.

[0074] It is appreciated that the first and second clipping members 32, 33 are interchangeable, wherein the clipping latch 322 of the first clipping member 32 can be formed at the base platform 1 while the curved shaped clipping slot 222 of the second clipping member 22 is formed at the bottom side of the heat dissipation shroud 3 to detachably couple the heat dissipation shroud 3 to the base platform 1.

[0075] Alternatively, the first and second clipping members 32, 22 are two clipping latches 322 formed at the heat dissipation shroud 3 and the base platform 1 respectively, wherein the clipping latches 322 of the first and second clipping members 32, 22 are interlocked with each other to detachably couple the heat dissipation shroud 3 to the base platform 1.

[0076] Furthermore, the clipping latch 322 can be formed at a desired location of the heat dissipation shroud 3. For example, the clipping latch 322 can be formed at

the inner side of the heat dissipation shroud 3 or the outer side thereof. The curved shaped clipping slot 222 can be configured to any slot shape to fit the corresponding clipping latch 322. As shown in Figs. 11 to 13, the clipping latch 322 is formed at the bottom portion of the heat dissipation shroud 3 at the outer side thereof, according to the second embodiment, wherein the curved shaped clipping slot 222 is a through slot formed at the base platform 1 to detachably engage with the clipping latch 322.

[0077] It is worth mentioning that two or more of first clipping members 32 can be formed at the heat dissipation shroud 3 and two or more second clipping members 22 can be formed at the base platform 1 (or the heat sink 2). Accordingly, having one first clipping member 32 and one second clipping member 22 may not be provide a securing attachment between the heat dissipation shroud 3 and the base platform 1 (or the heat sink 2). Multiple first clipping members 32 and multiple second clipping members 22 will ensure the securing attachment between the heat dissipation shroud 3 and the base platform 1 (or the heat sink 2). It is worth mentioning the first clipping members 32 are aligned with the second clipping members 22 respectively for detachable engagements as shown in Figs. 6 to 13.

[0078] Accordingly, the heat dissipation chamber 4 is formed at any space between the heat sink 2 and the heat dissipation shroud 3. The heat dissipation chamber 4 can be formed above the heat sink 2 or formed around a peripheral side of the heat sink 2. As shown in Figs. 5 and 10, the heat dissipation chamber 4 is formed above the heat sink 2 according to the first and second embodiments. It is worth mentioning that the heat dissipation chamber 4 is also formed above the heat sink 2 according to the third embodiment.

[0079] The heat dissipation shroud 3 can be made of any material having a thermal conductive ability for good thermal conduction. As shown in Figs. 1 to 13, the heat dissipation shroud 3 has a plurality of heat dissipation holes 33 according to the first to third embodiments.

[0080] The shape of each of the heat dissipation holes 33 can be configured to have a circular shape, triangular shape or polygonal shape. As shown in Figs. 1 to 13, each of the heat dissipation holes 33 is a circular through hole according to the first to third embodiments. As shown in Fig. 16, each of the heat dissipation holes 33 is an elongated through hole. In particular, each of the heat dissipation holes 33 can be a vertical elongated through hole.

[0081] The heat dissipation shroud 3 can be configured to have different shapes. As shown in Figs. 1 to 13, the heat dissipation shroud 3 has a conical shape according to the first to third embodiments. The conical shaped heat dissipation shrouds 3 can be stacked with each other to save the stocking space as shown in Fig. 17.

[0082] For simplifying the wiring configuration, the heat dissipation shroud 3 further has a wiring channel 34, wherein an electrical wire 5 is extended through the wiring channel 34 to electrically connect to the heating element

of the base platform 1.

[0083] Accordingly, the wiring channel 34 can be configured to have different shapes. As shown in Figs. 1 to 5 of the first embodiment and Figs. 11 to 13 of the third embodiment, the wiring channel 34 is a vertical elongated through slot. As shown in Figs. 6 to 10 of the second embodiment, the wiring channel 34 is a T-shaped through slot.

[0084] The heat sink 2 can be coupled to the base platform 1 via any attachment mechanism. As shown in Figs. 1 to 13 of the first to third embodiments, the heat sink 2 is coupled to the base platform 1 via a screw 6.

[0085] According to the present invention, the ceiling lamp 10 can be any lighting fixture. As shown in Figs. 1 to 13 of the first to third embodiments, the ceiling lamp 10 is the recessed light to be embedded into the ceiling.

[0086] The ceiling lamp 10 comprises an illuminant coupled in the base platform 1, wherein the illuminant can be any illuminating element. According to the first to third embodiments, the illuminant is LED provided at the base platform 1.

[0087] As shown in Figs. 1 to 5, the assembling method of the ceiling lamp according to the first embodiment comprises the following steps. The heat sink 2 is coupled to the base platform 1 via the screw 6. Then, once the threaded shaft 31 is aligned with the threaded hole 21, the heat dissipation shroud 3 is driven to rotate for rotatably engaging the threaded shaft 31 with the threaded hole 21 so as to detachably couple the heat dissipation shroud 3 to the heat sink 2. It is worth mentioning that the heat dissipation chamber 4 is formed within the heat dissipation shroud 3 at a position above the heat sink 2.

[0088] As shown in Figs. 6 to 10, the assembling method of the ceiling lamp according to the second embodiment comprises the following steps. The heat sink 2 is coupled to the base platform 1 via the screw 6. Then, the heat dissipation shroud 3 is pressed toward the base platform 1 to enclose the heat sink 2 until the hook shaped clipper 321 is engaged with the clipping slot 221 to detachably couple the heat dissipation shroud 3 to the base platform 1. It is worth mentioning that the heat dissipation chamber 4 is formed within the heat dissipation shroud 3 at a position above the heat sink 2. The assembling method of the ceiling lamp according to the fourth embodiment in Figs. 14 and 15 is similar to that according to the second embodiment.

[0089] As shown in Figs. 11 to 13, the assembling method of the ceiling lamp according to the third embodiment comprises the following steps. The heat sink 2 is coupled to the base platform 1 via the screw 6. Then, the heat dissipation shroud 3 is pressed toward the base platform 1 to enclose the heat sink 2 until the clipping latch 322 is engaged with the wide end portion of the curved shaped clipping slot 222. The heat dissipation shroud 3 is then rotated to move the clipping latch 322 from the wide end portion of the curved shaped clipping slot 222 to the narrow end portion thereof so as to detachably couple the heat dissipation shroud 3 to the base

platform 1. It is worth mentioning that the heat dissipation chamber 4 is formed within the heat dissipation shroud 3 at a position above the heat sink 2.

[0090] Accordingly, after the ceiling lamp 10 of the present invention is mounted at the light installation hole 201 of the ceiling 200, the thermal insulation layer 400 can directly cover on the heat dissipation shroud 3 of the ceiling lamp 10 without affecting any heat dissipation efficiency.

[0091] Figs. 20 to 22 illustrate the ceiling lamp 1B according to the fourth embodiment of the present invention, wherein the ceiling lamp 1B comprises a light body 10B and a heat dissipation shroud 20B coupled thereto for dissipating heat from the light body 10B.

[0092] As shown in Fig. 20, the light body 10B comprises a base platform 11B, a illuminant supported thereat, and two retention panels 12B spacedly, symmetrically, and upwardly extended from the base platform 11B for coupling with the heat dissipation shroud 20B. Each of the retention panels 12B, made of rigid but elastic material such as metal panel, has a retention portion 121B, such as a retention slot having a I-shaped configuration, formed at a top portion of the retention panel 12B, wherein a retention member 13B, such as a spring-load retention arm, is coupled at the retention portion 121B of the retention panel 12B. The retention member 13B is arranged for suspendedly hanging the ceiling lamp 1B at a desired position so as to retain the ceiling lamp 1B in position.

[0093] Each of the retention panels 12B further has a guiding member 122B formed at an upper edge of the retention panel 12B, wherein the guiding member 122B is slightly tilted outward to strengthen the base platform 11B and to guide the heat dissipation shroud 20B to be coupled with the base platform 11B so as to simplify the installation process of the present invention. The light body 10B further has an edge guider 14B formed on a peripheral portion of the base platform 11B at a position adjacent to the retention panels 12B. Preferably, the edge guider 14B is a circular guiding groove formed on the peripheral portion of the base platform 11B, wherein the retention panels 12B are upwardly extended from the base platform 11B within the guiding groove. Accordingly, a diameter size of the guiding groove of the edge guider 14B matches with a diameter size of a bottom edge of the heat dissipation shroud 20B while a width of the guiding groove of the edge guider 14B matches with a thickness of the bottom edge of the heat dissipation shroud 20B, such that the bottom edge of the heat dissipation shroud 20B is engaged with the guiding groove of the edge guider 14B to further simplify the installation process of the present invention.

[0094] The heat dissipation shroud 20B is coupled on the light body 10B for heat dissipation. Accordingly, the heat dissipation shroud 20B has a plurality of heat dissipation holes 21B formed on a top wall and a surrounding wall of the heat dissipation shroud 20B, wherein each of the heat dissipation holes 21B is an elongated through

hole for enabling air circulating from an interior of the heat dissipation shroud 20B to an exterior thereof. The heat dissipation shroud 20B further has two elongated openings 22B symmetrically formed on the surrounding wall of the heat dissipation shroud 20B at two opposite sides thereof and extended from the bottom edge to match with the retention panels 12B, wherein a spring-loaded end of the retention member 13B is located within the elongated opening 22B when the heat dissipation shroud 20B is coupled on the base platform 11B. The heat dissipation shroud 20B further comprises a fastener 23B provided at a top edge of each of the elongated openings 22B for detachably fastening with the base platform 11B. The heat dissipation shroud 20B further comprises two locking panels 24B outwardly or inwardly protruded from two side edges of each of the elongated openings 22B, wherein the retention panel 12B is guided to locate between the two locking panels 24B when the heat dissipation shroud 20B is coupled on the base platform 11B so as to prevent an excessive rotational movement of the heat dissipation shroud 20B with respect to the base platform 11B. The heat dissipation shroud 20B further has a wiring channel 25B formed thereon. The wiring channel 25B is formed on the surrounding wall of the heat dissipation shroud 20B between the two elongated openings 22B. Preferably, the wiring channel 25B is formed with one of the heat dissipation holes 21B, wherein the electrical wire is extended out of the surrounding wall of the heat dissipation shroud 20B through the wiring channel 25B. It is worth mentioning that the wiring channel 25B can be formed at any location of the heat dissipation shroud 20B for guiding the electrical wire. The heat dissipation shroud 20B further has a coupling portion 26B defined at the bottom edge thereof, wherein the coupling portion 26B is slightly bent outward to engage with the edge guider 14B to securely couple the heat dissipation shroud 20B at the light body 10B.

[0095] As shown in Fig. 21, the base platform 11B has a center through slot to mount the illuminant thereat, wherein the retention panels 12B, each having a curved configuration corresponding to the base platform 11B, are upwardly extended from the base platform 11B not only for coupling with the retention members 13B but also enhances the strength of the base platform 11B. The upper edge of the retention panel 12B are slightly bent to form the guiding member 122B to guide the heat dissipation shroud 20B at the installation direction and location. The guiding groove of the edge guider 14B is formed on the peripheral portion of the base platform 11B to engage and seal with the bottom edge of the heat dissipation shroud 20B, so as to ensure the corrected alignment between the heat dissipation shroud 20B and the light body 10B. As shown in Fig. 21, the fastener 23B at the top edge of the elongated opening 22B is detachably fastened with an inner side of the retention panel 12B to ensure the spring-loaded end of the retention member 13B to be located between the top edge of the elongated opening 22B when the heat dissipation shroud

20B is coupled on the base platform 11B. It is worth mentioning that when the heat dissipation shroud 20B is guided by the guiding member 122B and the edge guider 14B, the fastener 23B is automatically aligned and engaged with the retention panel 12B. In addition, once the bottom edge of the heat dissipation shroud 20B is engaged with the edge guider 14B, the fastener 23B is automatically engaged with the retention panel 12B to ensure the engagement between the heat dissipation shroud 20B and the light body 10B.

[0096] Fig. 22 illustrates the completed assembly of the ceiling lamp, wherein the illuminant is separated by the heat dissipation shroud 20B, such that when the thermal insulation layer covers on the heat dissipation shroud 20B, the thermal insulation layer will not be able to contact with the illuminant. Since the heat dissipation holes 21B are formed at the heat dissipation shroud 20B, the heat generated by the illuminant can be effectively dissipated out of the heat dissipation shroud 20B through the heat dissipation holes 21B. Furthermore, the electrical wire is guided to extend into the heat dissipation shroud 20B through the wiring channel 25B, the connection of the electrical wire is protected by the heat dissipation shroud 20B. It is worth mentioning that the coupling portion 26B is entirely engaged with the guiding groove of the edge guider 14B in a hidden manner. In other words, the proper installation of the heat dissipation shroud 20B can be simply determined by observing the engagement between the coupling portion 26B and the edge guider 14B.

[0097] It is worth mentioning that the heat dissipation shroud 20B is rotated to securely engage the fastener 23B with the retention slot 121B of the retention panel 12B. In order to guide and limit the rotational movement of the heat dissipation shroud 20B, the retention panel 12B is blocked between the locking panels 24B at two side edges of each of the elongated openings 22B. In other words, the heat dissipation shroud 20B can only be slightly rotated with respect to the distance between the locking panels 24B.

