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(54) Lighting fixture

(57) A lighting fixture (1) comprising a base (2) for supporting a light source (6) and a lamina (4) having a reflective surface, and a transparent screen (3), characterized in that said base comprises setting means, such as fixing holes, a plurality of feet (2a), on the area that

is adapted to make contact with the anchoring surface, and an engagement slot (22), on the side that is arranged upward upon installation, said setting means being adapted to allow stable fixing directly to a wall or optionally to a plate (19) applied to the wall beforehand.

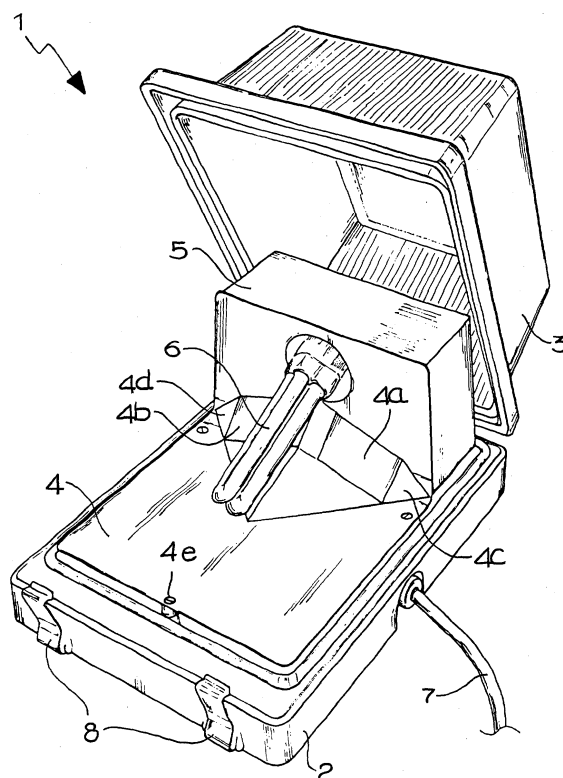


FIG 1

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Description

[0001] The present invention relates to a lighting fixture suitable for outdoor wall-mounted installation.

[0002] Currently commercially available outdoor lighting fixtures must, in order to ensure a hermetic seal, resort to constructive structures that make their wiring and installation complicated, generally forcing the installer to fix the lighting fixture according to the instructions of the manufacturer, without being able to associate the most suitable mounting with the contingent situation.

[0003] The aim of the present invention is to obviate the cited shortcomings and meet the mentioned requirements, by providing a lighting fixture that has a simple structure, is relatively easy to provide in practice, safe in use, effective in operation, as well as relatively low in cost.

[0004] This aim is achieved by a lighting fixture, according to the present invention, comprising a base for supporting a light source and a lamina having a reflective surface, and a transparent screen, characterized in that said base comprises setting means, such as fixing holes, a plurality of feet, on the area that is adapted to make contact with the anchoring surface, and an engagement slot, on the side that lies upward after installation, said means being adapted to allow stable fixing directly to a wall or optionally to a plate applied to the wall beforehand.

[0005] Further features of the invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment of a lighting fixture according to the invention, illustrated by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of the lighting fixture according to the invention;

Figures 2, 3 and 4 are orthographic projection views of the lighting fixture according to the invention;

Figure 5 is a sectional view of the hinged fixing of the screen to the base;

Figure 6 is a detail view of the hinge for fixing the screen to the base;

Figures 7 and 8 are detail views of the fixing of the screen to the base by means of elastic laminas;

Figure 9 is a view of the plate and of the lighting fixture;

Figures 10 and 11 are views of the steps of the installation of the lighting fixture on the plate;

Figure 12 is a view of the lighting fixture already interlocked within the plate before locking by means of the toggle lever;

Figures 13 and 14 are detail views of the steps for fastening the toggle lever;

Figures 15 and 16 are respectively a side view and a plan view of the lighting fixture mounted on the plate.

[0006] With reference to the figures, the reference numeral 1 generally designates a lighting fixture according to the invention.

[0007] The reference numeral 2 designates a base, which constitutes the supporting structure of the lighting fixture 1 and is surmounted by the screen 3, which is made for example of clear polycarbonate with catadioptric surfaces, in order to optimize light diffusion.

[0008] The base 2 substantially has the shape of a tray, provided with a U-shaped peripheral rim 2b that has the dual purpose of giving greater rigidity to the base and of creating, on the central portion of the U-shape, a contact region for the screen 3 when the lighting fixture 1 is closed. An underlying surface 2c is provided inside the peripheral rim 2b.

[0009] The underlying surface 2c of the base 2 is substantially flat, and a plurality of feet 2a protrude therefrom; said feet are adapted to ensure correct positioning of the lighting fixture 1 on the destination wall. The underlying surface 2c has, on both faces, ribs that are designed to increase the rigidity of the entire base 2.

[0010] Bushings 2d are formed by molding on the inner side of the underlying surface 2c of the base 2; a lamina 4 with a reflective surface is fixed on the bushings 2d by means of screws 4e and has a flat surface in the lower and central portions of the lighting fixture 1 (with reference to the configuration assumed by the lighting fixture during use) and prism-shaped surfaces 4a, 4b, 4c and 4d in its upper portion, which are inclined with respect to the lower flat part and are adapted to gather and convey the beams of light that propagate in directions that are external to the theoretical incidence range of the lighting fixture 1. Above the lamina 4 there is a protective enclosure 5, inside which part of the wiring of the lighting fixture is contained; the remaining part of the wiring is installed between the underlying surface 2c of the substantially flat base 2 and the lamina 4 having a reflective surface. The wiring is not described in detail, since it does not have characteristics that differentiate it from the state of the art.

