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(54) **IMPROVED LANTERN-TYPE LUMINAIRE**

(57) The invention relates to a luminaire comprising a support pole (9) and a luminaire head (H) arranged vertically above the support pole. The luminaire head comprises: a base module (100); an electronic gear unit (400) which is arranged in or on said base module and comprises one or more electronic components; an at least partially transparent or translucent casing (200) having an open top and an open bottom, and extending upwardly from the base module; said casing and said base module being designed such that the electronic gear unit is removable from the base module through said casing; a removable cap (300) closing the open top of said casing; a support (500) with a plurality of light sources arranged to emit light through said casing and connected to one or more electronic components of the electronic gear unit.

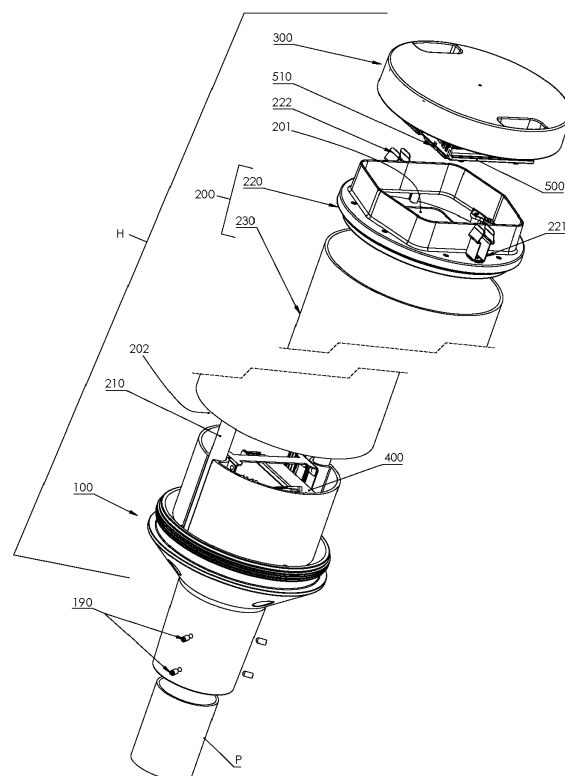


FIG. 1A

Description

FIELD OF INVENTION

[0001] The field of the invention relates to luminaires, in particular outdoor luminaires, comprising a support pole and a luminaire head. Particular embodiments relate to the field of luminaires having a luminaire head arranged vertically above the support pole, and more in particular to so-called lanterns.

BACKGROUND

[0002] Outdoor luminaires in the form of lanterns are known. In some prior art modules the light sources, the driver for the light sources and other functionalities are arranged in or on a top compartment integrated with a cap of the luminaire head. Such solutions have the disadvantage that the cap becomes relatively large and that power has to be provided to the cap.

[0003] In other existing solutions the light sources are arranged in or on a cap of the luminaire head, and the driver of the light sources is arranged in a bottom part of the luminaire head. Such solutions have the advantage that the driver can be easily connected to a power cable in the support pole but have the disadvantage that the driver is usually difficult to remove for maintenance.

SUMMARY

[0004] The object of embodiments of the invention is to provide a luminaire of the type stated in the preamble, allowing for a fast and simple mounting and an easy maintenance whilst at the same time being robust.

[0005] According to an aspect of the invention there is provided a luminaire comprising a support pole and a luminaire head arranged vertically above the support pole. The luminaire head comprises a base module, an at least partially transparent or translucent casing, a removable cap, and a support with a plurality of light sources. The base module is fixed to the support pole and provided with an open top. The electronic gear unit is arranged in or on the base module and comprises one or more electronic components. The casing has an open top and an open bottom, and extends upwardly from the base module. The casing and the base module are designed such that the electronic gear unit is removable from the base module through said casing. The removable cap closes the open top opening of the casing. The support is provided with a plurality of light sources arranged to emit light through the casing and connected to one or more electronic components of the electronic gear unit.

[0006] By having a removable cap, by arranging the electronic gear unit in or on the base module, and by designing the casing and the base module such that the electronic gear unit is removable from the base module through said casing, the electronic gear unit can be easily

removed for maintenance. Further, since the electronic gear unit is arranged in the base module it can be easily connected to the power cable passing through the support pole. Since the cap does not have to carry the one or more electronic components mounted in the electronic gear unit, the cap can be relatively compact and light, resulting in a compact and light luminaire head.

[0007] Preferably, the luminaire further comprises a heat sink configured to remove heat from the support. The heat sink is arranged in contact with the support. The heat sink may be an integral part of one of the other components, e.g. of the cap or of the base module.

[0008] According to an exemplary embodiment the support with the plurality of light sources is arranged on and/or integrated with the cap. In that manner, when an operator removes the cap, he has access to the casing and can easily remove the gear unit by lifting it from the base module, through the casing out of the luminaire. Also, the cap itself can function as at least a portion of the heat sink, thus functioning both as a closure means as well as a heat transfer means. Optionally an additional heat sink part may be arranged between the support and the cap.

[0009] Preferably, the support is a PCB, and the plurality of light sources comprises a plurality of light emitting diodes.

[0010] According to an exemplary embodiment the electronic gear unit is provided with a handle which is accessible through the casing, at an upper part of the electronic gear unit. Such a handle will allow the operator to easily grab and remove the electronic gear unit from the luminaire through the casing.

[0011] Preferably, the electronic gear unit comprises a driver configured for driving the plurality of light sources, for example a LED driver if the plurality of light sources comprises light emitting diodes, and the plurality of light sources is connected to the driver. The same driver may be used to drive one or more other electronic components, such as a controller. Alternatively one or more further drivers may be added to drive one or more other electronic components.

[0012] According to an exemplary embodiment the base module comprises a compartment with an open top for receiving the electronic gear unit. In that manner the electronic gear unit can be mounted within the base module and is not visible through the casing when a person below the luminaire looks upward at the luminaire. Further the compartment may have a guiding function, resulting in an improved positioning of the electronic gear unit within the luminaire.

[0013] According to an exemplary embodiment the compartment of the base module has a circumferential wall section, preferably a substantially cylindrical wall section, which is provided at an inner side thereof with a guide element, and the electronic gear unit is provided with a receiving element for receiving the guide element, such that the electronic gear unit can be aligned in the base module ensuring a correct positioning thereof. The

substantially cylindrical wall section may have a diameter between 150 and 350 mm.

[0014] According to an exemplary embodiment the base module is provided with a socket connected to an electrical cable in the support pole, and the electronic gear unit is provided with electrical pins fitting in the socket. Alternatively, the base module is provided with electrical pins connected to an electrical cable in the support pole, and the electronic gear unit is provided with a socket for receiving the electrical pins. In that manner, the electrical connection of the electronic gear unit to a power supply can be realised by simply arranging the electrical pins in the socket when placing the electronic gear unit in or on the base module. The electrical connection means, i.e., the pin-socket combination, further allows a mechanical fixation of the gear unit to the base module.

[0015] According to an exemplary embodiment the casing comprises a substantially cylindrical section. Alternatively, the casing may comprise a substantially conical section. The cylindrical or conical section may be entirely transparent or translucent. The casing may further comprise an upper connector section attached to a top end of the cylindrical or conical section. The upper connector section may be provided with attachment means configured for cooperating with matching attachment means of the cap such that the cap can be removably attached to the upper connector section. Preferably, the attachment means are configured to allow a tool-less removal of the cap.

[0016] The cylindrical or conical section may be made e.g. from a transparent or translucent polycarbonate material or glass, and may have a length between 300 mm and 700 mm and a diameter between 150 and 350 mm.