[0098] Figs. 23 to 25 illustrates another embodiment as an alternative mode the present invention, wherein the ceiling lamp 1A comprises a light body 10A and a heat dissipation shroud 20A coupled thereto for dissipating heat from the light body 10A.

[0099] As shown in Fig. 23, the light body 10A comprises a base platform 11A, an illuminant supported thereat, and two retention panels 12A spacedly, symmetrically, and upwardly extended from the base platform 11A for coupling with the heat dissipation shroud 20A. Each of the retention panels 12A has a retention portion 121A, such as a retention slot, formed at a top portion of the retention panel 12A, wherein a retention member 13A, such as a spring-load retention arm, is coupled at the retention portion 121A of the retention panel 12A. The retention member 13A is arranged for suspendably hanging the ceiling lamp 1A at a desired position so as to retain the ceiling lamp 1A in position. The light body 10A further has an edge guider 14A formed on a periph-

eral portion of the base platform 11A at a position adjacent to the retention panels 12A. Preferably, the edge guider 14A is a curved panel integrally extended from two side edges of the retention panels 12A, such that the edge guiders 14A and the retention panels 12A form a circular ring-shaped guiding wall. Accordingly, an outer diameter size of the guiding wall matches with an inner diameter size of a bottom edge of the heat dissipation shroud 20B, such that the bottom edge of the heat dissipation shroud 20B is engaged with the guiding wall to simplify the installation process of the present invention.

[0100] The heat dissipation shroud 20A is coupled on the light body 10B for heat dissipation. Accordingly, the heat dissipation shroud 20A has a plurality of heat dissipation holes 21A formed on a top wall and a surrounding wall of the heat dissipation shroud 20A. The surrounding wall of the heat dissipation shroud 20A has an upper wall portion and a lower wall portion. Each of the heat dissipation holes 21A is an elongated through hole formed at the upper wall portion of the heat dissipation shroud 20A for enabling air circulating from an interior of the heat dissipation shroud 20A to an exterior thereof. The heat dissipation shroud 20A further has two elongated first openings 22A and two elongated second opening 27A symmetrically formed on the lower wall portion of the surrounding wall of the heat dissipation shroud 20A. The first openings 22A are extended from the bottom edge of the heat dissipation shroud 20A at two opposite sides to match with the retention panels 12A, wherein a spring-loaded end of the retention member 13A is located within the first opening 22A when the heat dissipation shroud 20A is coupled on the base platform 11A. The second openings 27A are two windows symmetrically formed the lower wall portion of the surrounding wall of the heat dissipation shroud 20B are aligned with each other for enabling the movement of the illuminant to adjust the light projecting angle thereof. The heat dissipation shroud 20A further comprises a fastener 23A provided at a top edge of each of the first openings 22A for detachably fastening with the base platform 11A. The heat dissipation shroud 20A further comprises two locking panels 24A outwardly protruded from two side edges of each of the first openings 22A, wherein the retention panel 12A is guided to locate between the two locking panels 24A when the heat dissipation shroud 20A is coupled on the base platform 11A so as to prevent an excessive rotational movement of the heat dissipation shroud 20A with respect to the base platform 11A. The heat dissipation shroud 20A further has a wiring channel 25A formed thereon. The wiring channel 25A is formed on the surrounding wall of the heat dissipation shroud 20A between the two first openings 22A. Preferably, the wiring channel 25A is formed with one of the heat dissipation holes 21A, wherein the electrical wire is extended out of the surrounding wall of the heat dissipation shroud 20A through the wiring channel 25A. The heat dissipation shroud 20A further has a coupling portion 26A defined at the bottom edge thereof, wherein the coupling portion 26A is slightly bent outward

to engage with the edge guider 14A to securely couple the heat dissipation shroud 20A at the light body 10A.

[0101] As shown in Fig. 24, the base platform 11A has a center through slot to mount the illuminant thereat, wherein a rotatable mechanism 15A is provided to enable the illuminant to be rotatably coupled at the center through slot of the base platform 11A to selectively adjust the light projecting angle of the illuminant. The retention panels 12A, each having a curved configuration corresponding to the base platform 11A, are upwardly extended from the base platform 11A not only for coupling with the retention members 13B but also enhances the strength of the base platform 11A. The edge guider 14A comprises two curved guiding walls extended from the retention members 13B and formed on the peripheral portion of the base platform 11B to engage and seal with the bottom edge of the heat dissipation shroud 20A, so as to ensure the corrected alignment between the heat dissipation shroud 20A and the light body 10A. The fastener 23A at the top edge of the first opening 22A is detachably fastened with an inner side of the retention panel 12A to ensure the spring-loaded end of the retention member 13A to be located between the top edge of the first opening 22A when the heat dissipation shroud 20A is coupled on the base platform 11A.

[0102] Fig. 25 illustrates the completed assembly of the ceiling lamp, wherein the illuminant is separated by the heat dissipation shroud 20A, such that when the thermal insulation layer covers on the heat dissipation shroud 20A, the thermal insulation layer will not able to contact with the light body 10A. Since the heat dissipation holes 21A are formed at the heat dissipation shroud 20A, the heat generated by the illuminant can effectively dissipated out of the heat dissipation shroud 20A through the heat dissipation holes 21A. Furthermore, the electrical wire is guided to extend into the heat dissipation shroud 20A through the wiring channel 25A, the connection of the electrical wire is protected by the heat dissipation shroud 20A. It is worth mentioning that the coupling portion 26A is entirely engaged with the edge guider 14A to hide the edge guider 14A behind the coupling portion 26A. In other words, the proper installation of the heat dissipation shroud 20A can be simply determined by observing the engagement between the coupling portion 26A and the edge guider 14A.

[0103] It is worth mentioning that the heat dissipation shroud 20A is rotated to securely engage the fastener 23A with the retention slot 121A of the retention panel 12A. In order to guide and limit the rotational movement of the heat dissipation shroud 20A, the retention panel 12A is blocked between the locking panels 24A at two side edges of each of the first openings 22A. In other words, the heat dissipation shroud 20A can only be slightly rotated with respect to the distance between the locking panels 24A.

[0104] As disclosed in the above embodiments, the thermal insulation layer can completely cover on the ceiling lamp while the heat from the ceiling lamp can still be

able to effectively dissipate out of the ceiling lamp. In other words, the air can circulate the ceiling lamp to dissipate the heat therefrom so as to prevent the heat being accumulated to damage the ceiling lamp. Therefore, the heat dissipation shroud of the present invention provides multiple functions of separating the light body from the thermal insulation layer, enabling heat to be dissipated through the heat dissipation holes, and ensuring the air circulation through the heat dissipation shroud to prevent the heat being accumulated. It is appreciated that the heat dissipation shroud to incorporate any existing lighting fixture. As shown in Fig. 25, the second openings 27A at the heat dissipation shroud provide enough space for the illuminant 30A to be rotated within the heat dissipation shroud for selectively adjusting the light projecting angle of the illuminant. In other words, the heat dissipation shroud of the instant invention is able to incorporate with any existing lighting fixture having the light projecting angle adjustment.

[0105] Figs. 26 to 29 illustrate another embodiment of the present invention, wherein the heat dissipation shroud 10C is embedded at the ceiling and is arranged to cover the heat sink 30C to define a heat dissipation chamber 101C between the heat dissipation shroud 10C and the heat sink 30C. Accordingly, the heat dissipation shroud 10C comprises a top wall 11C, a surrounding wall 12C downwardly extended therefrom, and two fasteners 13C.

[0106] Accordingly, the surrounding wall 12C has an upper wall portion 121C downwardly extended from the top wall 11C and two lower wall portions 122C spacedly and downwardly extended from the upper wall portion 121C, wherein the upper wall portion 121C has two edge portions 1211C each defined between the two lower wall portions 122C. The heat dissipation shroud 10C further has a plurality of heat dissipation holes 102C formed at the top wall 11C and the surrounding wall 12C. An elongated opening 12201C is formed at the surrounding wall 12C between the two lower wall portions 122C thereof for serving as an installation opening, wherein the two edge portions 1211C of the upper wall portion 121C of the surrounding wall 12C are two top edges of the elongated opening 12201C respectively. The fasteners 13C are downwardly extended from the two edge portions 1211C of the upper wall portion 121C of the surrounding wall 12C for detachably engaging with the ceiling lamp 1C. It is worth mentioning that the heat dissipation shroud 10C has a receiving chamber 100C defined within the top wall 11C and the surrounding wall 12C for receiving the heat sink 30C of the ceiling lamp 1C.

[0107] As shown in Figs. 26 to 29, the heat dissipation shroud 10C further has two windows 12202C, which are two through windows, formed at the lower wall portions 122C of the surrounding wall 12C respectively, wherein the two windows 12202C are aligned with each other. When the heat sink 30C of the ceiling lamp 1C is received in the heat dissipation shroud 10C, a portion of the heat sink 30C can be moved to extend out one of the windows

12202C during the light projecting angle adjustment of the ceiling lamp 1C. In other words, when the ceiling lamp 1C is rotated for adjusting the light projecting angle thereof, the windows 12202C provide sufficient moving space for the heat sink 30C to allow larger movement of the ceiling lamp 1C.

[0108] As shown in Figs. 27 and 30, the ceiling lamp 1C comprises a base platform 20C defining a light chamber 200C therewithin, wherein the base platform 20C has a retention panel 22C extended upwardly to detachably engage with the heat dissipation shroud 10C. In particular, the base platform 20C has a retention slot 220C formed at the retention panel 22C, wherein the fastener 13C is detachably engaged with the respective retention slot 220C at the retention panel 22C to detachably couple the heat dissipation shroud 10C on the base platform 20C. Accordingly, the base platform 20C of the ceiling lamp 1C also serves as a base support for supporting the heat dissipation shroud 10C thereon.

[0109] It is worth mentioning that when the heat dissipation shroud 10C is coupled to the ceiling lamp 1C, a heat dissipation chamber 101C is formed between the heat dissipation shroud 10C and the heat sink 30C. At the same time, the heat dissipation shroud 10C forms a separator to separate the heat sink 30C of the ceiling lamp 1C from the ceiling and the thermal insulation layer on top of the heat dissipation shroud 10C, so as to prevent the heat sink 30C being directly contacted with the thermal insulation layer which will block the heat dissipation of the heat sink 30C.

[0110] As shown in Fig. 27, the illuminant of the ceiling lamp 1C can be pivotally coupled at the base platform 11C via a pivot shaft. Therefore, the illuminant of the ceiling lamp 1C can be pivotally rotated to selectively adjust the light projecting angle thereof. The light projecting angle of the ceiling lamp 1C can be enlarged by moving the portion of the heat sink 30C out through one of the windows 12202C. It is worth mentioning that the windows 12202C can also serve as the heat dissipation windows for heat dissipation.

[0111] One skilled in the art will understand that the embodiment of the present invention as shown in the drawings and described above is exemplary only and not intended to be limiting.

[0112] It will thus be seen that the objects of the present invention have been fully and effectively accomplished. The embodiments have been shown and described for the purposes of illustrating the functional and structural principles of the present invention and is subject to change without departure from such principles. Therefore, this invention includes all modifications encompassed within the spirit and scope of the following claims.