[0011] A lamp 6, of the compact fluorescent type, is installed in the lamp holder comprised within the enclosure 5. The lighting fixture receives electrical power over a cable 7.

[0012] Elastic metallic laminas 8 are fixed, by means of the surface of their first end, to the base 2 by means of a screw coupling 8a.

[0013] Each metallic lamina 8 is obtained by means of cold working of a strip of metal plate that is characterized by good elasticity. After a first short flat portion 8b, a first bend 8c, radiused along a circular arc and obtained by rotating clockwise the part of the metal strip that remains after the first flat portion 8b, arranges a second flat portion 8d so that it forms an acute angle with the first portion 8b. A third bending line 8e, obtained by rotating counterclockwise the part of metal strip that remains after the second flat portion 8d, divides the second portion 8d from a third flat portion 8f, forming an

obtuse angle between them. At the free end of the metal strip, after the flat portion 8f, a contoured shape 11 is formed which can be likened to a sequence of two semicircles in which the concavity of the first one faces downward and the concavity of the second one faces upward. At the top of the flat portion 8f, just before the beginning of the shaped portion, there is a seat 13 that is adapted to accommodate the tool required to open the screen 3 if necessary.

[0014] The laminas 8 are arranged on the left and right sides in the case of installation on an optional plate, and are arranged on the lower side in the case of wall-mounted installation: they can be placed individually or in pairs, as shown in the figure.

[0015] The closure of the screen 3 on the base 2 is obtained by way of the interlocking on the pivots 9, provided at the upper part of the base 2, of the hook-like bodies 10, which are provided at the upper part of the screen 3, and by way of the elastic fastening provided by the laminas 8 after the insertion of the contoured portion 11, provided on the second end of each lamina 8, in a border 12 of the screen 3.

[0016] When the lighting fixture 1 is closed, the laminas 8 adhere to the lateral surface of the rim 2b of the base 2 and to the outer surface of a lip 14 of the screen 3; the outer lip 14 is formed around the screen 3, is arranged perimetrically and, in the closed position, rests on the perimetric surface 15 of the base 2, outside the abutment 15a.

[0017] A ridge 16, parallel to the lip 14 and provided on the screen 3, is forced, upon closure, onto a perimetric gasket 17 that is accommodated within the slot 17a of the base 2. An annular chamber remains between the lip 14, the ridge 16, the base 2 and the gasket 17 and runs along the entire perimeter of the lighting fixture 1.

[0018] The lamina 4 is coupled to the base 2 by screw fastening on a set of bushings 18 formed directly by molding on the base 2.

[0019] The lighting fixture 1, if fixed directly to the wall, is rigidly coupled thereto by means of the base 2, which has suitable provisions, shown in figure 5 in the form of setting means: in the specific case, said provisions are holes, suitably provided with gaskets, that ensure that the degree of protection against penetration of dust and liquids according to applicable statutory provisions that characterizes the fixture 1 is maintained.

[0020] The lighting fixture 1 can be mounted on a plate 19 for requirements of rapid disassembly during maintenance.

[0021] The plate 19 is provided by means of a suitably shaped metal plate, which must in turn be anchored to the wall by means of the wall anchors 20, which engage in the holes 20a provided in the plate 19.

[0022] A protrusion 21 is formed at the upper end of the plate 19 and is adapted to be accommodated in a slot 22 of the rim 2b of the base 2. The lighting fixture 1 therefore is made to hang from the protrusion 21 through engagement of the slot 22: complete fixing is achieved

by means of the toggle lever 23, whose free end is shaped so as to ensure grip within the peripheral border 12 of the screen 3.

[0023] Alongside the lighting fixture 1, the base 19 accommodates an electrical outlet 24 of a type prescribed by standards for outdoor use: the outlet 24 is directly connected to the electrical mains by means of a conventional electrical system, either an external one (in hermetic trunking) or a recessed one (inside the wall). In this type of installation, the lighting fixture 1 is provided with a plug 25 that is adapted to mate with the outlet 24, already wired at the end of the power supply cord 7.

[0024] Operation of the lighting fixture is as follows: the lighting fixture 1, for wall mounting, requires only that the holes provided in the wall be spaced correctly, since the base 2 is fixed to the wall by means of wall anchors that are arranged in said holes in the wall. Thereafter, it is merely a matter of connecting the cable 7 to a source of electric power and of positioning the screen 3; the screen 3 is fixed first by way of the hinge system, i.e., by inserting each pivot 9 within the respective semicircular body 10, then by means of the laminas 8, making the end provided with the contoured portion 11 snap within the peripheral border 12. The assembly position is, with good approximation, planar thanks to of the presence of the plurality of supporting feet P.

[0025] The laminas 8 reopen by inserting a tool in a suitable seat 13 that is arranged on each lamina 8 and by forcing away from the screen 3.

[0026] For removable mounting, by using the plate 19, it is necessary to provide for the correct placement of the holes for the fixing of the wall anchors 20; the holes must be provided at the portion of wall faced by the holes 20a of the plate 19.

[0027] Once the plate 19 has been fixed, it is necessary to supply power to the outlet 24 by providing a line that leads to its wiring compartment.

[0028] The lighting fixture 1 can then be positioned, after closing the screen 3 onto the base 2 by means of the laminas 8 arranged only on the lateral surfaces of the lighting fixture, by inserting the protrusion 20 in the slot 22, keeping the lighting fixture inclined and straightening it only once insertion has occurred; thereafter, it is sufficient to insert the free end of each toggle lever 23 in the peripheral border 12 and retract the fastening end of each lever into the closure position. As a final operation, it is necessary to insert the plug 25 already wired on the cord 7 into the outlet 24.

[0029] It has thus been shown that the invention achieves the intended aim and objects.

[0030] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0031] All the details may further be replaced with other technically equivalent ones.