[0017] According to an exemplary embodiment the luminaire comprises at least one cable duct extending, preferably vertically, from the base module to the open top of the casing, wherein at least one cable passes through the cable duct for connecting one or more electronic components of the electronic gear unit with the plurality of light sources. For example, one or more hollow rods may be arranged in correspondingly shaped channels in the base module, and the casing may extend around the one or more hollow rods. Preferably, the one or more cable ducts are arranged near an inner surface of the casing so that they do not hinder the movement of the electronic gear unit through the casing when removing the electronic gear unit.

[0018] In other embodiments the luminaire comprises at least one rod, preferably at least one hollow rod, extending, preferably vertically, from the base module to the open top of the casing for other purposes, such as increasing the robustness of the luminaire, providing a receiving means for receiving fixations means for fixing the cap, etc. For example, one or more rods may be arranged in correspondingly shaped channels in the base module, and the casing may extend around the one or more rods. Preferably, the one or rods are arranged near an inner surface of the casing so that they do not hinder

the movement of the electronic gear unit through the casing when removing the electronic gear unit.

[0019] In another embodiment, the at least one rod may comprise a guide element, and the electronic gear unit may be provided with a receiving element for receiving the guide element, such that the at least one rod plays a guiding role for the electronic unit toward the base module. In a particular embodiment, the guide element extends from the base module, along the at least one rod, towards the cap.

[0020] According to an exemplary embodiment the cap is connected with a safety cable to the casing such that upon removing the cap it can remain pending whilst removing or introducing the electronic gear unit.

[0021] According to an exemplary embodiment the one or more electronic components comprise at least one of a driver, a dimmer, a controller, a surge protection device, an electrical connector means.

[0022] Preferably, the plurality of light sources is arranged on the support in a plurality of rows, wherein each row comprises one or more light sources. Further, each light source may be provided with an optical element such as a lens element. Preferably, one or more optical element plates, such as one or more lens plates are provided, wherein each optical element plate comprises a plurality of optical elements to cooperate with a corresponding plurality of light sources. Optionally the luminaire may comprise further light guiding or light modifying elements, such as one or more reflector elements or one or more diffusor elements or one or more coloured elements, to guide and/or modify light from the light sources through the casing.

[0023] According to an exemplary embodiment, the optical element comprises a lens element associated with the light sources. Indeed, lens elements may be typically encountered in outdoor luminaire systems, although other types of optical elements may be additionally or alternatively present in such luminaires systems, such as reflectors, backlights, prisms, collimators, diffusors, and the like. In the context of the invention, a lens element may include any transmissive optical element that focuses or disperses light by means of refraction. It may also include any one of the following: a reflective portion, a backlight portion, a prismatic portion, a collimator portion, a diffusor portion. For example, a lens element may have a lens portion with a concave or convex surface facing a light source, or more generally a lens portion with a flat or curved surface facing the light source, and optionally a collimator portion integrally formed with said lens portion, said collimator portion being configured for collimating light transmitted through said lens portion. Also, a lens element may be provided with a reflective portion or surface or with a diffusive portion.

[0024] According to an exemplary embodiment, the luminaire further comprises a ring-shaped hat forming a ring-shaped disc protruding outwardly at an upper end of the casing. Such a ring-shaped disc functions as a

reflector reflecting light which leaves the casing in an upward direction, in order to redirect the light downwardly. Such a ring-shaped disc may be a separate component arranged between the casing and the cap, or may be an integral part of the cap, or may be an integral part of the casing, e.g. an integral part of the connector section of the casing.

[0025] According to another exemplary embodiment the support with the plurality of light sources is arranged in or on the electronic gear unit, on the base module, i.e. at or near the bottom of the casing. The cap may then be provided with a reflector configured to reflect light from the plurality of light sources through the casing. The reflector may have a curved reflective surface, e.g. a curved surface with a central portion protruding downwardly into the casing. The curved surface may be substantially conical with a slightly curved cross section, and with an apex located in the center of the cap and pointing into the casing. The shape of the curved surface may be adapted as a function of the desired light distribution of the luminaire.

BRIEF DESCRIPTION OF THE FIGURES

[0026] The accompanying drawings are used to illustrate presently preferred non-limiting exemplary embodiments of devices of the present invention. The above and other advantages of the features and objects of the invention will become more apparent and the invention will be better understood from the following detailed description when read in conjunction with the accompanying drawings, in which:

Figures 1A illustrates schematically an exploded perspective view of an exemplary embodiment of a luminaire of the invention;

Figure 1B illustrates schematically an exploded perspective view of the base module and gear unit of the luminaire of figure 1A;

Figure 1C illustrates schematically a perspective view of the luminaire of figure 1A in the assembled state;

Figure 2A illustrates schematically an exploded perspective view of the base module and gear unit of the luminaire of figure 1A, wherein the base module is shown to be a multipart module;

Figure 2B illustrates schematically a top view of the electronic gear unit mounted in the base module of figure 2A;

Figure 2C illustrates schematically a section of the electronic gear unit mounted in the base module of figure 2A, taken along line 2C-2C in figure 2B;

Figure 3A illustrates schematically an exploded perspective view of a top portion of the luminaire of figure 1A;

Figure 3B illustrates schematically a top view of the cap of the luminaire of figure 1A;

Figure 3C illustrates schematically a section of the luminaire of figure 1A, taken along line 3C-3C in figure 3B;

Figure 3B;

Figure 4 illustrates a schematic perspective view of an exemplary embodiment of a gear unit;

Figures 5A and 5B illustrate schematically an assembled and exploded perspective view of an exemplary embodiment of a cap with a heat sink and a support with light sources and a diffusor;

Figures 6A and 6B illustrate schematically an assembled and exploded perspective view of an exemplary embodiment of a cap with a heat sink and a support with light sources;

Figures 7A and 7B illustrate a top and bottom perspective view of a top part of another embodiment of a luminaire head;

Figure 8 illustrates a schematic cross section of another exemplary embodiment of a luminaire; and

Figure 9 illustrates a schematic cross section of yet another exemplary embodiment of a luminaire.

DESCRIPTION OF EMBODIMENTS

[0027] Figures 1A-1C, 2A-2C, 3A-3C and 4 illustrate schematically a luminaire comprising a support pole P and a luminaire head H arranged on the support pole, typically vertically above the support pole, to create a luminaire of the lantern-type. It is noted that the support pole may be a vertical pole extending from ground level, but may also be an arm attached to a wall or to any other support. For example, one post may be provided with a plurality of arms each supporting a luminaire head.

[0028] The luminaire head H comprises a base module 100, an at least partially transparent or translucent casing 200, an electronic gear unit 400, a removable cap 300, a support 500 with a plurality of light sources 510. The base module 100 is fixed to the support pole P, e.g. using a plurality of screws 190. The casing 200 has an open top 201 and an open bottom 202, and extends upwardly from the base module 100 to the cap 300. The casing 200 and the base module 100 are designed such that the electronic gear unit 400 is removable from the base module 100 through the casing 200. The removable cap 300 closes the open top 201 of the casing 200.

[0029] The electronic gear unit 400 is arranged in or on the base module 100 and comprises one or more electronic components, such as a LED driver 401, a controller 402, a surge protection device 403 such as a varistor, a connector for wiring 404, a dimmer (not shown), etc., see also figure 4. Typically at least the LED driver 401 will be present in the electronic gear unit 400. The other components are optional and depend on the desired functionalities of the luminaire. One or more components may be surrounded by an insulation foil 406 which provides an electrical insulation below the surge protection device 403. It is noted that this is merely an example of a number of electronic components that may be arranged in the electronic gear unit 400. In other embodiments more or less electronic components may be present, and the components may be different depending on the desired

functionalities.

[0030] The controller 402 may be a controller configured for controlling the LED driver 401, e.g. such that the luminaire is switched on during night time and switched off during day time. Optionally the electronic gear unit 400 may further comprise one or more sensors (not shown) configured to determine environmental conditions, e.g. a light sensor, and a communication interface (not shown) to communicate wirelessly or wired with other devices.