Claims

1. A ceiling lamp, comprising:

- a base platform;
a heat sink coupled on said base platform; and
a heat dissipation shroud selectively coupled at
one of said base platform and said heat sink to
form a heat dissipation chamber between said
heat sink and said heat dissipation shroud.
2. The ceiling lamp, as recited in claim 1, wherein said heat dissipation shroud is detachably coupled at said heat sink.
 3. The ceiling lamp, as recited in claim 2, wherein said heat dissipation shroud is mounted to said heat sink via a threaded mechanism.
 4. The ceiling lamp, as recited in claim 3, wherein said threaded mechanism comprises a threaded shaft downwardly extended from a center of a top side of said heat dissipation shroud, and a threaded hole formed at a center of a top portion of said heat sink, such that said threaded shaft is rotatably engaged with said threaded hole to detachably couple said heat dissipation shroud to said heat sink.
 5. The ceiling lamp, as recited in claim 1, wherein said heat dissipation shroud is detachably coupled at said base platform.
 6. The ceiling lamp, as recited in claim 5, wherein said heat dissipation shroud is mounted to said base platform via a clipping mechanism.
 7. The ceiling lamp, as recited in claim 6, wherein said clipping mechanism comprises a first clipping member formed at said heat dissipation shroud, and a second clipping member provided at said base platform, such that when the first and second clipping members are coupled with each other, said heat dissipation shroud is detachably coupled with said base platform.
 8. The ceiling lamp, as recited in claim 7, wherein said first clipping member is a hook shaped clipper and said second clipping member is a clipping slot, such that said hook shaped clipper is detachably engaged with said clipping slot.
 9. The ceiling lamp, as recited in claim 8, wherein said hook shaped clipper is formed at a bottom side of said heat dissipation shroud and said clipping slot is longitudinally formed at said base platform to engage with said hook shaped clipper.
 10. The ceiling lamp, as recited in claim 7, wherein said first clipping member is a clipping slot and said second clipping member is a hook shaped clipper, such that said hook shaped clipper is detachably engaged with said clipping slot.
 11. The ceiling lamp, as recited in claim 10, wherein said hook shaped clipper is formed at said base platform while said clipping slot is longitudinally formed at said bottom side of said heat dissipation shroud to detachably couple said heat dissipation shroud to said base platform.
 12. The ceiling lamp, as recited in claim 7, wherein said first clipping member is a clipping latch while said second clipping member is a curved shaped clipping slot that a curvature of said curved shaped clipping slot matches with a curvature of said base platform, wherein a width of said curved shaped clipping slot is gradually reduced from one end thereof to the opposed end to define a wide end portion and a narrow end portion, wherein said clipping latch is detachably engaged with said curved shaped clipping slot.
 13. The ceiling lamp, as recited in claim 12, wherein said clipping latch is formed at a bottom side of said heat dissipation shroud and said curved shaped clipping slot is longitudinally formed at said base platform to engage with said clipping latch.
 14. The ceiling lamp, as recited in claim 1, wherein said heat dissipation chamber is defined within said heat dissipation shroud at a position above said heat sink.
 15. The ceiling lamp, as recited in claim 1, wherein said heat dissipation shroud further has a plurality of heat dissipation holes for heat dissipation.
 16. The ceiling lamp, as recited in claim 15, wherein each of said heat dissipation holes is selected from a group consisting of a circular through hole and an elongated through hole.
 17. The ceiling lamp, as recited in claim 1, wherein said heat dissipation shroud has a conical shape.
 18. The ceiling lamp, as recited in claim 1, wherein said heat dissipation shroud further has a wiring channel formed thereat for an electrical wire extending there-through.
 19. The ceiling lamp, as recited in claim 18, wherein said wiring channel has a vertical elongated shaped configuration or T-shaped configuration.
 20. The ceiling lamp, as recited in claim 1, wherein said heat sink is mounted on said base platform via a screw.
 21. The ceiling lamp, as recited in claim 1, which is a recess light for being installed into a ceiling.
 22. The ceiling lamp, as recited in claim 1, further comprising an illuminant mounted at said base platform,

wherein said illuminant is a LED provided at said base platform.

23. A ceiling lamp, comprising a light body and a heat dissipation shroud, wherein said light body comprises a base platform and an illuminant, said base platform having a center through slot to mount said illuminant thereat, wherein said light body further comprises two retention panels spacedly and upwardly extended from said base platform, and two retention members coupled at said retention panels respectively, wherein said heat dissipation shroud has a plurality of heat dissipation holes formed on a top wall and a surrounding wall of said heat dissipation shroud for enabling air circulating from an interior of said heat dissipation shroud to an exterior thereof, wherein said heat dissipation shroud further has two elongated openings formed on said surrounding wall of said heat dissipation shroud at two opposite sides thereof and extended from a bottom edge to match with said retention panels, wherein said retention member is slid within said elongated opening when said heat dissipation shroud is coupled on said base platform, wherein said heat dissipation shroud further comprises a fastener provided at a top edge of each of said elongated openings for detachably fastening with said base platform so as to dissipate heat therefrom.
24. The ceiling lamp, as recited in claim 23, wherein each of said retention panels is slightly tilted outward to strengthen the base platform and to guide said heat dissipation shroud to be coupled with said base platform.
25. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further comprises two locking panels outwardly protruded from two side edges of each of said elongated openings, wherein said retention panel is guided to locate between said two locking panels when said heat dissipation shroud is coupled on said base platform so as to prevent an excessive rotational movement of said heat dissipation shroud with respect to said base platform.
26. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further has a wiring channel formed thereon for allowing an electrical wire extended through said heat dissipation shroud.
27. The ceiling lamp, as recited in claim 26, wherein said wiring channel is formed on said surrounding wall of said heat dissipation shroud between said two first openings, and is formed with one of said heat dissipation holes.
28. The ceiling lamp, as recited in claim 23, wherein said fasteners are detachably engaged with said reten-

tion panels respectively to detachably couple said heat dissipation shroud with said light body.

29. The ceiling lamp, as recited in claim 28, wherein said fasteners are detachably engaged with two retention slots of said retention panels at inner sides thereof to detachably couple said heat dissipation shroud with said light body.
30. The ceiling lamp, as recited in claim 29, wherein when said light body is arranged for being installed into a ceiling having a thermal insulation layer thereabove, said heat dissipation shroud is covered by the thermal insulation layer, wherein when said fasteners are disengaged with said retention slots of said retention panels, said heat dissipation shroud is detached from said light body.
31. The ceiling lamp, as recited in claim 30, wherein said heat dissipation shroud is coupled to said light body when installing into the ceiling having the thermal insulation layer, and said heat dissipation shroud is detached from said light body when installing into the ceiling without the thermal insulation layer.
32. The ceiling lamp, as recited in claim 23, wherein said fasteners are detachably engaged with said retention panels respectively to detachably couple said heat dissipation shroud with said light body, such that said heat dissipation shroud is coupled to said light body when installing into a ceiling having a thermal insulation layer, and said heat dissipation shroud is detached from said light body when installing into the ceiling without the thermal insulation layer.
33. The ceiling lamp, as recited in claim 23, wherein at least two of said retention panels are symmetrically extended from said base platform to ensure said heat dissipation shroud to be securely coupled at said light body.
34. The ceiling lamp, as recited in claim 33, wherein each of said retention panels has a retention slot to engage with said fastener.
35. The ceiling lamp, as recited in claim 34, wherein each of said retention slots has a I-shaped configuration.
36. The ceiling lamp, as recited in claim 33, wherein said fasteners are detachably engaged with said retention slots respectively.
37. The ceiling lamp, as recited in claim 23, wherein said light body further has an edge guider formed on a peripheral portion of the base platform at a position adjacent to said retention panels, wherein said edge guider is a circular guiding groove formed on said peripheral portion of said base platform to engage

with said bottom edge of said heat dissipation shroud.

38. The ceiling lamp, as recited in claim 23, wherein said elongated openings are symmetrically formed on said heat dissipation shroud that a spring-loaded end of said retention member is located within said elongated opening when said heat dissipation shroud is coupled on said base platform.
39. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further has two elongated second opening symmetrically formed on said surrounding wall of said heat dissipation shroud for enabling a movement of said illuminant to adjust a light projecting angle thereof.
40. The ceiling lamp, as recited in claim 23, wherein said light body further comprises two curved guiding walls extended from said retention members and formed on a peripheral portion of said base platform to engage and seal with said bottom edge of said heat dissipation shroud.
41. The ceiling lamp, as recited in claim 23, wherein said retention panels are slightly bent outward to form two guiding members to guide said heat dissipation shroud to mount on said light body.
42. The ceiling lamp, as recited in claim 23, wherein edges of said retention panels are slightly bent outward to form two guiding members to guide said heat dissipation shroud to mount on said light body.
43. The ceiling lamp, as recited in claim 23, wherein said retention panels are made of rigid but elastic material to enhance a strength of said base platform and to support said heat dissipation shroud.
44. The ceiling lamp, as recited in claim 23, wherein said illuminant is enclosed within said heat dissipation shroud.
45. The ceiling lamp, as recited in claim 23, wherein said elongated openings are symmetrically formed on said heat dissipation shroud and extended from said bottom edge thereof that a spring-loaded end of said retention member is located within said elongated opening when said heat dissipation shroud is coupled on said base platform.
46. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further comprises a locking panel outwardly protruded from one of side edges of each of said elongated openings, wherein said retention panel is guided to locate at said elongated opening by said locking panel when said heat dissipation shroud is coupled on said base platform so

as to prevent an excessive rotational movement of said heat dissipation shroud with respect to said base platform.

47. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further comprises a locking panel inwardly protruded from one of side edges of each of said elongated openings, wherein said retention panel is guided to locate at said elongated opening by said locking panel when said heat dissipation shroud is coupled on said base platform so as to prevent an excessive rotational movement of said heat dissipation shroud with respect to said base platform.
48. The ceiling lamp, as recited in claim 23, wherein each of said retention panels has a retention slot to engage with said fastener.
49. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further has a coupling portion defined at said bottom edge thereof, wherein said coupling portion is slightly bent outward to engage with said light body.
50. The ceiling lamp, as recited in claim 23, wherein said light body further has a circular guiding groove formed on a peripheral portion of said base platform, wherein said bottom edge of said heat dissipation shroud is engaged with said guiding groove.
51. The ceiling lamp, as recited in claim 23, wherein said heat dissipation shroud further has a coupling portion defined at said bottom edge thereof to engage with said light body.
52. The ceiling lamp, as recited in claim 23, wherein said light body further has two curved guiding panels formed on a peripheral portion of said base platform, wherein said bottom edge of said heat dissipation shroud is engaged with said guiding walls.
53. The ceiling lamp, as recited in claim 23, wherein said light body further has two curved guiding panels formed on a peripheral portion of said base platform, wherein said bottom edge of said heat dissipation shroud is engaged with said guiding walls.
54. A ceiling lamp, comprising a light body and a heat dissipation shroud, wherein said light body comprises a base platform and an illuminant, said base platform having a center through slot to mount said illuminant thereat, wherein said light body further comprises two retention panels spacedly and upwardly extended from said base platform, and two retention members coupled at said retention panels respectively, wherein said retention panels are slightly bent outward to enhance a strength of said base platform

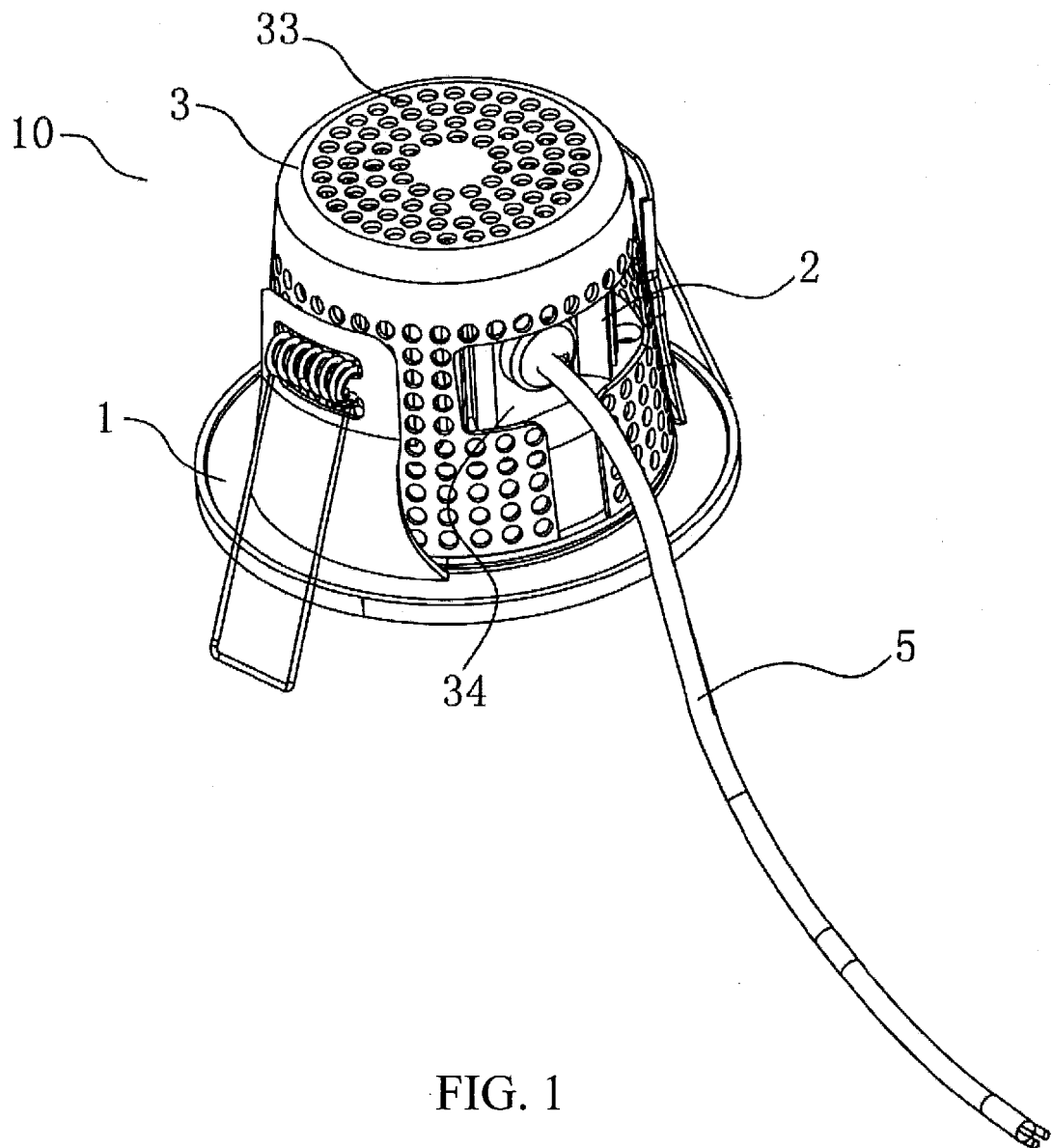
and to guide said heat dissipation shroud to mount on said light body, wherein said heat dissipation shroud has a plurality of heat dissipation holes formed on a top wall and a surrounding wall of said heat dissipation shroud, wherein each of said heat dissipation holes is an elongated through hole, wherein said heat dissipation shroud further has two elongated openings formed on said surrounding wall of said heat dissipation shroud at two opposite sides thereof and extended from a bottom edge to match with said retention panels, wherein said retention member is slid within said elongated opening when said heat dissipation shroud is coupled on said base platform, wherein said heat dissipation shroud further has two elongated second opening symmetrically formed on said surrounding wall of said heat dissipation shroud for enabling a movement of said illuminant to adjust a light projecting angle thereof, wherein said heat dissipation shroud further comprises a fastener provided at a top edge of each of said elongated openings for detachably fastening with said base platform so as to dissipate heat therefrom, wherein said heat dissipation shroud further comprises a locking panel outwardly protruded from one of side edges of each of said elongated openings, wherein said retention panel is guided to locate at said elongated opening by said locking panel when said heat dissipation shroud is coupled on said base platform so as to prevent an excessive rotational movement of said heat dissipation shroud with respect to said base platform, wherein said heat dissipation shroud further has a wiring channel formed thereat for an electrical wire extending therethrough, wherein said wiring channel is formed on said surrounding wall at a position above one of said second openings.