[0032] In practice, the materials used, as well as the shapes and the dimensions, may be any according to requirements without thereby abandoning the scope of

the protection of the appended claims.

[0033] The disclosures in Italian Patent Application No. BO2002A000398 from which this application claims priority are incorporated herein by reference.

[0034] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A lighting fixture (1) comprising a base (2) for supporting a light source (6) and a lamina (4) having a reflective surface, and a transparent screen (3), **characterized in that** said base comprises setting means, such as fixing holes, a plurality of feet (2a), on the area that is adapted to make contact with the anchoring surface, and an engagement slot (22), on the side that is arranged upward upon installation, said setting means being adapted to allow stable fixing directly to a wall or optionally to a plate (19) applied to the wall beforehand.
2. The lighting fixture according to claim 1, **characterized in that** said resting feet (2a) are shaped to as to allow stable resting against a wall or against said plate (19).
3. The lighting fixture according to claim 1, **characterized in that** it comprises a set of bushings (2d) arranged on said base and adapted to rigidly couple thereto, said lamina (4) having a reflective surface.
4. The lighting fixture according to claim 1, **characterized in that** it comprises a perimetric gasket (17), comprised between the seat of said lamina (4) having a reflective surface and the outline of said base (2), that is adapted to couple hermetically with a ridge (16) of said transparent screen (3).
5. The lighting fixture according to claim 4, **characterized in that** said transparent screen (3) has an external abutment lip (14), along its entire perimeter, which is adapted to rest on the surface of said base (2) that is comprised between the perimetric gasket (17) and the outline of said base (2).
6. The lighting fixture according to claim 1, **characterized in that** said base (2) has pivots (9) that are adapted for the hinged coupling of hook-like bodies (10) that are provided on an end of said screen (3).
7. The lighting fixture according to claim 6, **characterized in that** said hook-like bodies (10) are fixed to said external abutment lip (14) of said screen (3).
8. The lighting fixture according to claims 4 and 5, **characterized in that** said inner ridge (16) is substantially parallel to said abutment lip (14).
9. The lighting fixture according to some of the preceding claims, **characterized in that** it comprises an annular chamber formed when the transparent screen (3) is positioned, between said outer abutment lip (14), said inner ridge (16) and the surface of the base (2).
10. The lighting fixture according to claim 1, **characterized in that** said transparent screen (3) has a peripheral border (12) on its upper surface.
11. The lighting fixture according to claim 10, **characterized in that** said peripheral border (12) consists of a protrusion, at the outer abutment lip (14), that is adjacent to a channel, converges at the center with a radial direction and ends against the catadioptric outline surface of said screen (3).
12. The lighting fixture according to any of the preceding claims, **characterized in that** it comprises a plurality of elastic metallic laminas (8), fixed under said base, which have a profile that is adapted to engage said peripheral border (12) of said screen (3), rigidly coupling it to said base (2).
13. The lighting fixture according to claim 12, **characterized in that** said laminas (8) have a flat profile at the area for anchoring to said base (2), a first bending line (8c), at the end of the first flat portion (8b), which is radiused like a circular arc and forms a second flat portion (8d), a second bending line (8e), at the end of the second flat portion (8d), which identifies a third flat portion (8f) that ends with a contoured portion (11) that is adapted for interlocking in said peripheral border (12), with an axis of extension that is perpendicular to said third flat portion (8f).
14. The lighting fixture according to claim 13, **characterized in that** is shaped so that an acute angle is comprised between said first flat portion and said second flat portion.
15. The lighting fixture according to claim 13, **characterized in that** said laminas are shaped so that an obtuse angle is comprised between said second flat portion (8d) and said third flat portion (8f).
16. The lighting fixture according to claim 13, **characterized in that** said first flat portion (8d) and said third flat portion (8f), when the laminas (8) are interlocked in said peripheral border in the position for

closing said screen (3), lie on mutually perpendicular planes.

17. The lighting fixture according to claim 13, **characterized in that** on said third flat portion (8f) a seat is provided that is adapted to accommodate a tool by means of which said contoured portion (11) is made to exit from said peripheral border (12). 5
18. The lighting fixture according to claim 1, **characterized in that** said base (2) is installed detachably on said plate (19), which is in turn fixed to the wall. 10
19. The lighting fixture according to claim 18, **characterized in that** said plate (19) is constituted by a flat metallic lamina whose dimensions are not smaller than those of said base (2), said lamina being provided with holes for fixing to the wall and having, at the upper end with respect to the assembly configuration, a protrusion (21) that is adapted to be accommodated in said slot (22) of said base (2) once assembly has occurred, and having, at the lower end, at least one toggle lever closure system (23), the free end of which enters the peripheral border (12) of said screen (3). 15 20 25
20. The lighting fixture according to claim 19, **characterized in that** said anchoring base (2) accommodates an electrical outlet (24) proximate to the seat of said lighting fixture (1). 30
21. The lighting fixture according to claim 20, **characterized in that** said electrical outlet (24) is adapted to supply said lighting fixture (1) and is connected upstream directly to the electrical mains. 35