[0031] The base module 100 is provided with a socket 120 connected to an electrical cable (not shown) in the support pole P, as is best visible in figure 2A, and the electronic gear unit 400 is provided with electrical pins 420 fitting in the socket 120. The electrical pins 420 may be knives of a male part 405 of a disconnecting device, also called a knife-switch, see figure 4, and the socket 120 may be a female part of the disconnecting device.

[0032] The support 500 with the plurality of light sources 510 is arranged to emit light through the casing 200 and is connected to one or more electronic components 401, 402, 403, 404 of the electronic gear unit 400. In the illustrated embodiment of figured 1A-1C, the support 500 with the plurality of light sources 510 is arranged on the cap 300.

[0033] The luminaire head H further comprises a heat sink 600 which is formed by the cap 300 and an additional heat sink part 610 attached to the cap 300, see also figures 5A, 5B, 6A, 6B. The support 500 is directly attached to the additional heat sink part 610.

[0034] The electronic gear unit 400 is provided with a handle 410 which is accessible through the casing 200, at an upper part of the electronic gear unit 400, as is best visible in figure 1B, 1C and figure 4. The electronic gear unit 400 comprises a frame having a bottom 411, two uprights 412, 413 and the handle 410. The bottom 411 of the frame carries the electronic and other components 401, 402, 403, 404, 405, 406.

[0035] The base module 100 comprises a compartment 180 with an open top 181 for receiving the electronic gear unit 400. The compartment 180 is delimited by a circumferential wall section 185 which is provided at an inner side thereof with a number of guide elements 130, 130', here shaped as one or more ridges extending upwardly along the inner surface of the compartment 180. The electronic gear unit 400 is provided with receiving elements 430, 430' for receiving the guide elements 130, 130', such that the electronic gear unit 400 can be aligned in the base module 100 ensuring a correct positioning thereof. The receiving elements 430, 430' are formed by slits in the uprights 412, 413 of the frame of the electronic gear unit 400. Slits 430, 430' may have a different width corresponding with different widths of the ridges 130, 130' so that the gear unit 400 can only be positioned in the correct mounting position.

[0036] The base module 100 comprises a lower part 100a, typically a metal part which is preferably die casted, and an upper part 100b for containing the gear unit 400.

The lower part 100a is intended for being connected with the support pole P. The upper part 100b delimits the compartment 180 with the open top 181 through which the gear unit 400 can be moved in its mounting position.

[0037] The luminaire head H further comprises at least one cable duct 210, see figure 1A and figure 3C, extending vertically from the base module 100 to the open top 201 of the casing 200, wherein at least one cable (not shown) passes through the cable duct 210 for connecting one or more electronic components, typically the LED driver 401 of the electronic gear unit 400 with the plurality of light sources 510. The one or more cable ducts 210 may be formed by one or more hollow rods arranged near an inner surface of the casing 200. The lower ends of the one or more hollow rods 210 may be arranged in one or more correspondingly shaped channels 110. The one or more hollow rods 210 may be fixed with screws 211 extending through holes 151' in the lower part 100a, see also figure 3C. Optionally, the lower part 100a may be provided with a venting hole 151. Optionally further openings 153, 153' may be provided in the lower part 100a for the mounting of one or more sensors, e.g. a motion sensor such as a passive infrared sensor. Further, an inner surface of the lower part 100a may be provided with inwardly protruding bosses 163 intended for cooperating with screws for fixing the socket 120 to the lower part 100a. Further, the lower part 100a may comprise a cable gland 170 for securing a power cable C which passes from the support pole P to the luminaire head H.

[0038] In the illustrated embodiment the casing comprises a transparent cylindrical section 230 and a connector section 220 attached to a top end of the transparent cylindrical section 230. The connector section 220 is provided with attachment means 221, 222 configured for cooperating with matching attachment means 321, 322 of the cap 300. In the illustrated embodiments the attachment means 221, 222 are formed by spring mounted lips configured for being snap-fitted in openings 321, 322 in the cap 300, see also figures 5B and 6B. Two spring mounted lips 221, 222 are provided per opening 321, 322, so that the cap 300 can be easily removed by moving the two lips towards each other. It is noted that many other attachment means are possible within the scope of the invention, as will be apparent to the person skilled in the art.

[0039] The cap 300 is connected with a safety cable 310 to the casing 200 such that upon removing the cap 300 it can remain pending whilst removing or introducing the electronic gear unit 400. In the illustrated embodiment the safety cable 310 is attached to the connector section 220 of the casing 200.

[0040] Preferably, the plurality of light sources 510 is arranged on the support in a plurality of rows, wherein each row comprises one or more light sources 510, see figures 4A, 4B, 5A and 5B. Further, each light source 510 may be provided with an optical element 521, e.g. a lens element 521. Preferably, one or more optical element plate 520, e.g. lens plates 520 are provided, wherein each

lens plate 520 comprises a plurality of lens elements 521 to cooperate with a corresponding plurality of light sources 510. Optionally the luminaire head H may comprise one or more further light guiding elements 530 to guide light from the light sources 510 through the casing 200. In the illustrated embodiment of figures 5A and 5B the light guiding element 530 is a diffuser, typically configured to diffuse, spread out or scatter the emitted light in order to obtain a softer light.

[0041] Figures 7A and 7B illustrate another exemplary embodiment of a luminaire head which further comprises a ring-shaped hat 700 forming a ring-shaped disc protruding outwardly at an upper end of the casing 200. Such a ring-shaped disc functions as a reflector reflecting light which leaves the casing 200 in an upward direction, in order to redirect the light downwardly. Such a ring-shaped disc 200 may be a separate component arranged between the casing 200 and the cap 300, or may be an integral part of the cap 300, or may be an integral part of the casing 200, e.g. an integral part of the connector section 220 of the casing 200.

[0042] According to another exemplary embodiment which is illustrated in figure 8, the support 500 with the plurality of light sources 510 is arranged in or on the electronic gear unit 400 which is arranged in or on the base module 100, i.e. at or near the bottom of the casing 200. In the illustrated embodiment the casing 200 comprises a transparent or translucent substantially cylindrical section. The cap 300 may then be provided with a reflector 540 configured to reflect light from the plurality of light sources 510 through the casing 200. In figure 8 the various components of the luminaire head H are shown very schematically but the skilled person understands that they may be provided with the same or similar features as described above for other embodiments. For example, gear unit 400 may be provided with a handle, preferably arranged next to the support 500 such that the handle does not hinder the light emitted by the light sources 510. In this embodiment the heat sink 600 may be integrated with the frame of the electronic gear unit 400, and the heat sink 600 may be arranged such that it is in contact with the base module 100 to transfer heat out of the luminaire head H.

[0043] According to yet another exemplary embodiment which is illustrated in figure 9, the support 500 with the plurality of light sources 510 is arranged in or on the electronic gear unit 400 which is arranged in or on the base module 100, i.e. at or near the bottom of the casing 200. In the illustrated embodiment the casing 200 comprises a transparent or translucent substantially conical section. The cap 300 may then be provided with a reflector 540' configured to reflect light from the plurality of light sources 510 through the casing 200. The reflector 540' may comprise a curved surface which is substantially conical with a slightly curved cross section 541', and with an apex 542' located in the center of the cap 300 and pointing into the casing 200, as illustrated in figure 9. The shape of the curved surface may be adapted as a function

of the desired light distribution of the luminaire.

[0044] As in figure 8, in figure 9 the various components of the luminaire head H are shown very schematically but the skilled person understands that they may be provided with the same or similar features as described above for other embodiments. For example, the gear unit 400 may be provided with a handle, preferably arranged next to the support 500 such that the handle does not hinder the light emitted by the light sources 510. Also in this embodiment the heat sink 600 may be integrated with the frame of the electronic gear unit 400, and the heat sink 600 may be arranged such that it is in contact with the base module 100 to transfer heat out of the luminaire head H.