55. A heat dissipation shroud for a ceiling light, comprising:

a top wall;
 a surround wall; and
 two fasteners, wherein said surrounding wall has an upper wall portion downwardly extended from said top wall and two lower wall portions spacedly and downwardly extended from said upper wall portion, wherein said upper wall portion has two edge portions each defined between said two lower wall portions, wherein a plurality of heat dissipation holes are formed at said top wall and said surrounding wall, wherein an elongated opening is formed at said surrounding wall between said two lower wall portions thereof for serving as an installation opening, wherein said two edge portions of said upper wall portion of the surrounding wall are two top edges of said elongated opening respectively, wherein said fasteners are downwardly extend-

ed from said two edge portions of said upper wall portion of said surrounding wall for detachably engaging with the ceiling lamp, wherein said heat dissipation shroud has a receiving chamber defined within said top wall and said surrounding wall for receiving a heat sink of the ceiling lamp.

56. The heat dissipation shroud, as recited in claim 55, further having two windows symmetrically formed said lower wall portion of said surrounding wall for enabling a movement of an illuminant of the ceiling lamp to adjust a light projecting angle thereof.



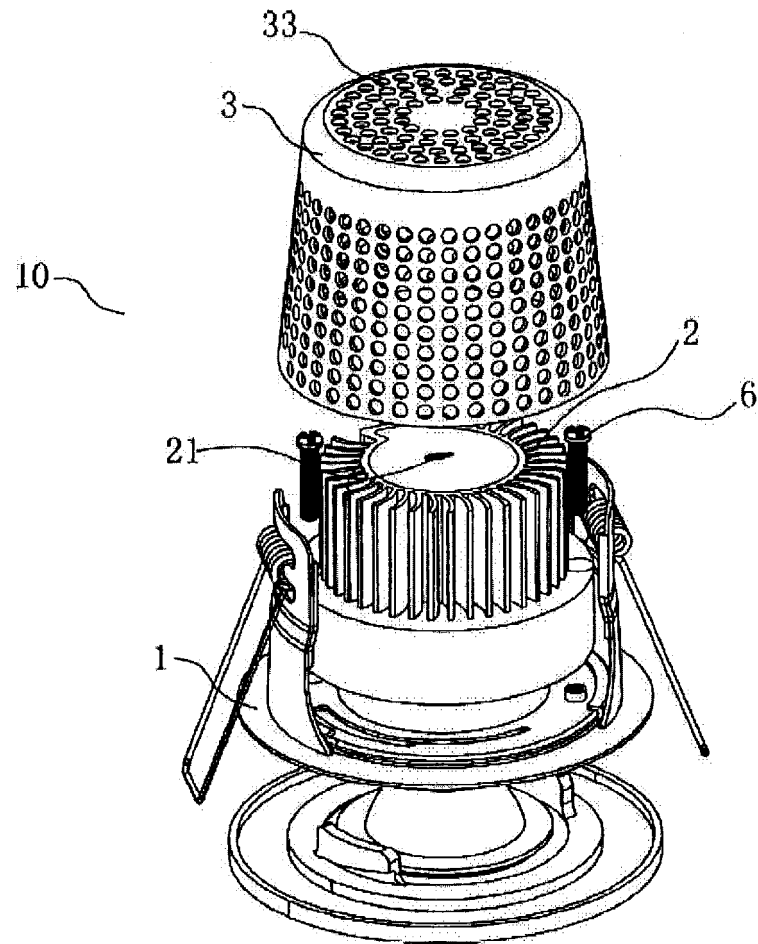


FIG. 2

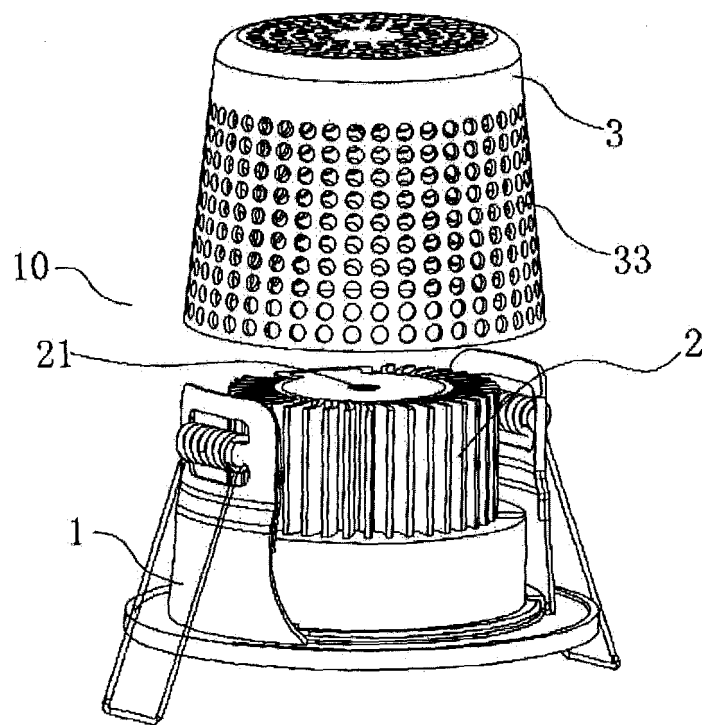


FIG. 3

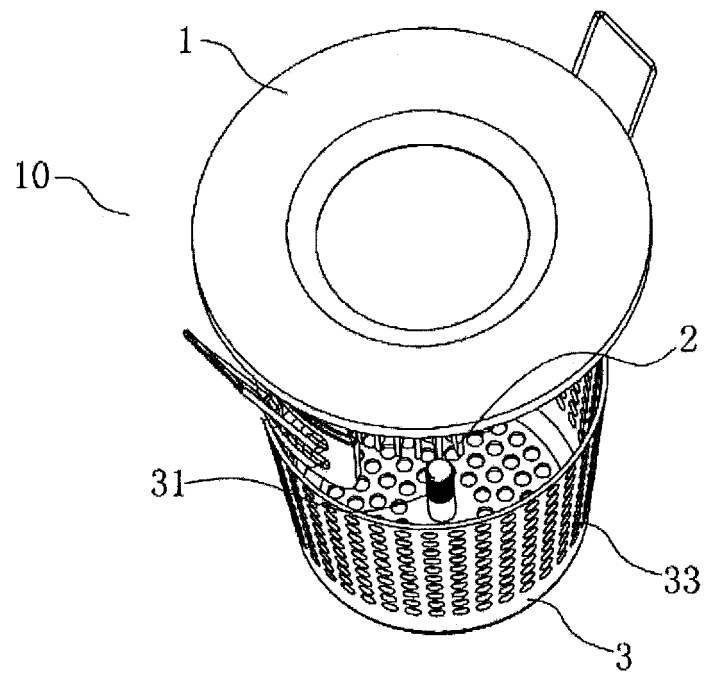


FIG. 4

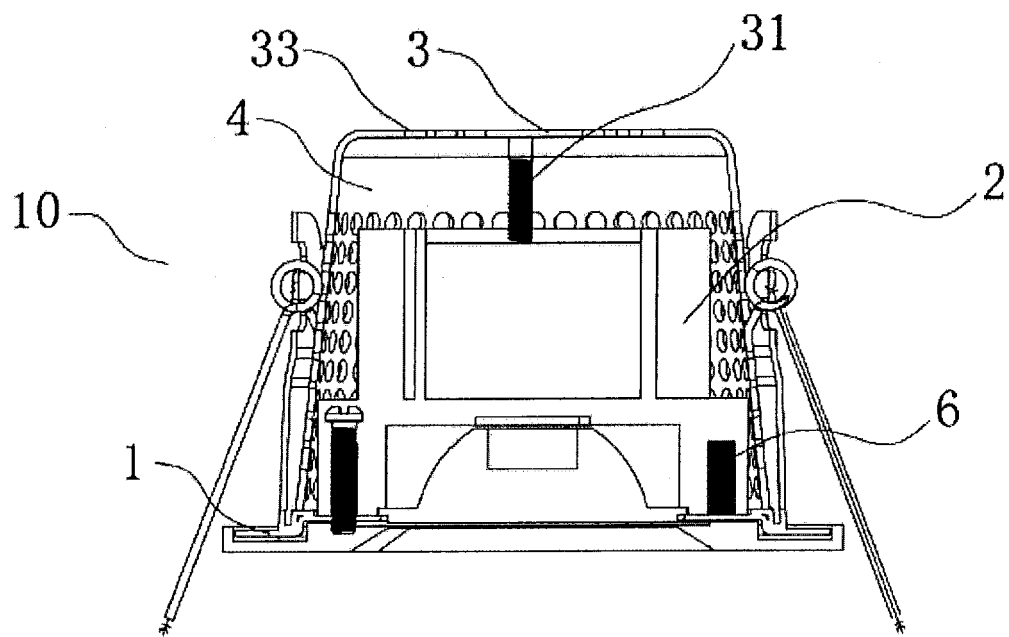


FIG. 5

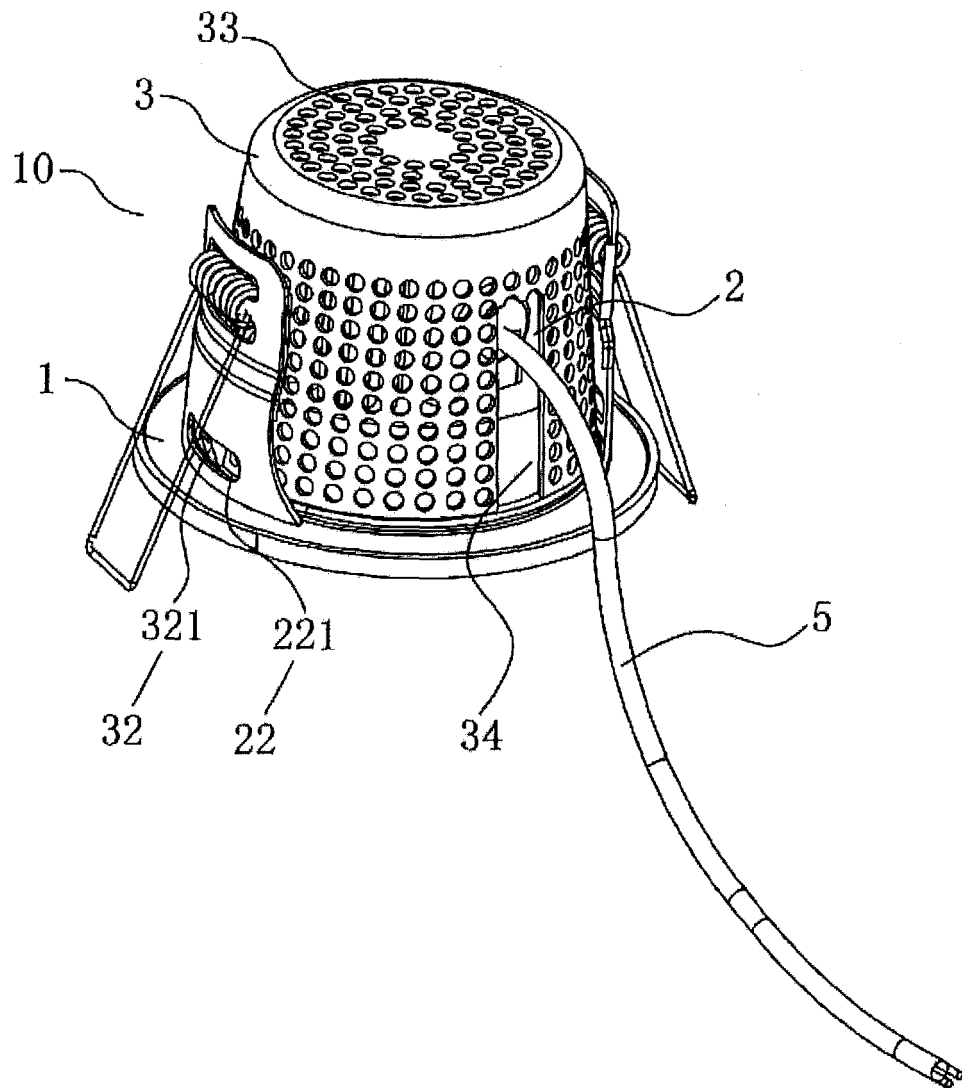


FIG. 6

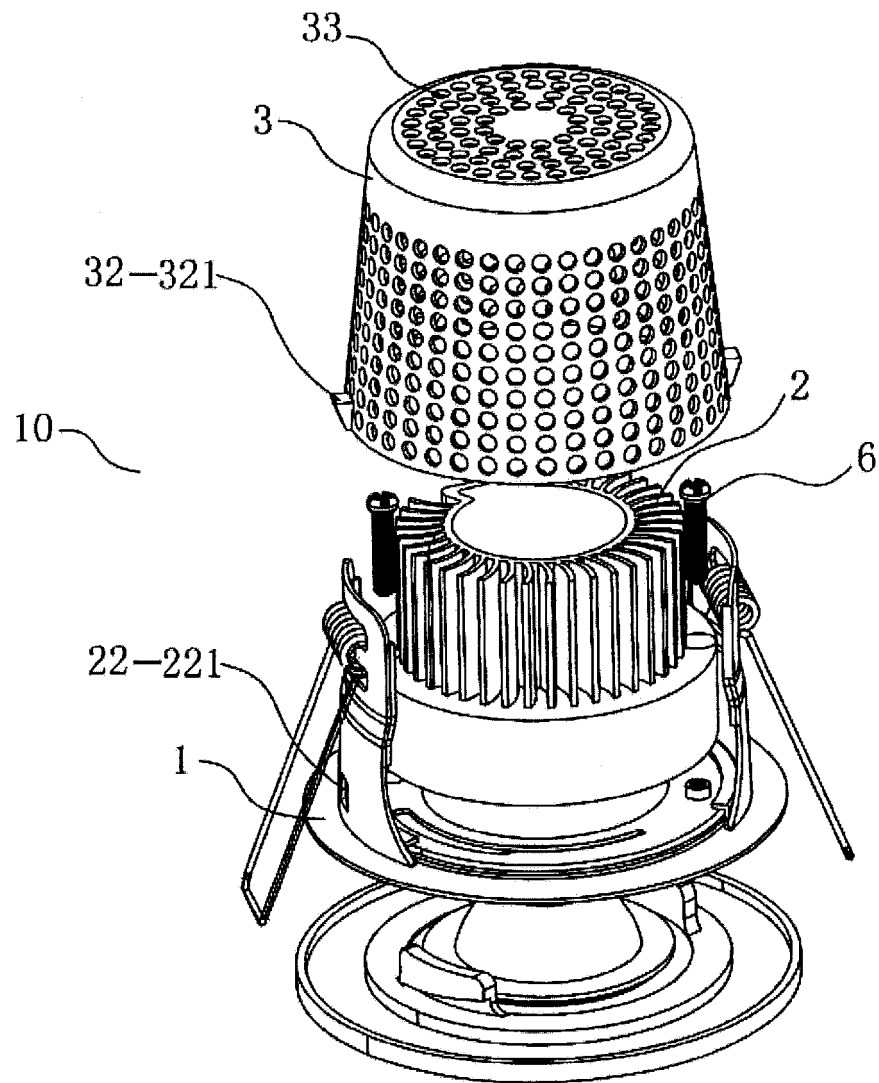


FIG. 7

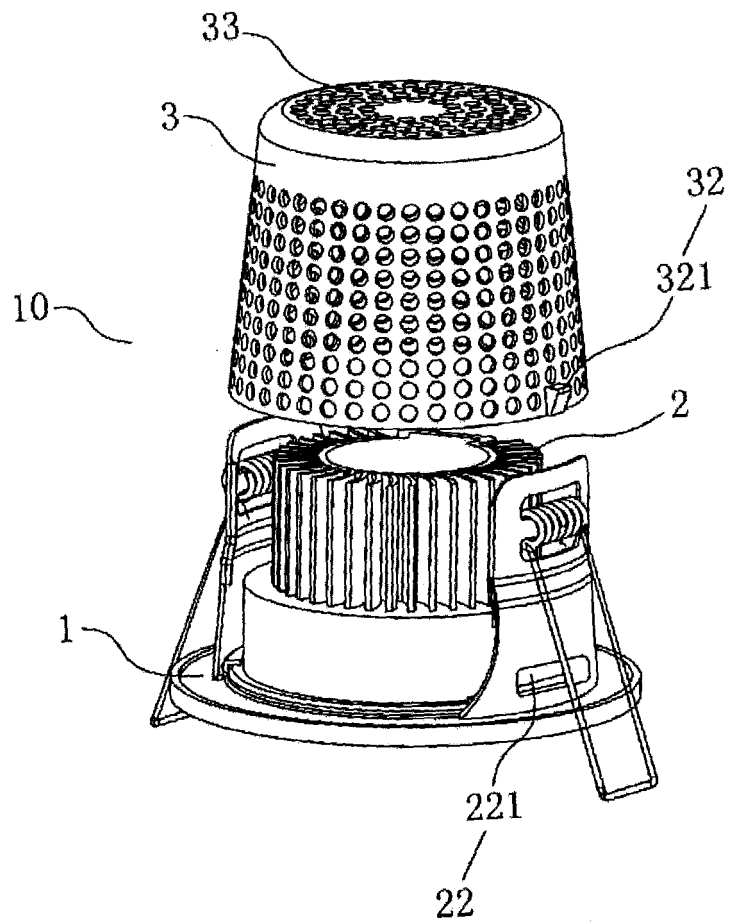


FIG. 8

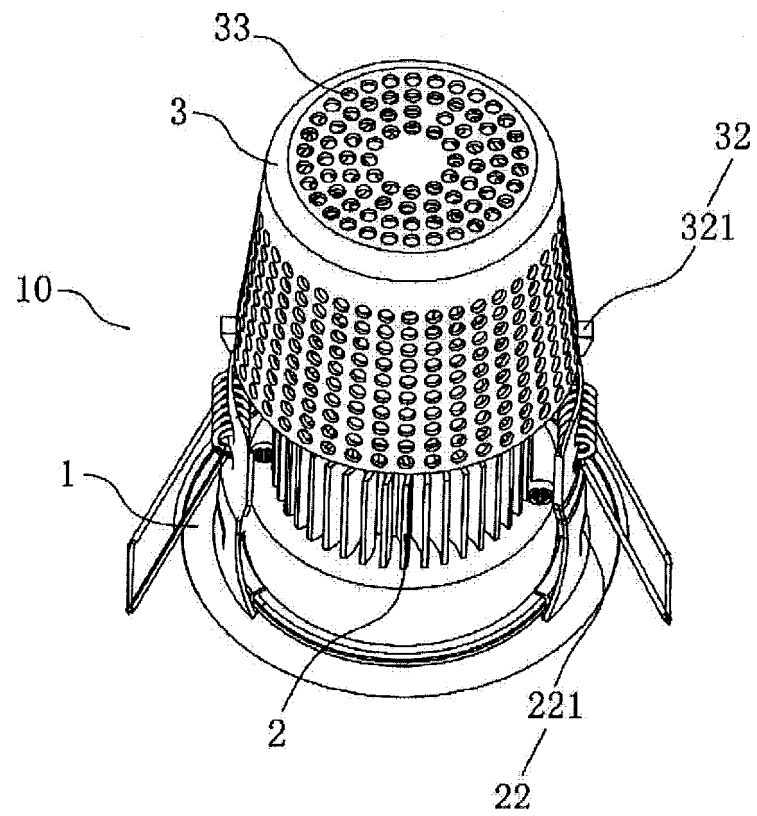


FIG. 9

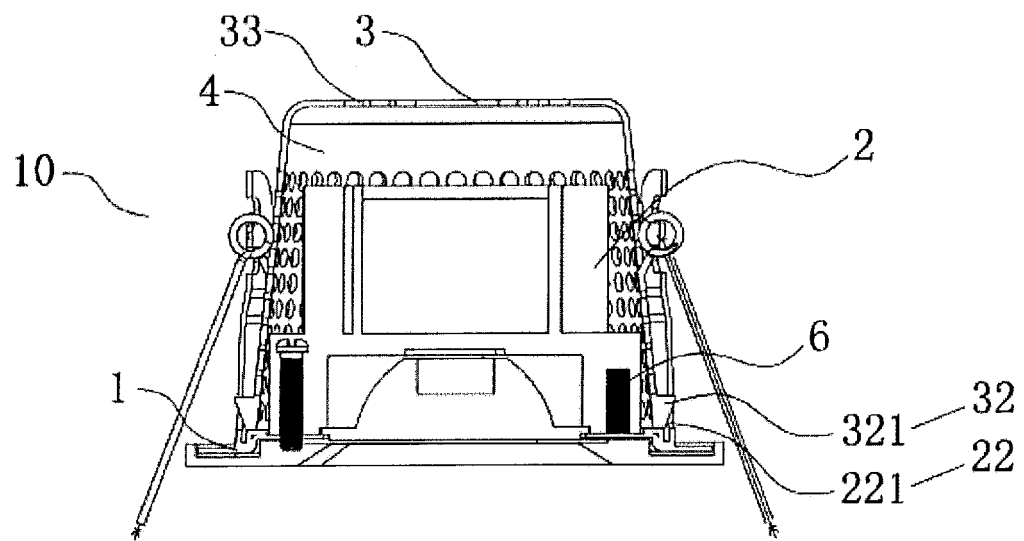


FIG. 10

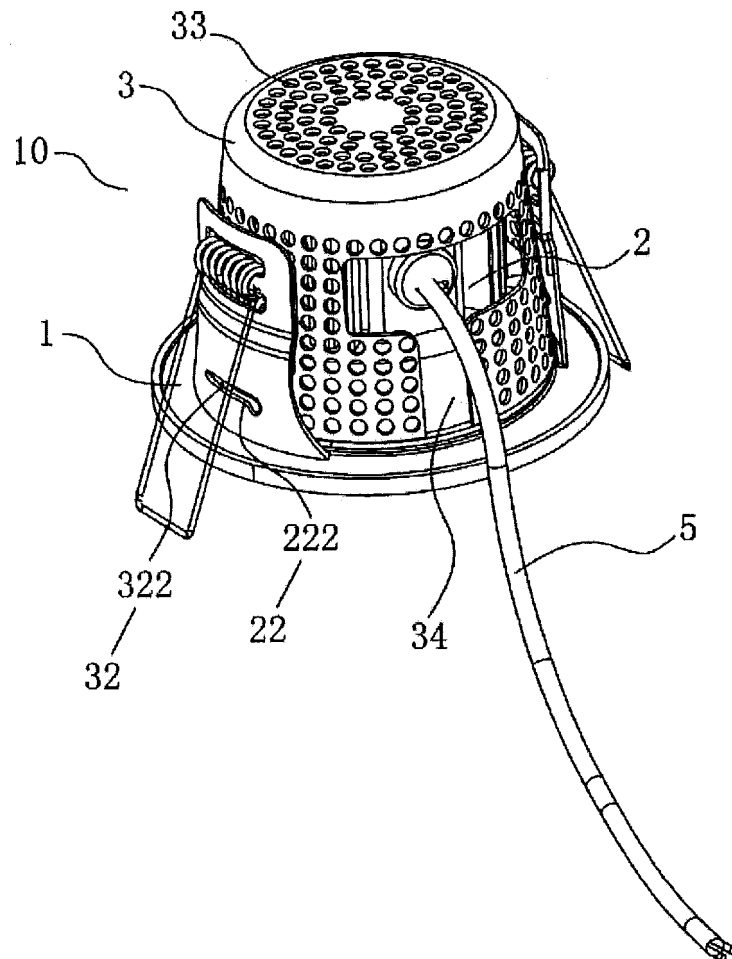


FIG. 11

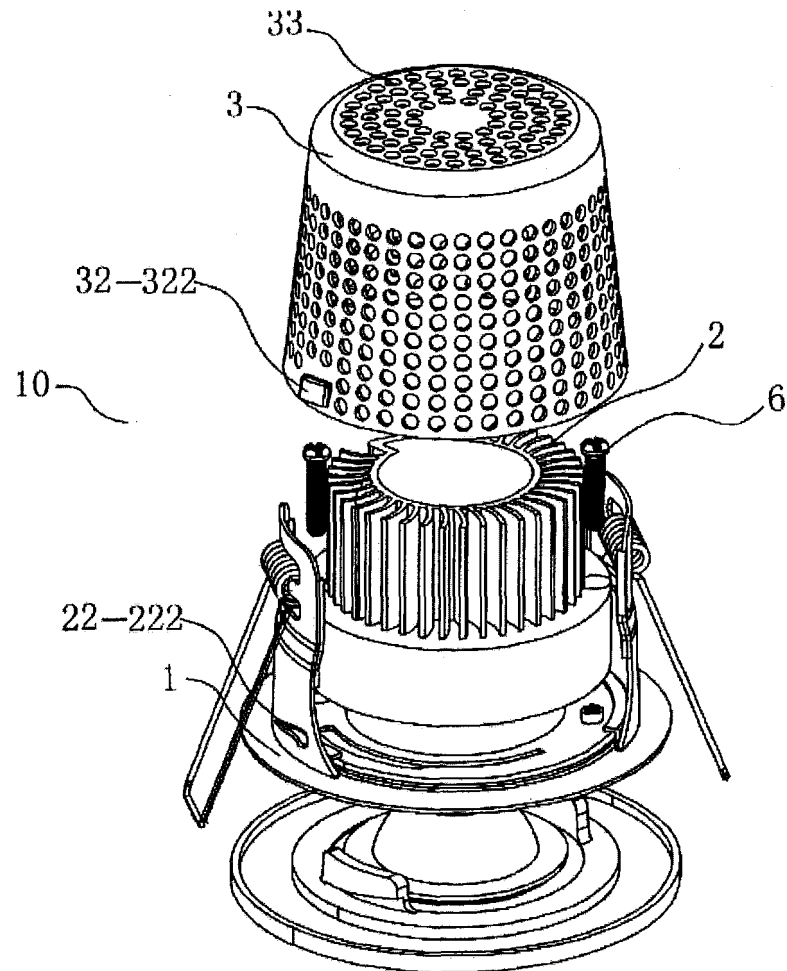


FIG. 12

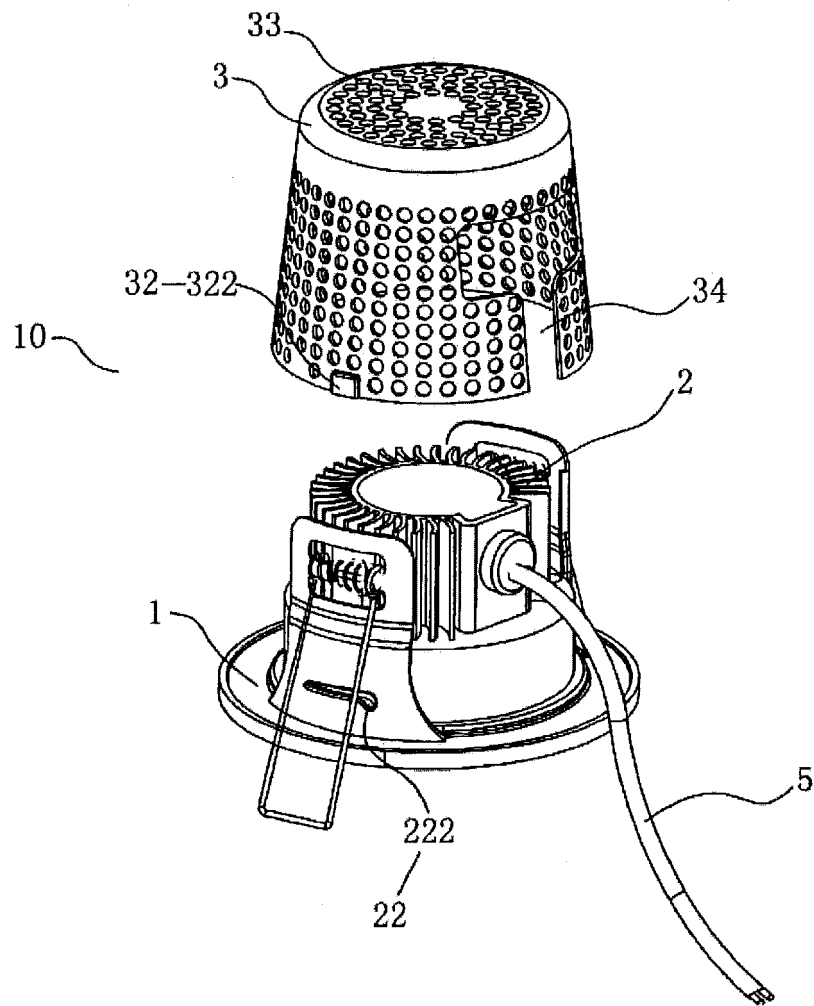


FIG. 13

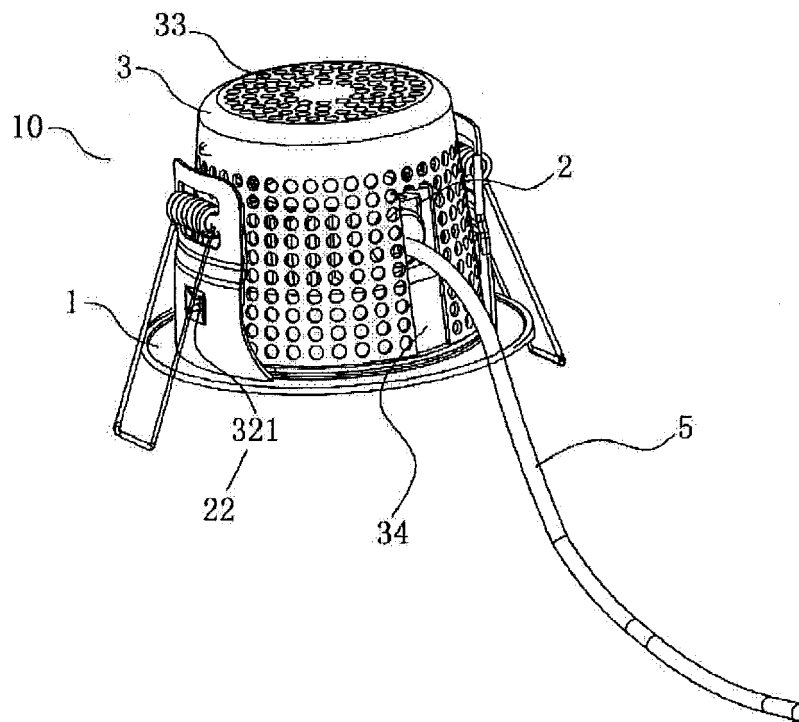


FIG. 14

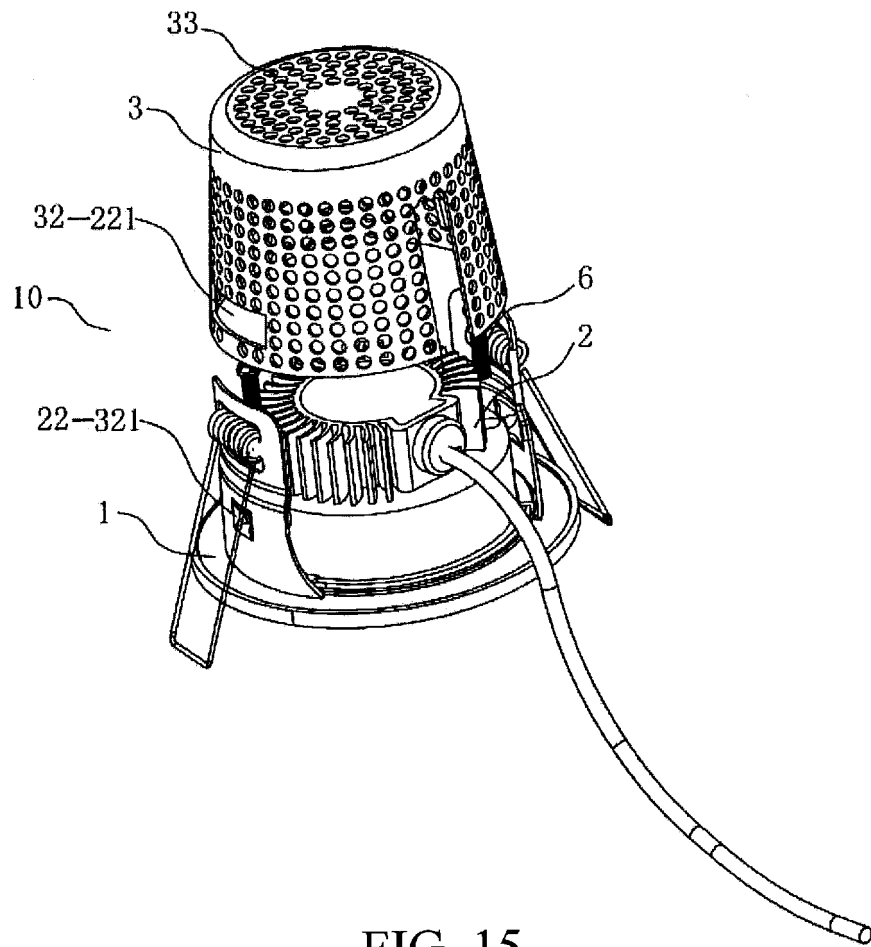


FIG. 15

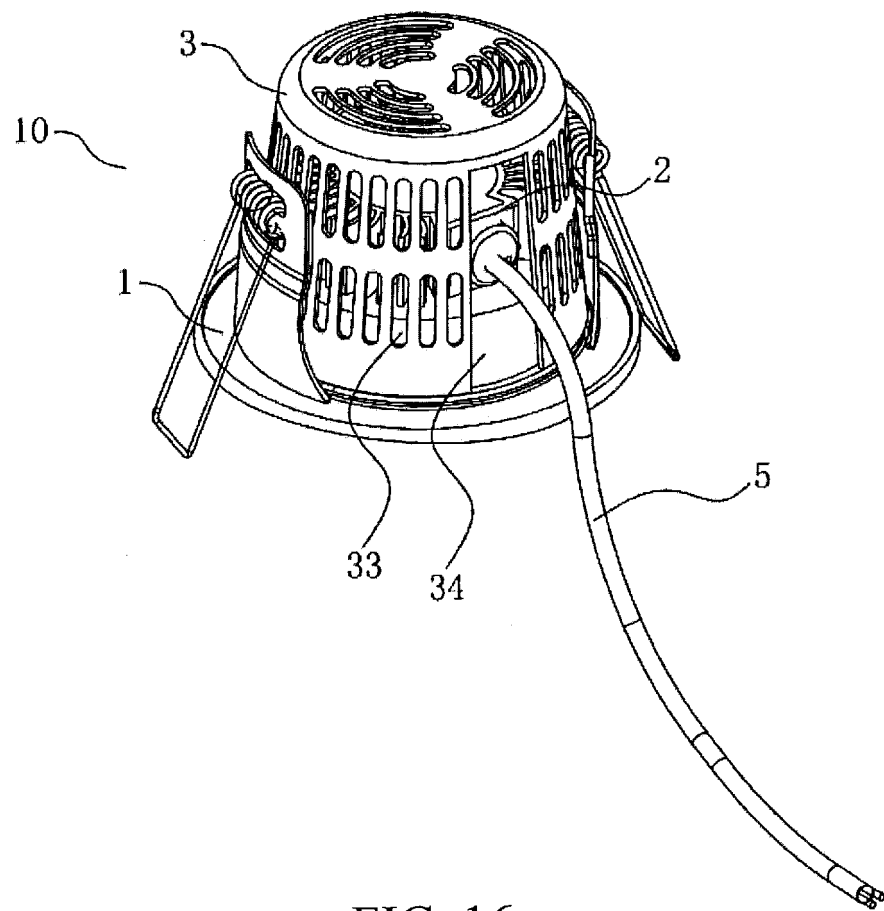


FIG. 16

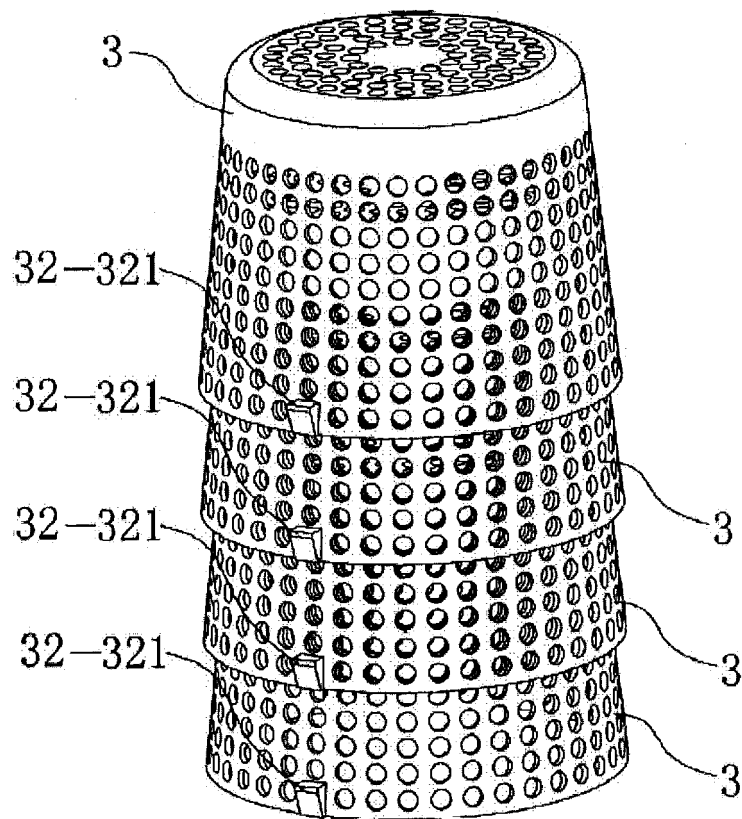


FIG. 17

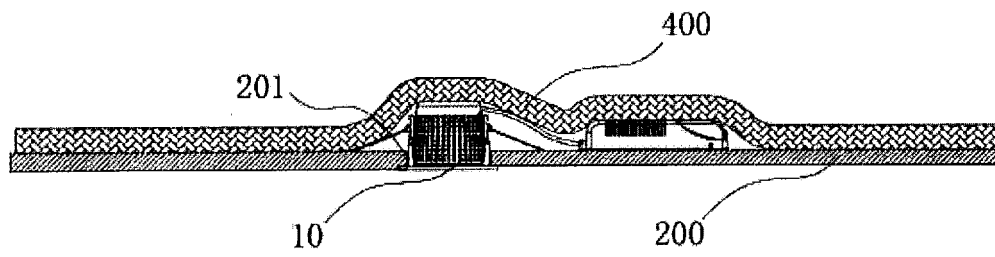


FIG. 18

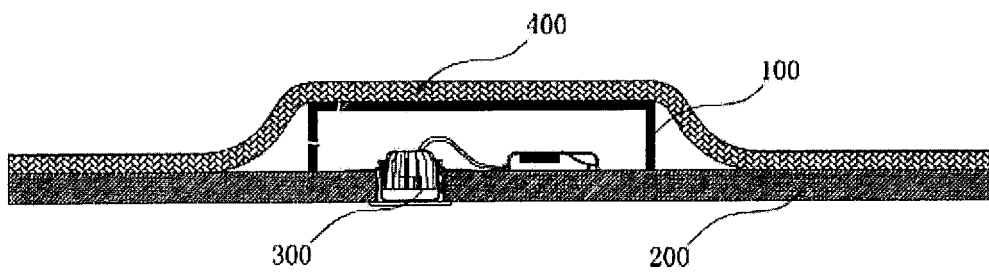


FIG. 19

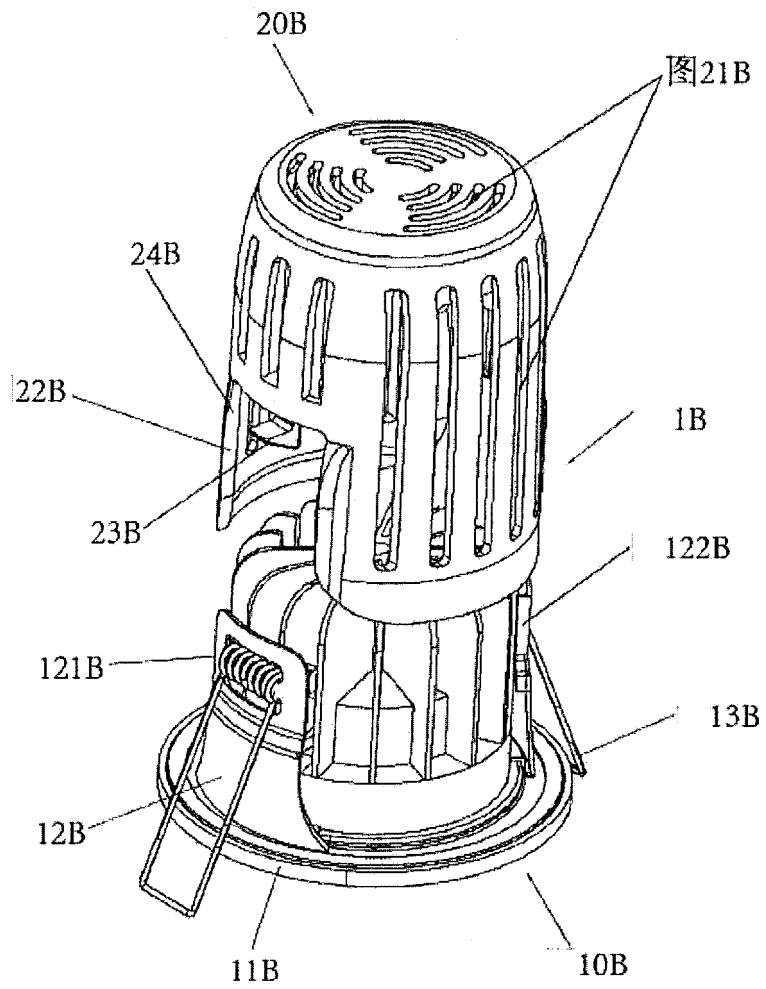