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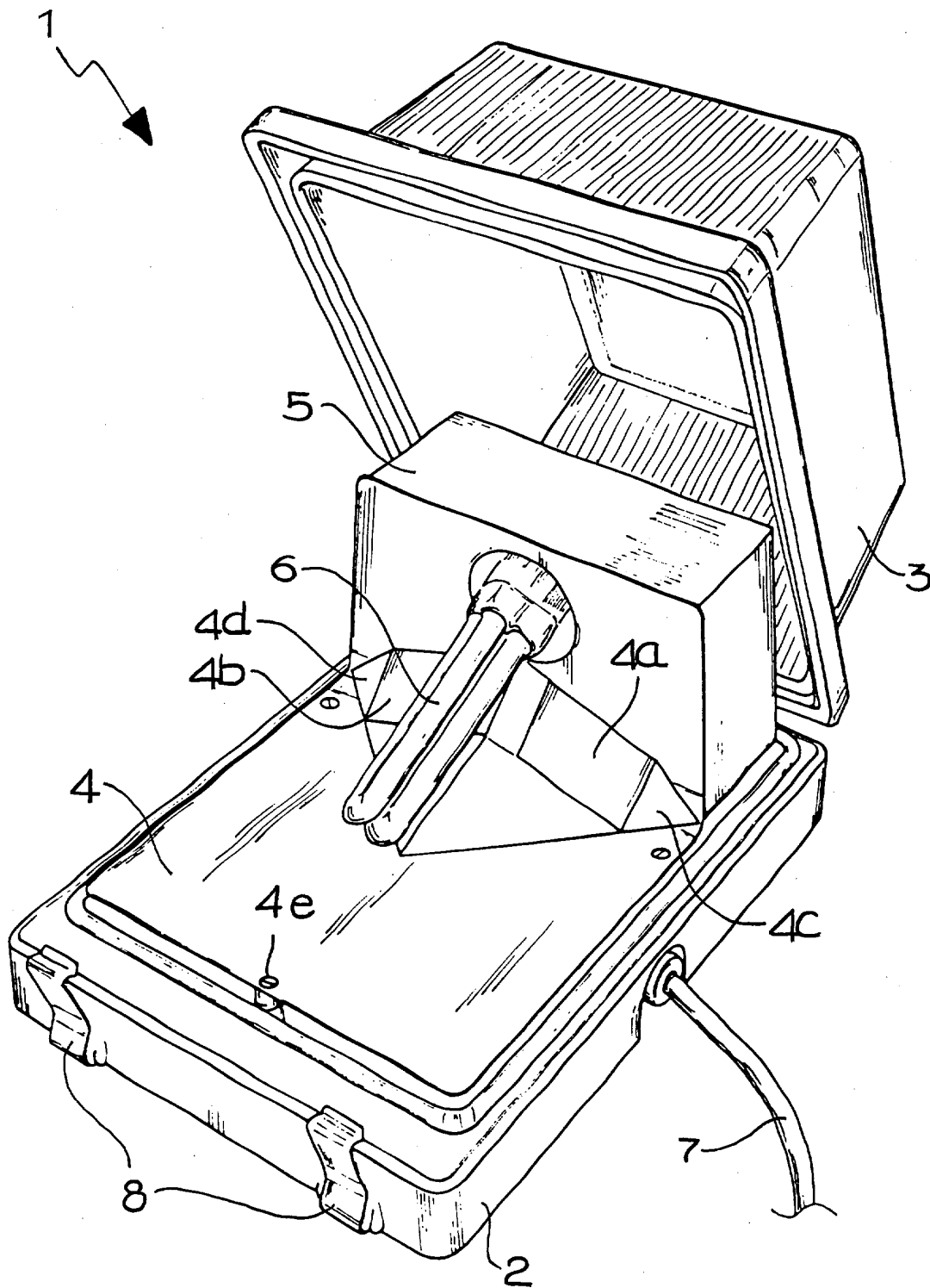