[0045] Although not shown in figure 9, in this embodiment the luminaire may comprise at least one rod, preferably at least one hollow rod, extending from the base module 100 to the open top of the casing 200. The at least one rod may not necessarily be vertical, and may follow the substantially conical section of the casing 200. Further, the at least one rod may be arranged in at least one correspondingly shaped channel (not shown in figure 9) in the base module 100, and the casing 200 may extend around the at least one rod.

[0046] In the illustrated embodiments of the figures, by having a removable cap 300, by arranging the electronic gear unit 400 in or on the base module 100, and by designing the casing 200 and the base module 100 such that the electronic gear unit 400 is removable from the base module 100 through said casing 200, an operator can easily remove the electronic gear unit 400 for maintenance. Indeed, an operator can remove the cap 300, preferably in a tool-less manner thanks to suitable attachments means between the cap 300 and the casing 200, wherein the cap may be hanging next to the casing thanks to the safety cable 310. Next, the operator can remove the electronic gear unit 400 through the casing 200, wherein the electrical disconnecting is preferably done in an easy manner thanks to a socket/pin disconnection. Further, since the cap 300 does not have to carry the one or more electronic components 401, 402, etc. mounted in the electronic gear unit 400, the cap 300 can be relatively compact and light, resulting in a compact and light luminaire head H.

[0047] The person skilled in the art understands that many variants and modifications are possible within the scope of the invention which is determined by the claims below.

Claims

1. A luminaire comprising a support pole (P) and a luminaire head (H) arranged vertically above the support pole; said luminaire head comprising:

a base module (100) fixed to the support pole;
an electronic gear unit (400) which is arranged

- in or on said base module and comprises one or more electronic components (401, 402, 403, 404);
 an at least partially transparent or translucent casing (200) having an open top (201) and an open bottom (202), and extending upwardly from the base module; said casing (200) and said base module (100) being designed such that the electronic gear unit (400) is removable from the base module through said casing;
 a removable cap (300) closing the open top (201) of said casing;
 a support (500) with a plurality of light sources (510) arranged to emit light through said casing (200) and connected to one or more electronic components of the electronic gear unit.
2. The luminaire according to claim 1, wherein the casing (200) comprises a substantially cylindrical section (230); and
 wherein the luminaire comprises at least one rod, preferably at least one hollow rod, extending, preferably vertically, from the base module to the open top of the casing.
 3. The luminaire according to claim 2, wherein the at least one rod is arranged in at least one correspondingly shaped channel in the base module, and the casing extends around the at least one rod.
 4. The luminaire according to any one of the previous claims, wherein the support (500) with the plurality of light sources is arranged on and/or integrated with the cap (300).
 5. The luminaire according to any one of the previous claims, wherein the electronic gear unit is provided with a handle (410) which is accessible through the casing (200), at an upper part of the electronic gear unit (400).
 6. The luminaire according to any one of the previous claims, wherein the base module comprises a compartment (180) with an open top (181) for receiving the electronic gear unit;
 wherein preferably the compartment (180) is delimited by a circumferential wall section (185) which is provided at an inner side thereof with a guide element (130, 130'), and wherein preferably the electronic gear unit is provided with a receiving element (430, 430') for receiving the guide element, such that the electronic gear unit can be aligned in the base module (100) ensuring a correct positioning thereof.
 7. The luminaire according to any one of the previous claims, wherein the electronic gear unit comprises a driver (401) configured for driving the plurality of light sources, and wherein the plurality of light sources is connected to the driver; and/or
 further comprising a heat sink (600) which is arranged on and/or integrated with the cap (300).
 8. The luminaire according to any one of the previous claims, wherein the base module (100) is provided with a socket (120) connected to an electrical cable in the support pole (P), and wherein the electronic gear unit (400) is provided with electrical pins (420) fitting in the socket (320); or wherein the base module (100) is provided with electrical pins connected to an electrical cable in the support pole (P), and wherein the electronic gear unit (400) is provided with a socket for receiving the electrical pins.
 9. The luminaire according to any one of the previous claims, wherein the casing (200) comprises a transparent or translucent section;
 wherein preferably the casing (200) comprises an upper connector section (220) attached to a top end of the section;
 wherein preferably the upper connector section (220) is provided with attachment means (221, 222) configured for cooperating with matching attachment means (321, 322) of the cap (300) such that the cap can be removably attached to the upper connector section (220).
 10. The luminaire according to any one of the previous claims, wherein the luminaire comprises at least one cable duct (210) extending vertically from the base module (100) to the open top (201) of the casing (200), wherein at least one cable passes through the cable duct for connecting one or more electronic components of the electronic gear unit, preferably at least a driver configured for driving the plurality of light sources, with the plurality of light sources;
 wherein preferably the base module is provided with at least one channel (110) for receiving the at least one cable duct (210).
 11. The luminaire according to any one of the previous claims, wherein the cap is connected with a safety cable (310) to the casing such that upon removing the cap it can remain pending whilst removing or introducing the electronic gear unit.
 12. The luminaire according to any one of the previous claims, wherein the one or more electronic components (401, 402, 403, 404) comprise at least one of a driver, a dimmer, a controller, a surge protection device, a electrical connector means.
 13. The luminaire according to any one of the previous claims, wherein the support with the plurality of light sources is arranged on or in the electronic gear unit, and wherein the cap is provided with a reflector (540) configured to reflect light from the plurality of light

sources.

14. The luminaire according to any one of the previous claims, further comprising a ring-shaped hat (700) forming a ring-shaped disc protruding outwardly at an upper end of the casing. 5

15. Electronic gear unit suitable for use in a luminaire according to any one of the previous claims. 10

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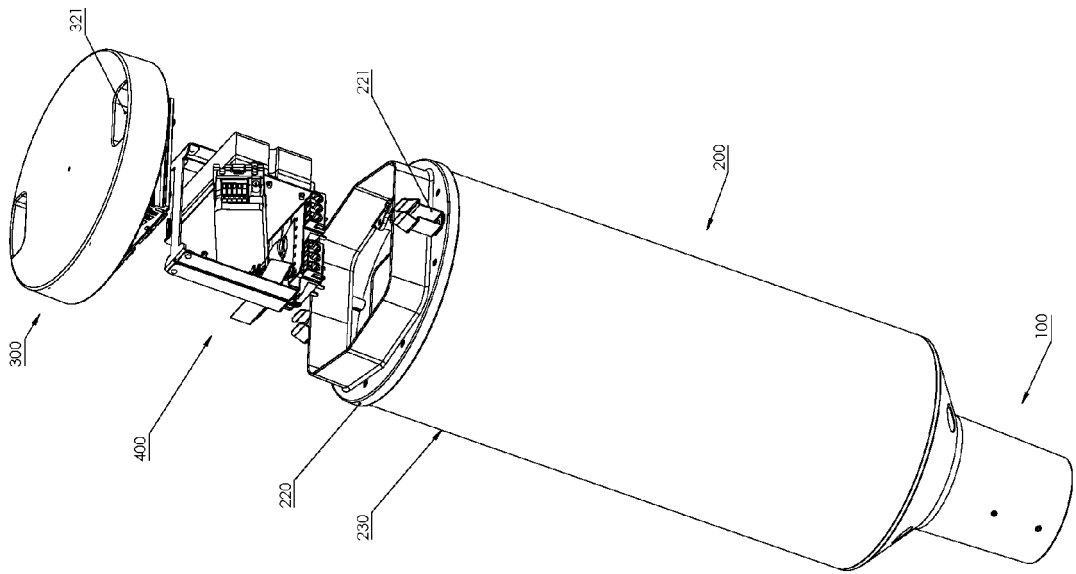