FIG. 20

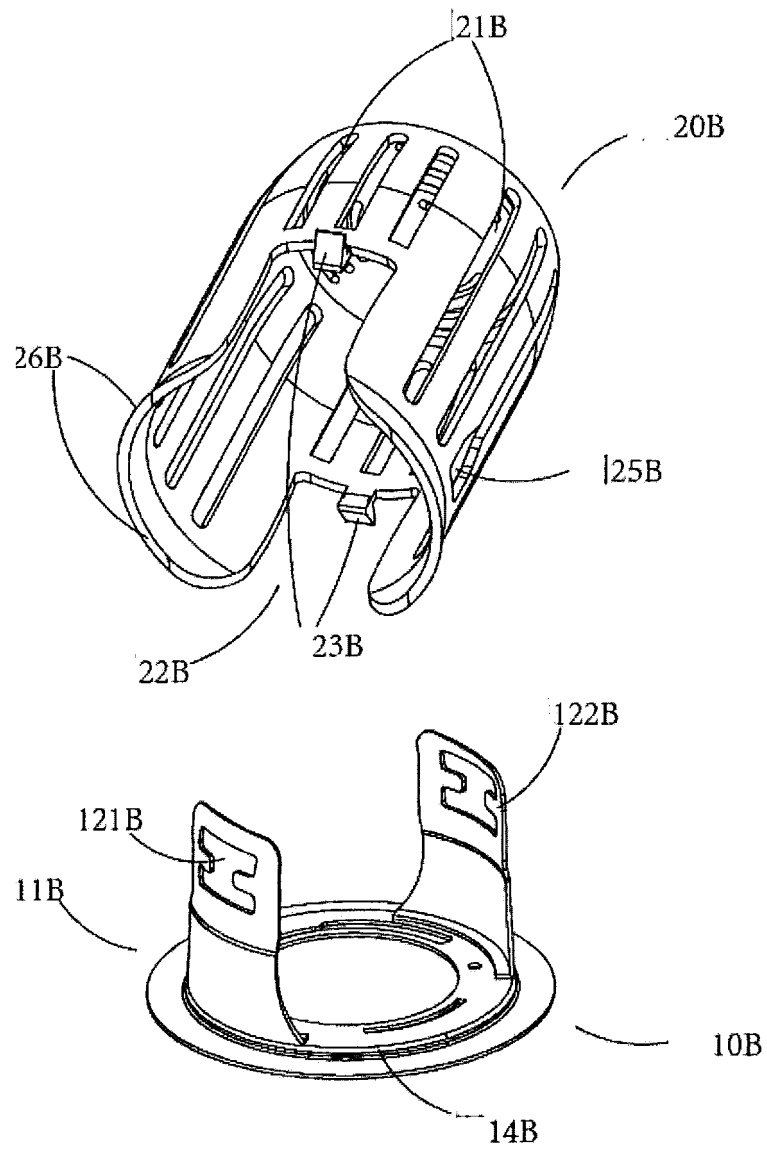


FIG. 21

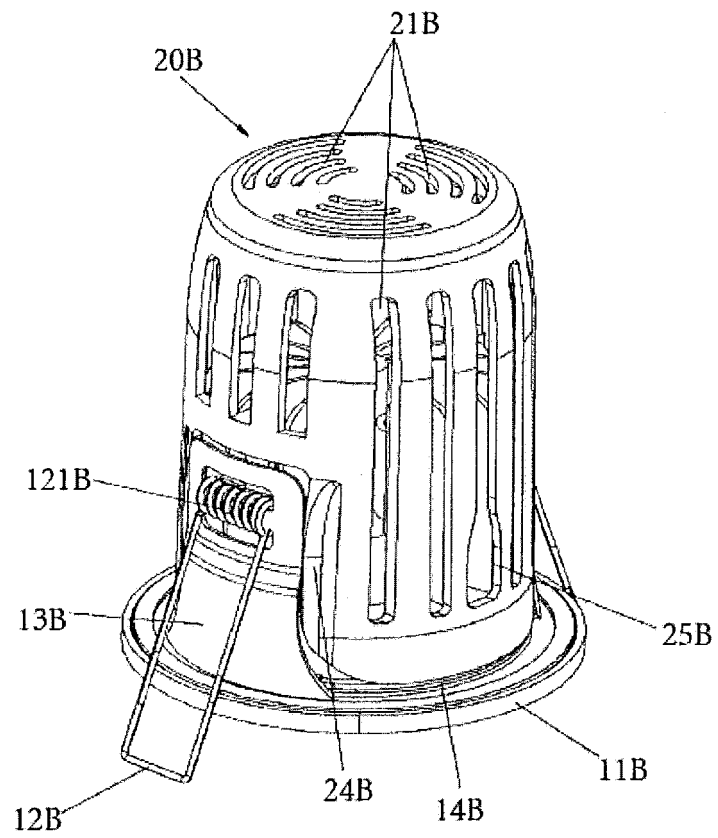


FIG. 22

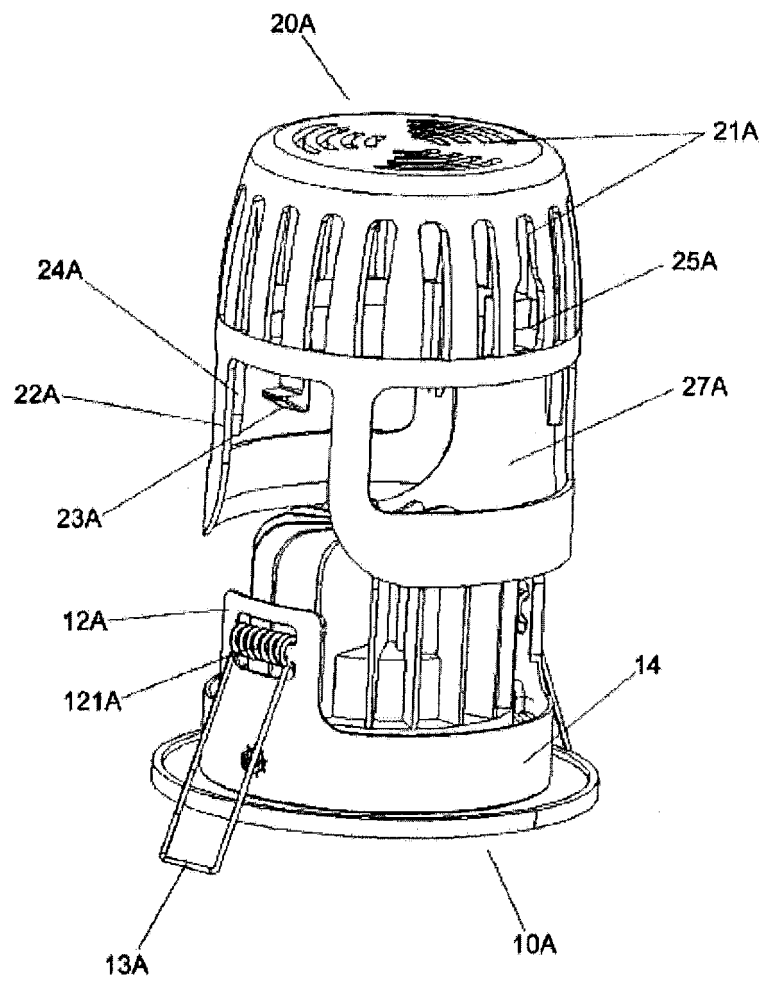


FIG. 23

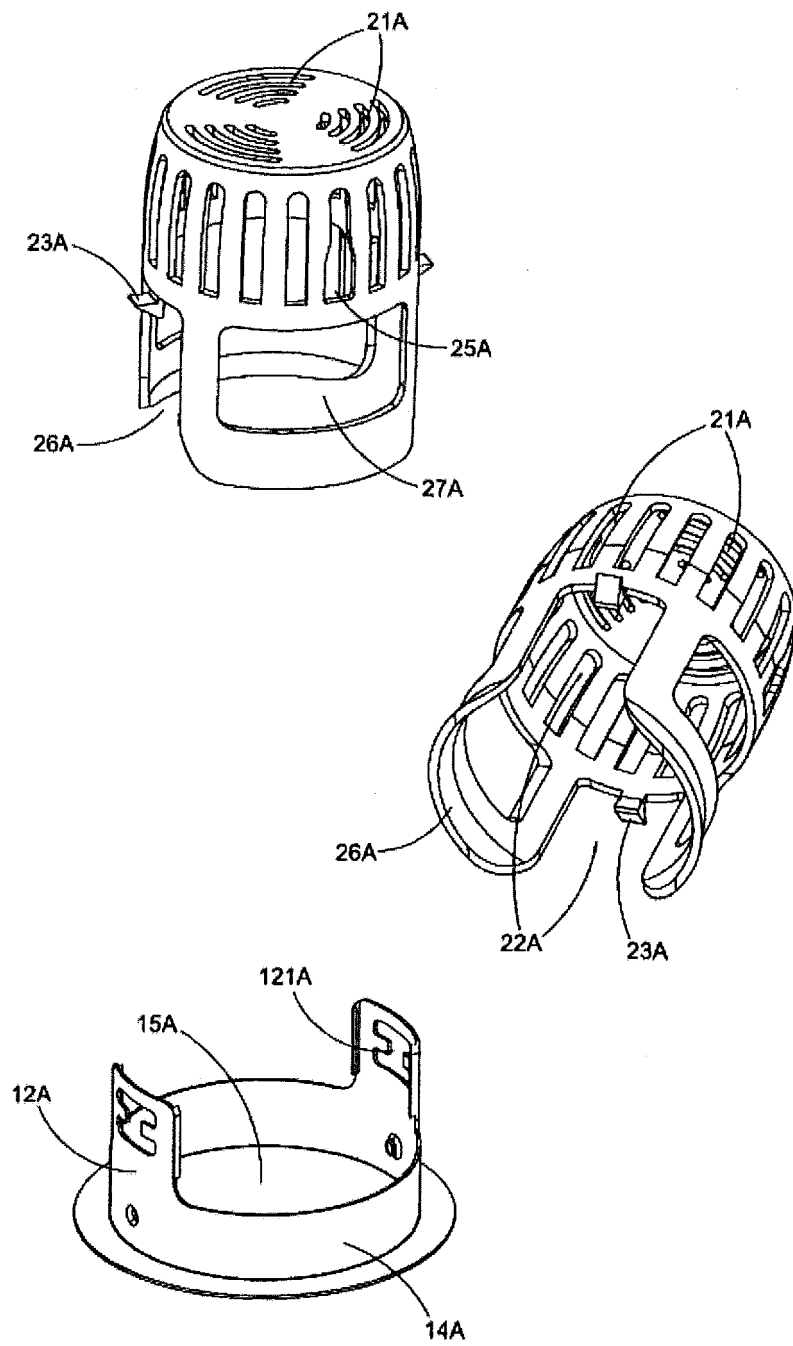


FIG. 24

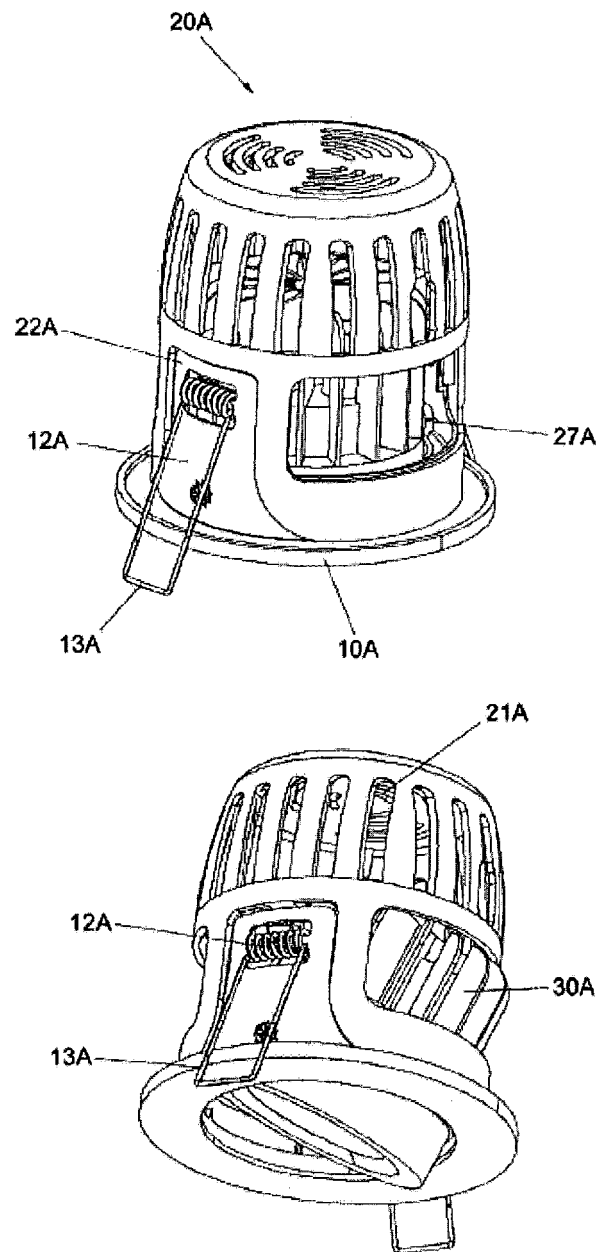


FIG. 25

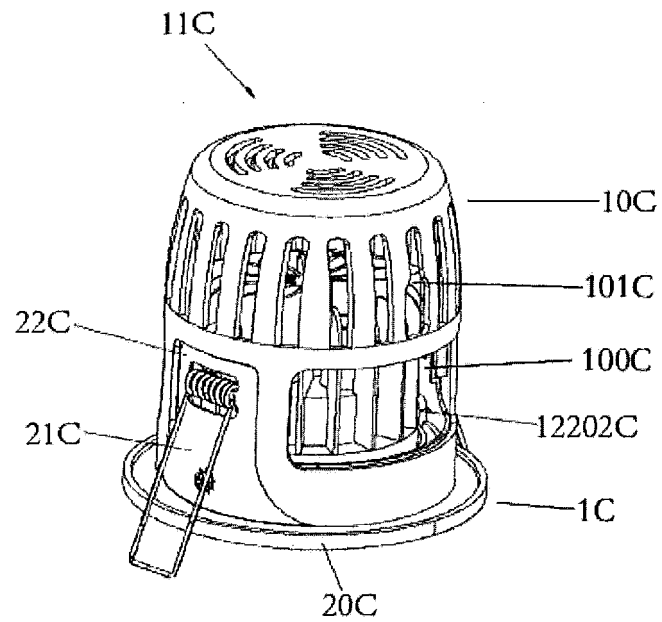


FIG. 26

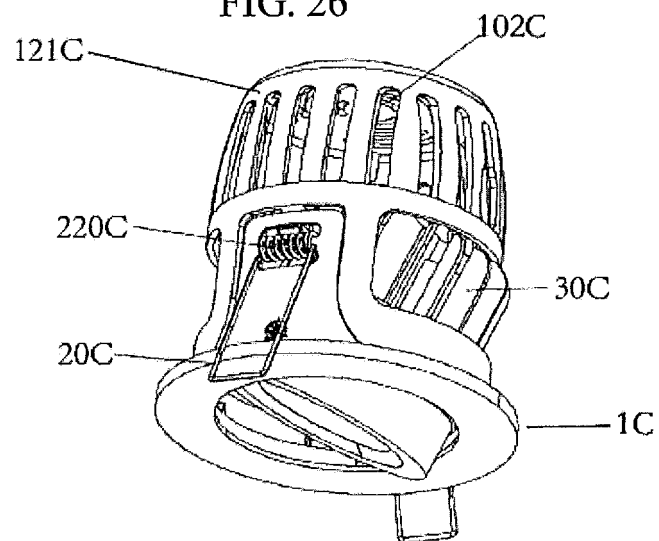


FIG. 27

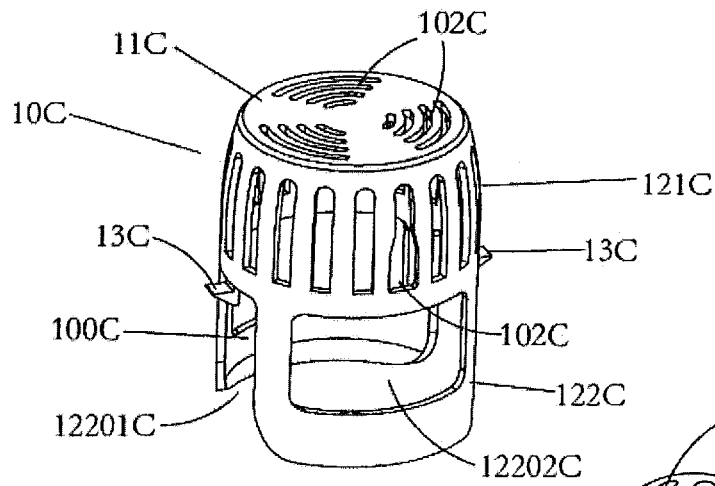


FIG. 28

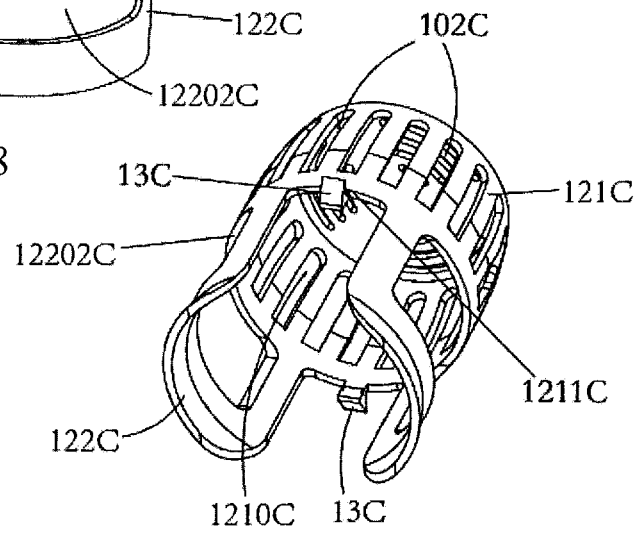


FIG. 29

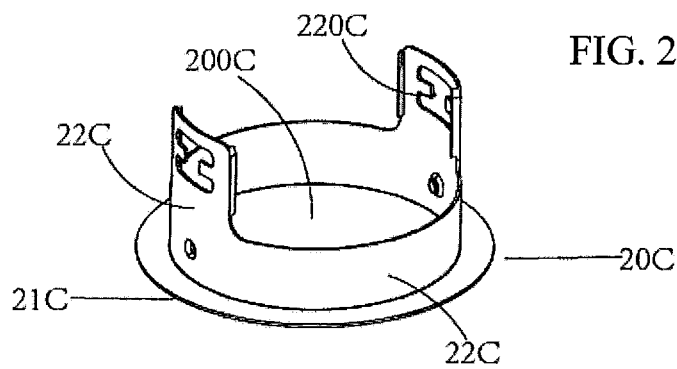


FIG. 30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2014/083996

A. CLASSIFICATION OF SUBJECT MATTER

F21S 2/00 (2006.01) i; F21V 29/00 (2006.01) i; F21S 8/04 (2006.01) i; F21V 21/04 (2006.01) i
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F21S; F21V

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MOABS; CPRSABS; CNTXT; CNABS; WPI; SIPOABS; TWTXT; HKABS; TWABS: card, board, wu liangju, clip, fasten, gap, joint, down lamp, open mouth, mouth, buckle, lamp, shell, cover, housing, spring, hook, cool+, heat+, detach+, ceiling, embed+, inset

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 201866659 U (HUANG, Zhuoxing) 15 June 2011 (15.06.2011) description, paragraphs [0021]-[0025], and figures 1-3	1, 5-11, 14-19, 21