FIG 1

FIG 2

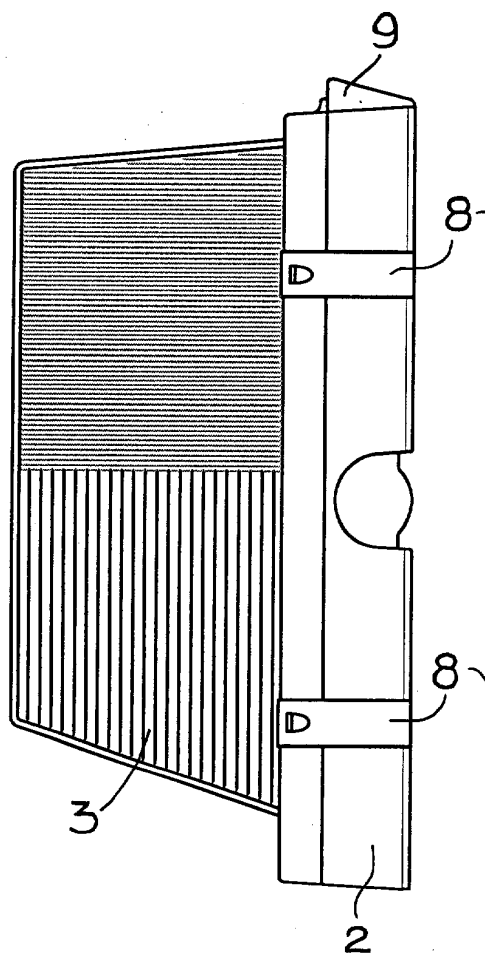


FIG 3

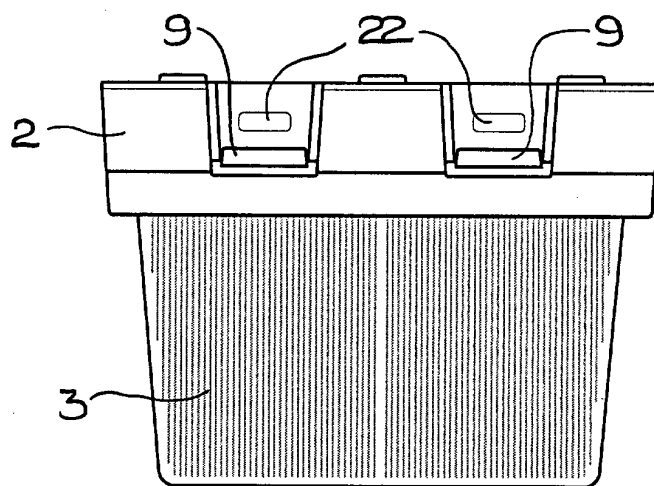
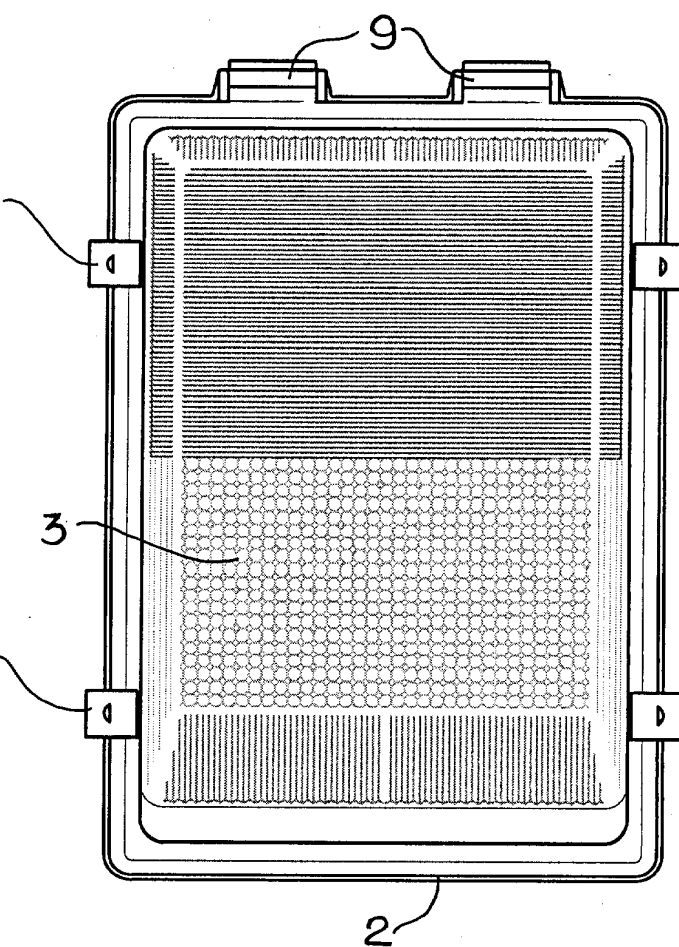