FIG. 1C

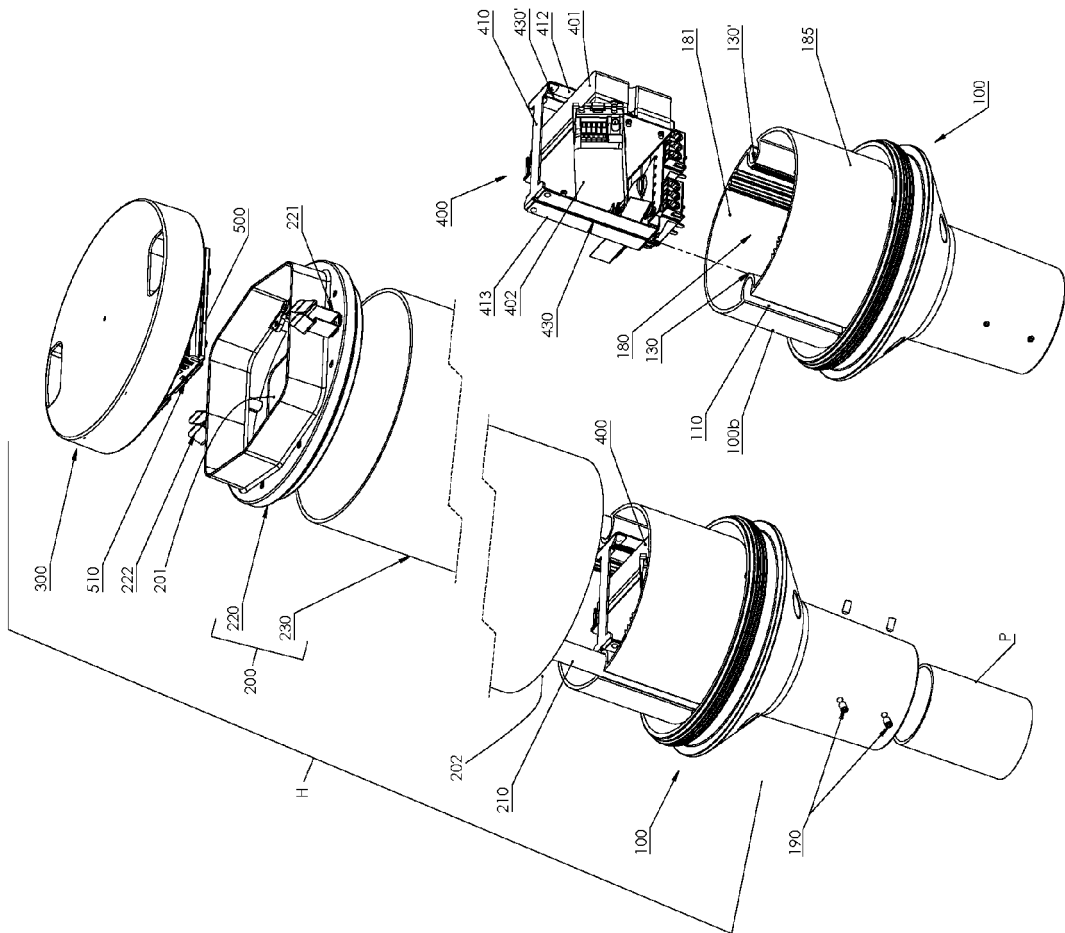


FIG. 1B

FIG. 1A

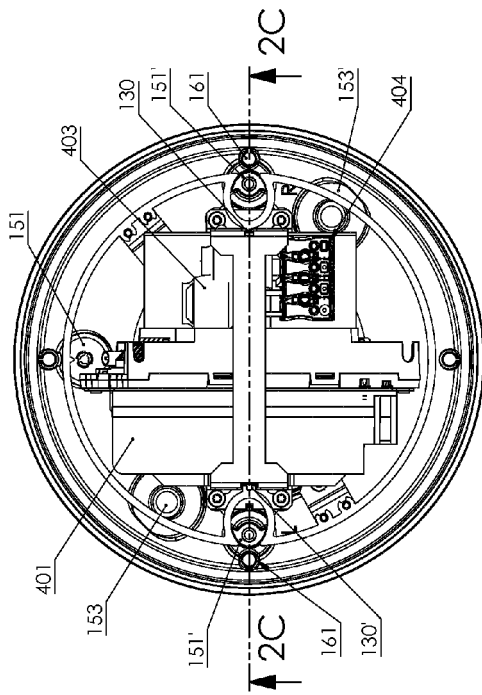


Fig. 2B

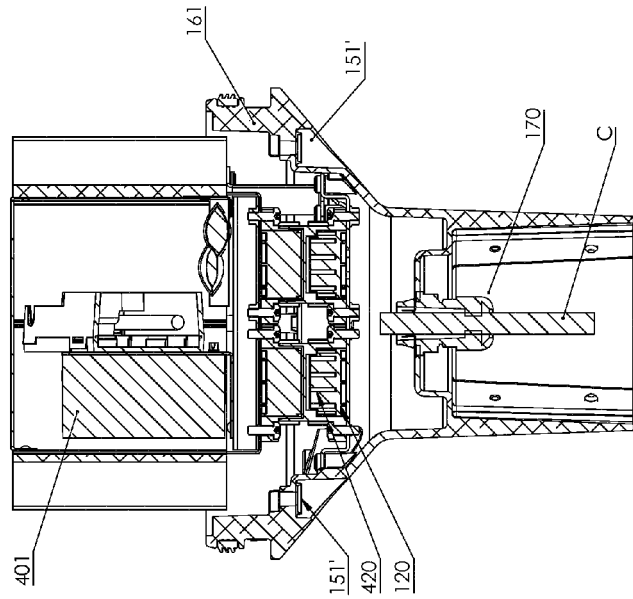


Fig. 2C

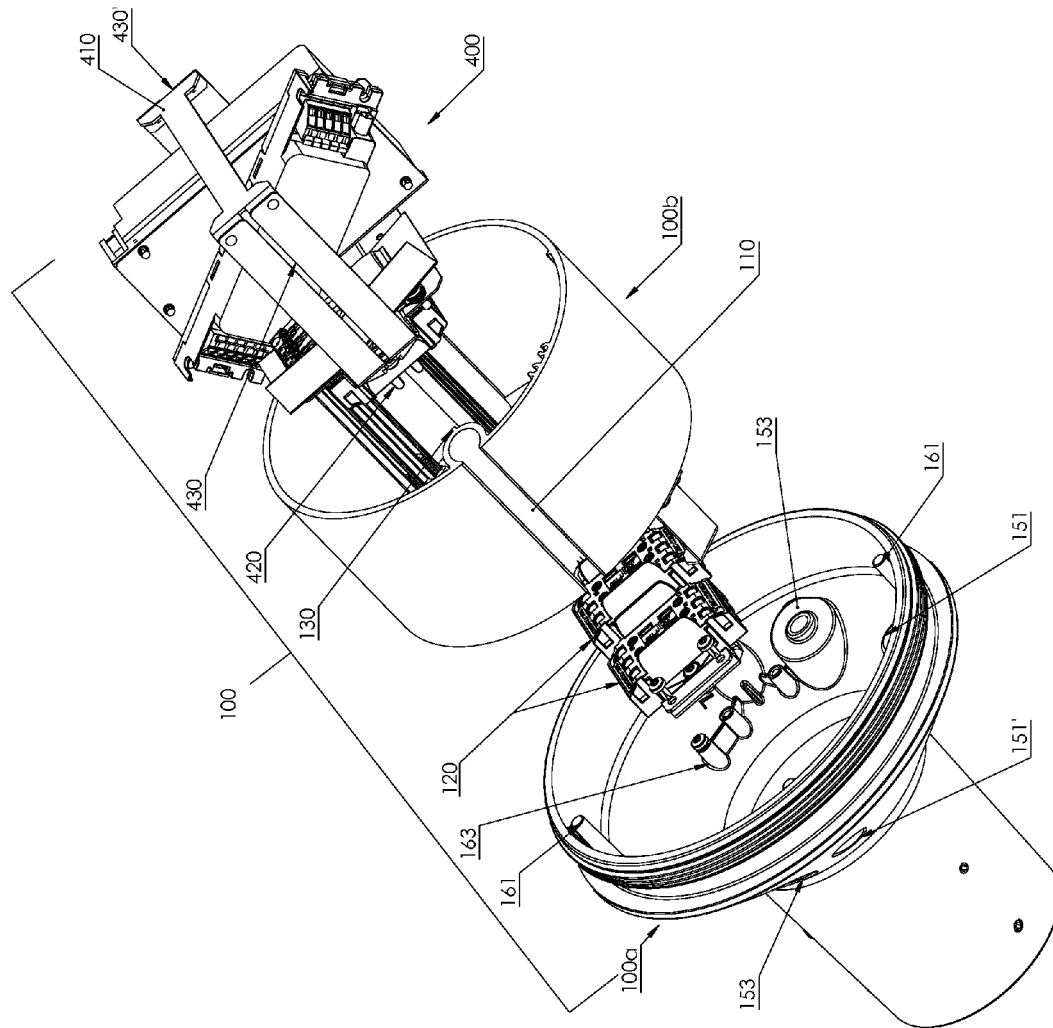


Fig. 2A