Y	CN 201866659 U (HUANG, Zhuoxing) 15 June 2011 (15.06.2011) description, paragraphs [0021]-[0025], and figures 1-3	2-4, 12, 13, 23-56
X	CN 202001911 U (SHANGHAI AUSTAR LIGHTING ELECTRICAL INDUSTRY CO., LTD.) 05 October 2011 (05.10.2011) description, paragraphs [0023]-[0035], and figures 1 and 2	1, 14-16, 20-22

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search 17 October 2014	Date of mailing of the international search report 13 November 2014
Name and mailing address of the ISA State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	Authorized officer LI, Xuechun Telephone No. (86-10) 62414498

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2014/083996

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 202001911 U (SHANGHAI AUSTAR LIGHTING ELECTRICAL INDUSTRY CO., LTD.) 05 October 2011 (05.10.2011) description, paragraphs [0023]-[0035], and figures 1 and 2	23-56
Y	CN 202032487 U (WU, Liangju) 09 November 2011 (09.11.2011) description, paragraph [0035], and figures 10 and 11	12, 13
Y	CN 203068209 U (SHENZHEN TOPSUN TECHNOLOGY CO., LTD.) 17 July 2013 (17.07.2013) description, paragraph [0013], and figures 1 and 2	2-4
X	CN 202927592 U (LIU, Yongming) 08 May 2013 (08.05.2013) description, paragraphs [0022]-[0028], and figures 1 and 2	1, 14-16, 21, 22
X	CN 202852633 U (KUANG, Zhixiong) 03 April 2013 (03.04.2013) description, paragraphs [0016] and [0017], and figures 1, 3 and 4	1, 14-16, 21, 22
A	CN 202947045 U (DONGGUAN KINGSUN OPTOELECTRONIC CO., LTD.) 22 May 2013 (22.05.2013) the whole document	1-56
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A	US 2013170190 A1 (POSCO LED COMPANY LTD.) 04 July 2013 (04.07.2013) the whole document	1-56
A	KR 20130084424 A (EFIDEA) 25 July 2013 (25.07.2013) the whole document	1-56

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INTERNATIONAL SEARCH REPORT
 Information on patent family members

 International application No.
 PCT/CN2014/083996

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 201866659 U	15 June 2011	None	
CN 202001911 U	05 October 2011	None	
CN 202032487 U	09 November 2011	None	
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US 2013170190 A1	04 July 2013	JP 2013140772 A	18 July 2013
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 2014083996 W [0001]