FIG 4

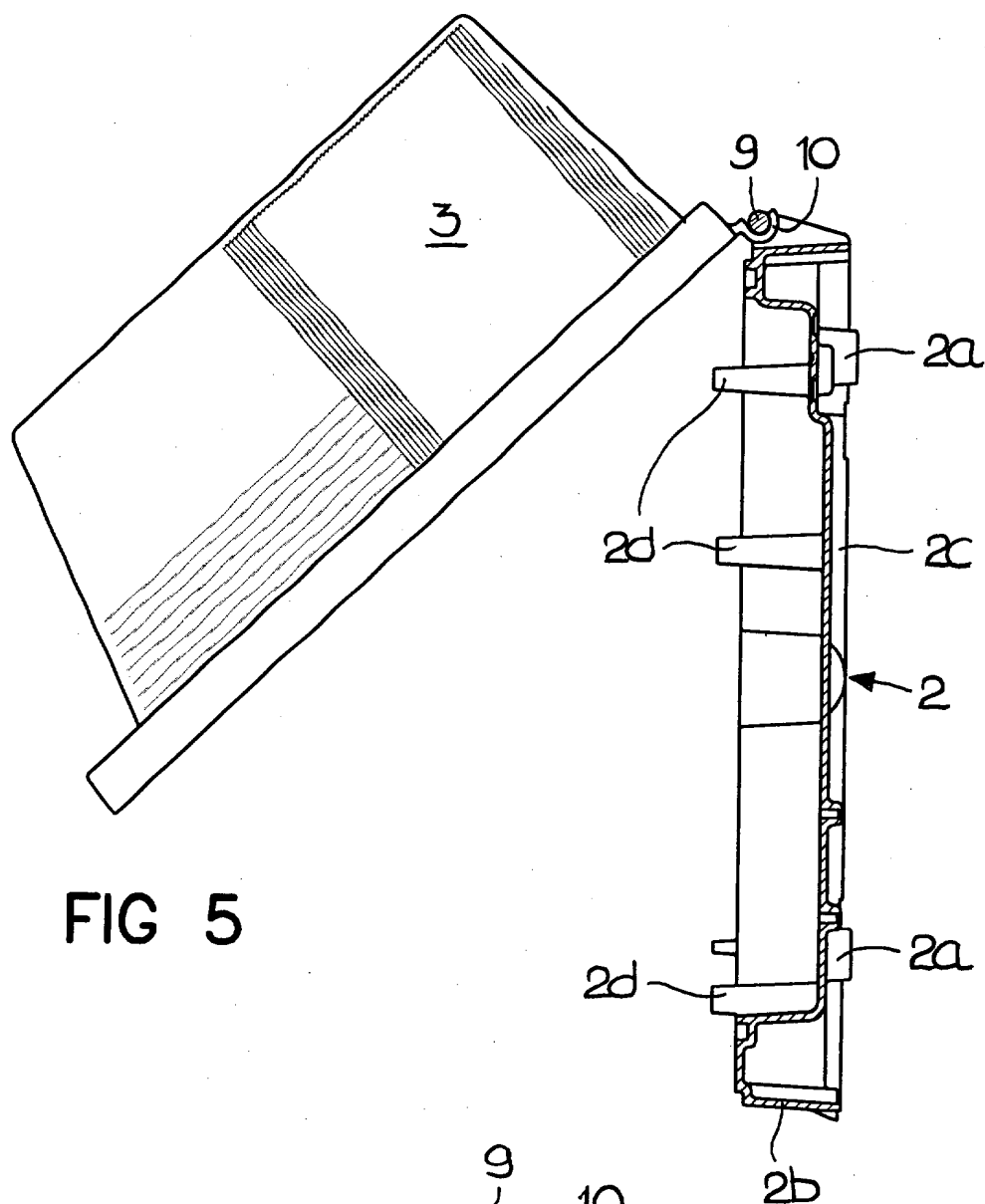


FIG 5

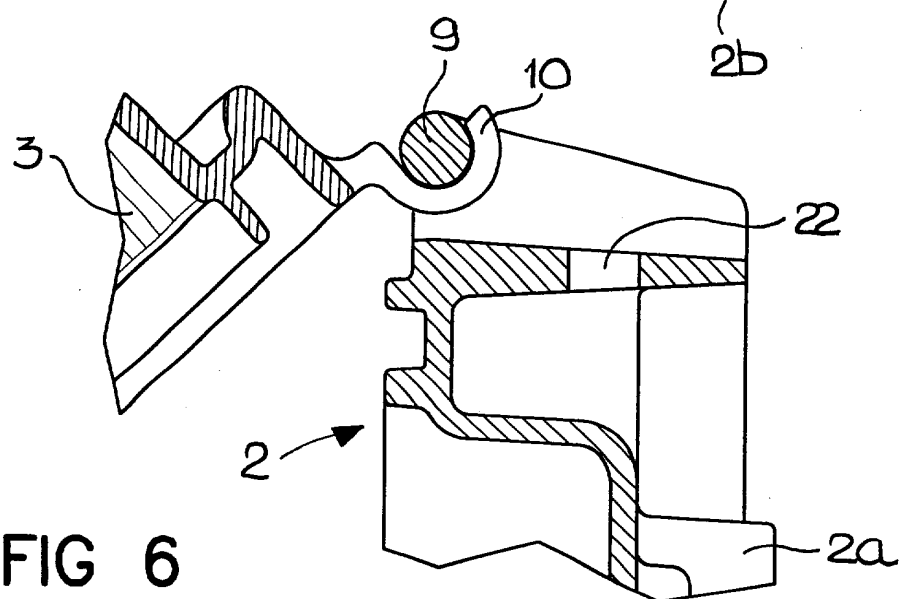


FIG 6

FIG 7

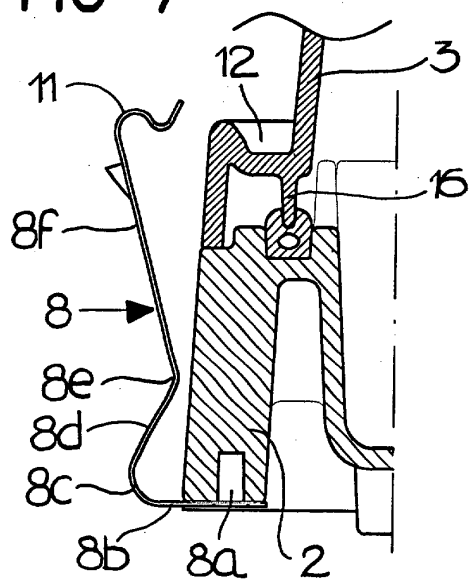


FIG 8

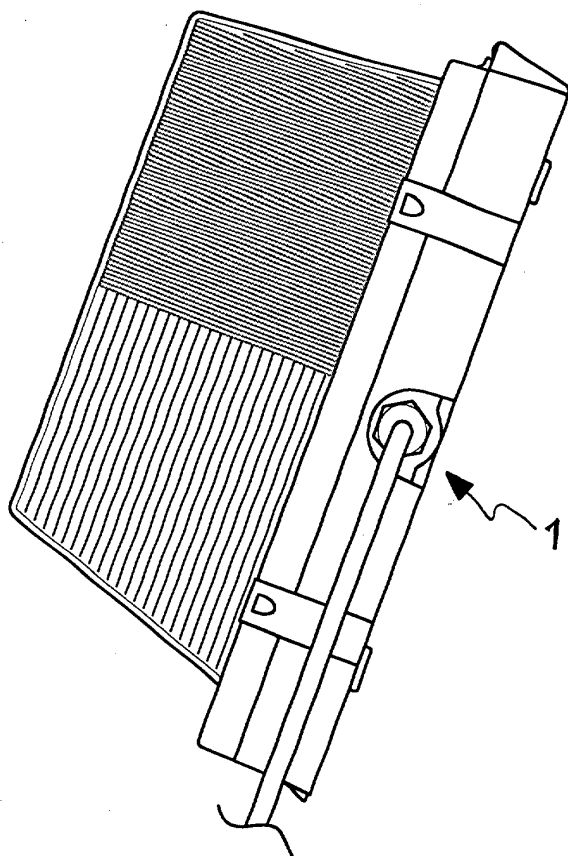
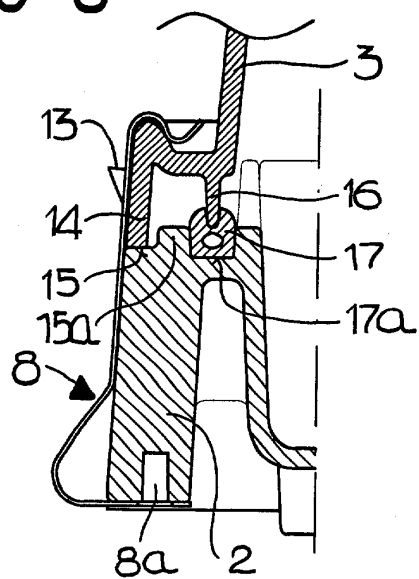