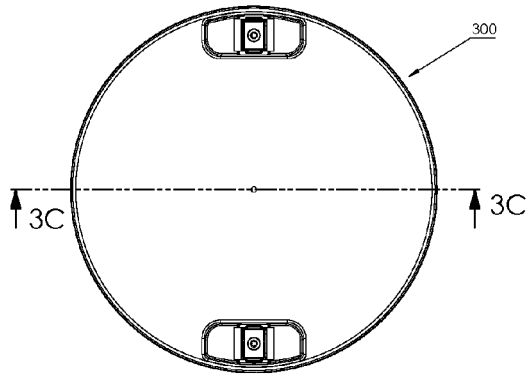


Fig. 3B

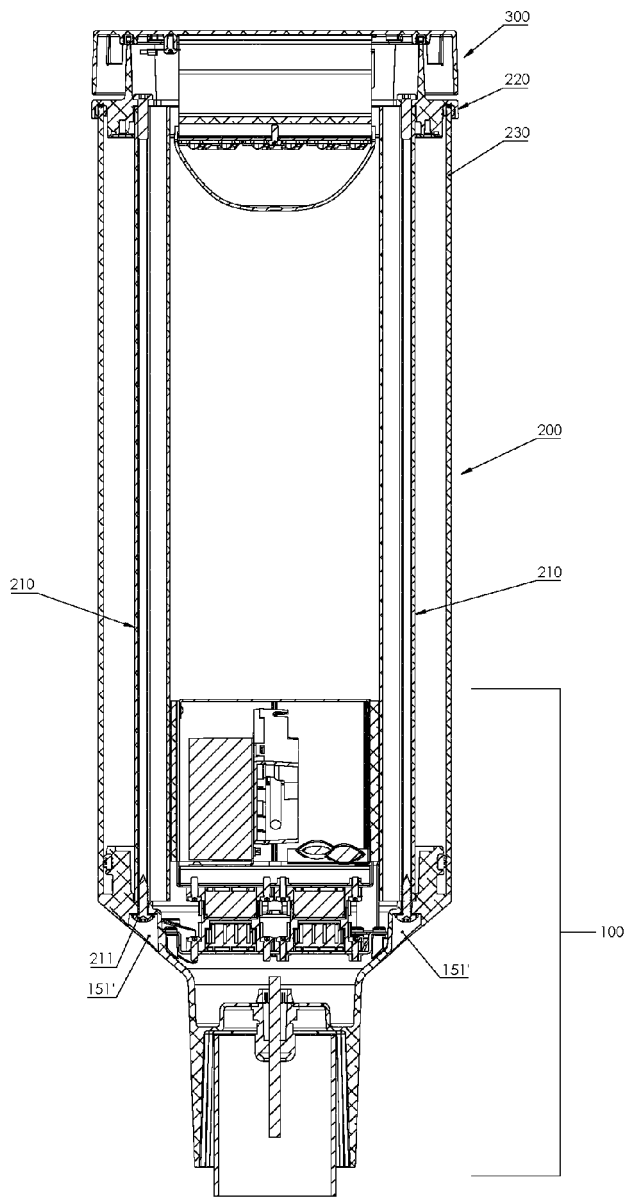


Fig. 3C

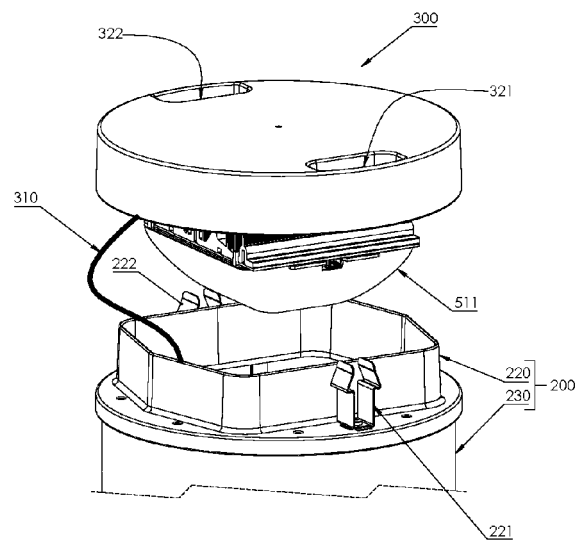


Fig. 3A

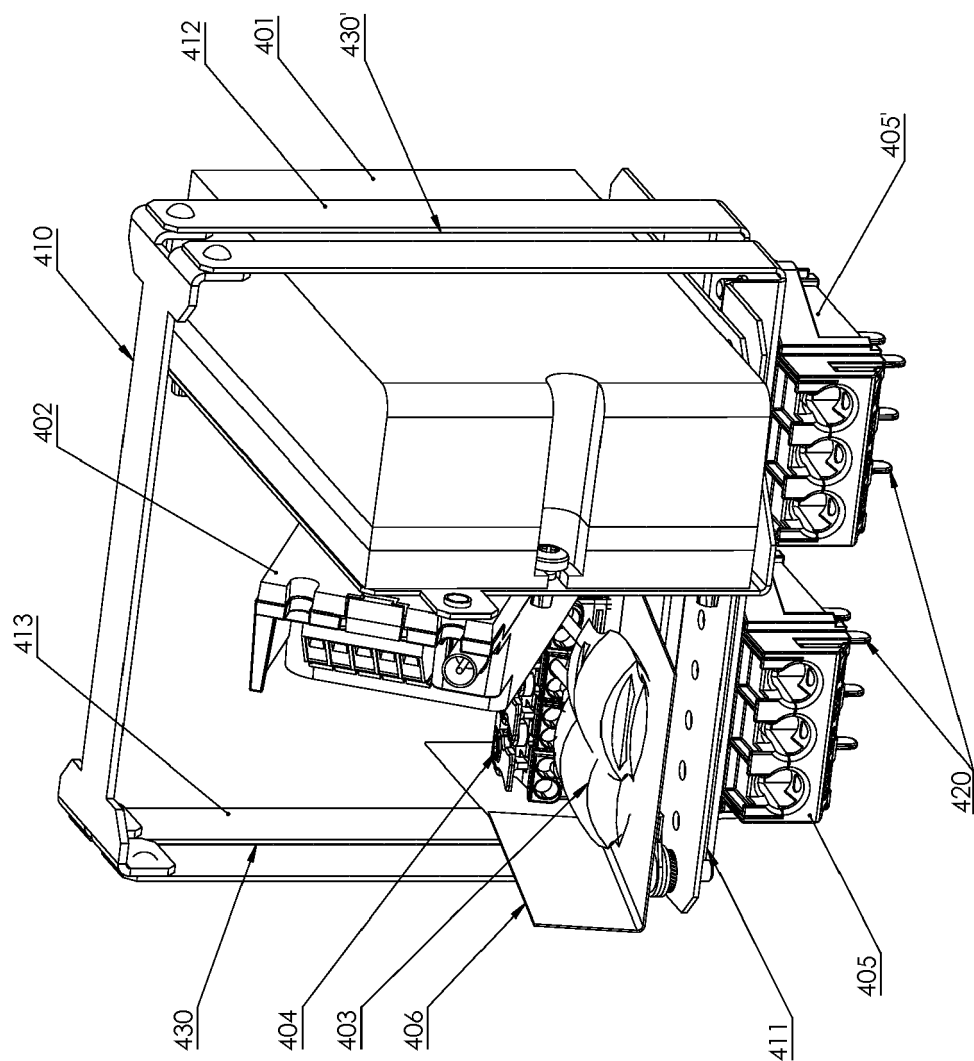


FIG. 4

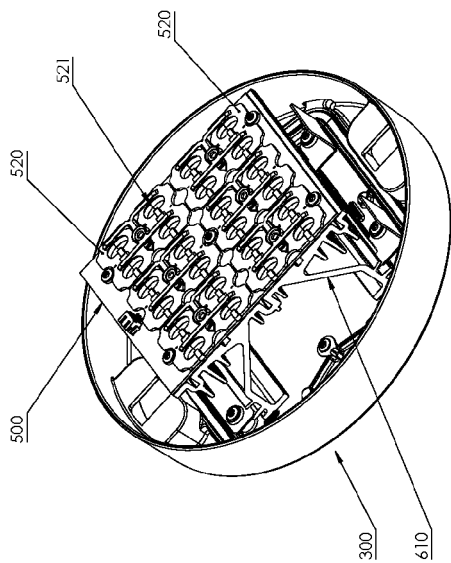