FIG 9

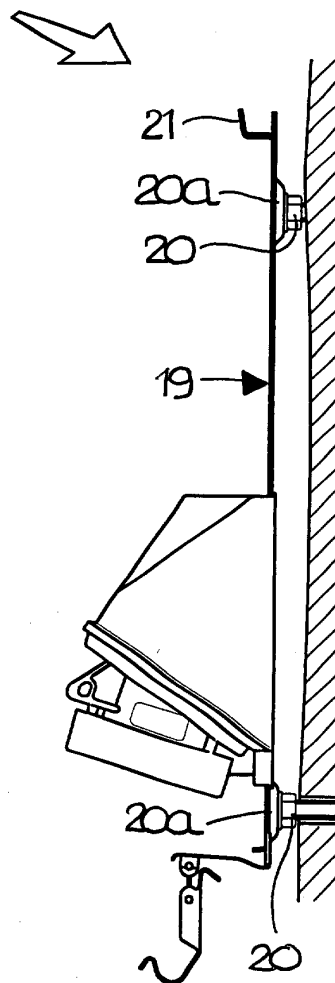


FIG 10

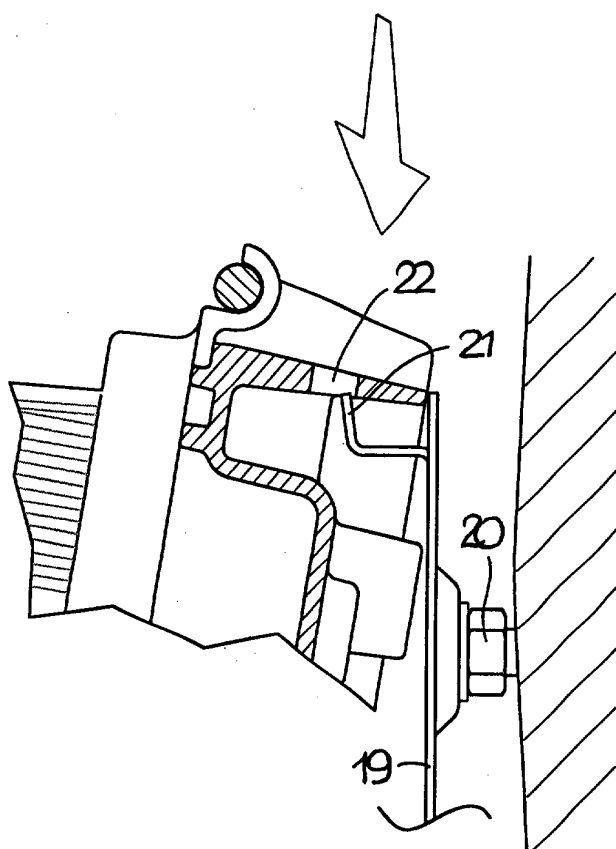
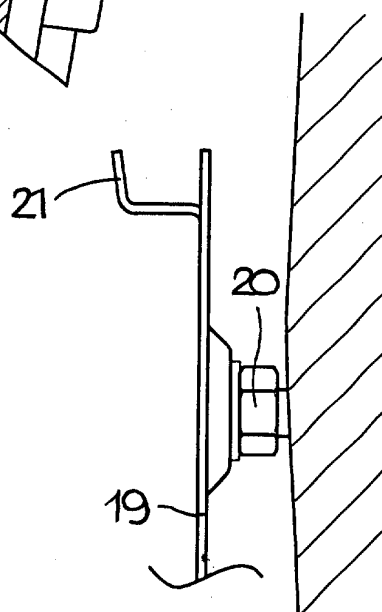
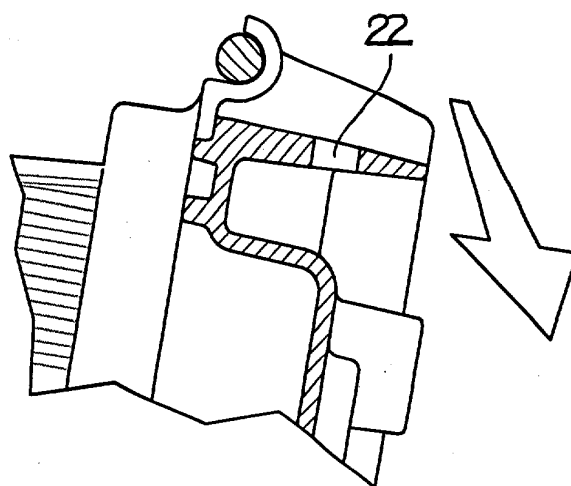