Fig. 6A

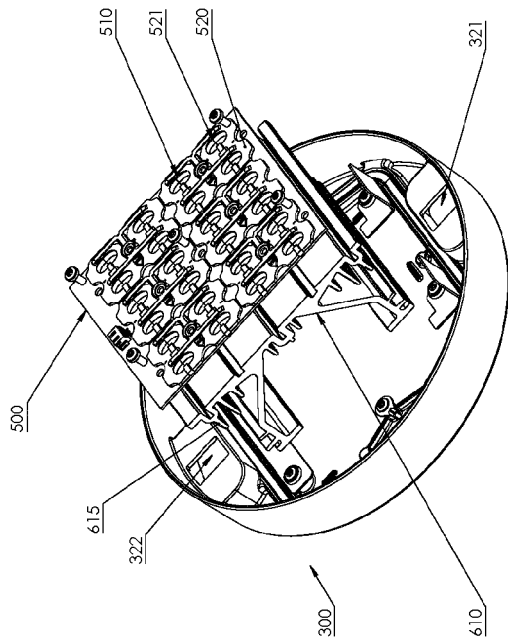


Fig. 6B

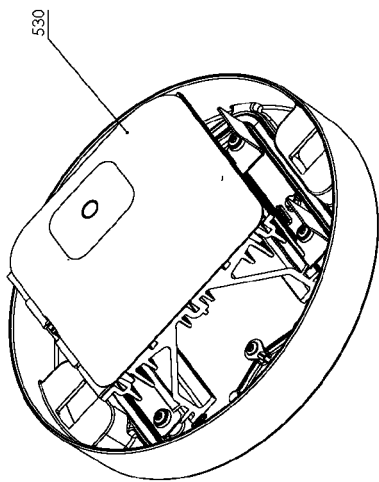


Fig. 5A

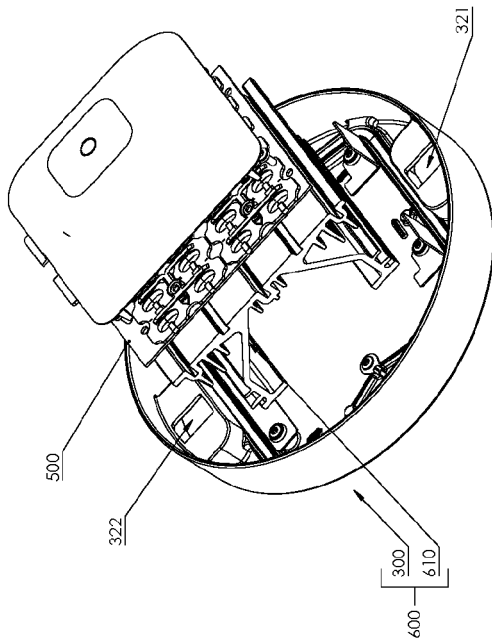
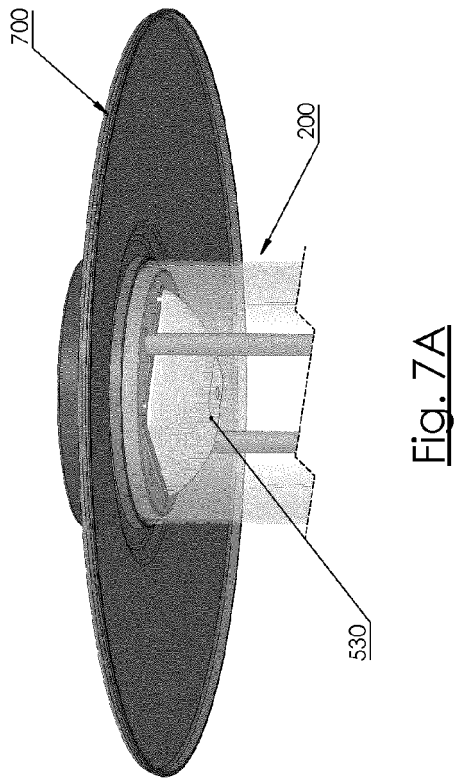
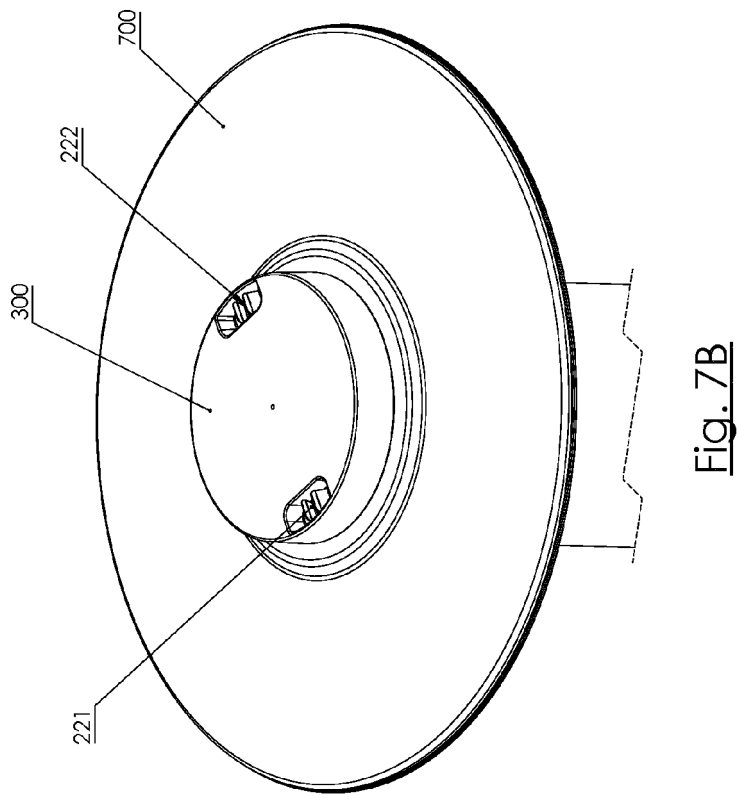


Fig. 5B



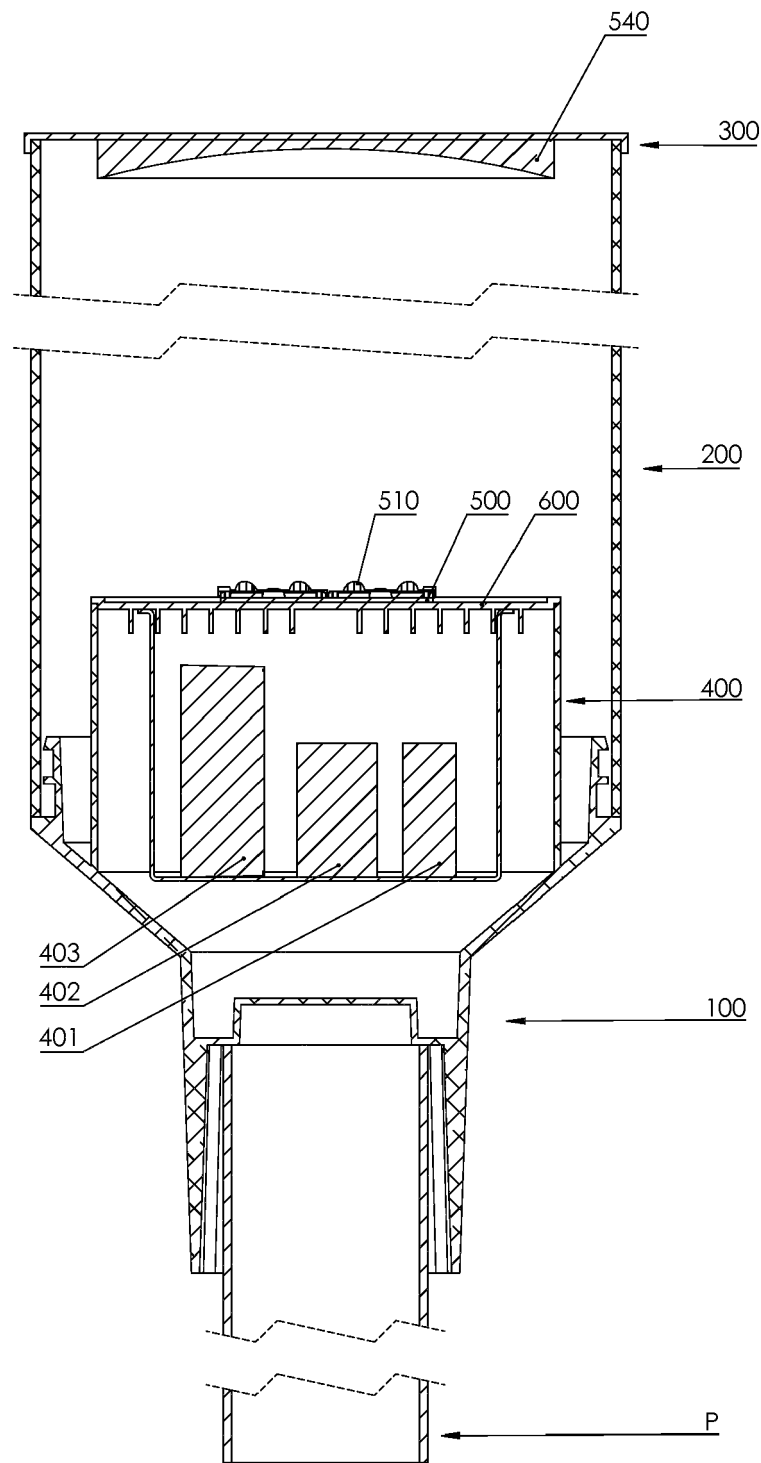


Fig. 8

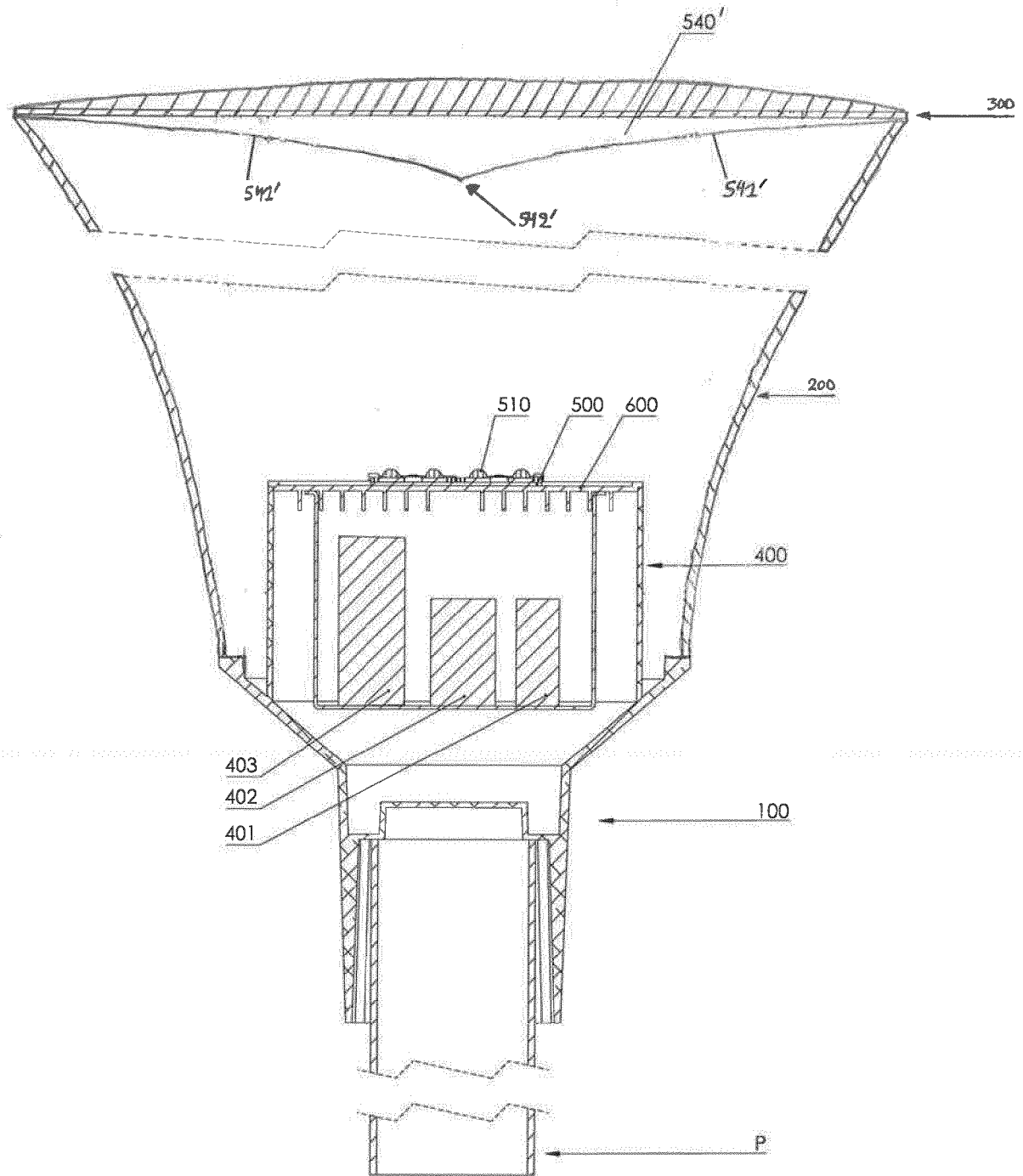


Fig. 9



EUROPEAN SEARCH REPORT

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