FIG 11

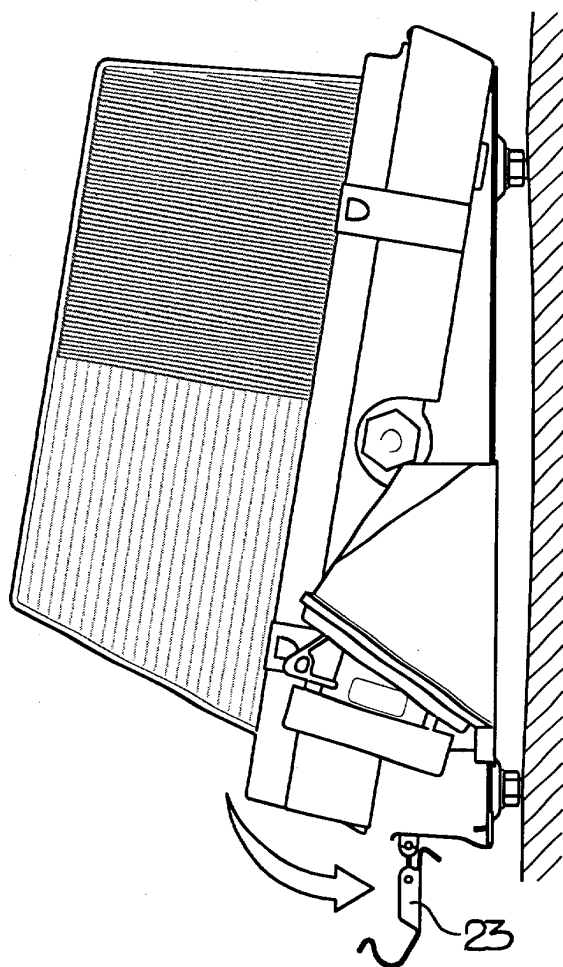


FIG 12

FIG 13

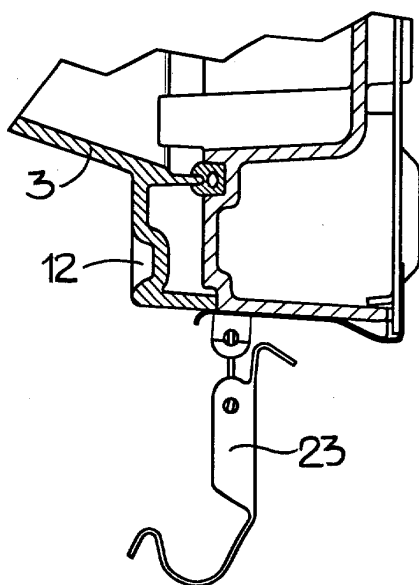
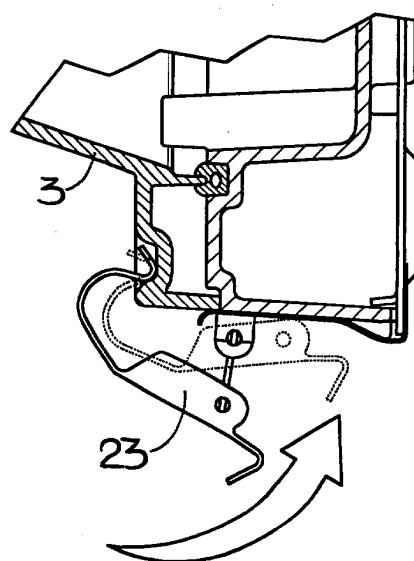


FIG 14



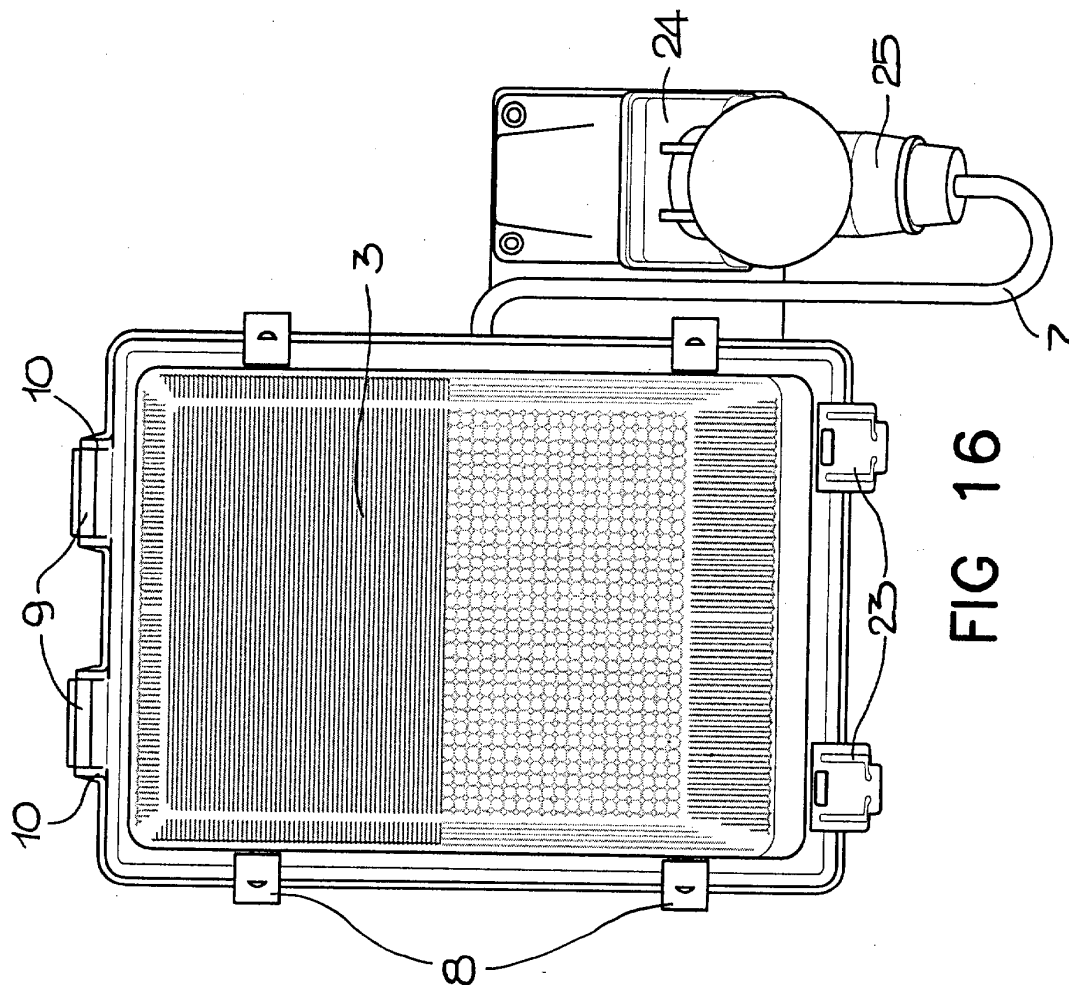


FIG 16

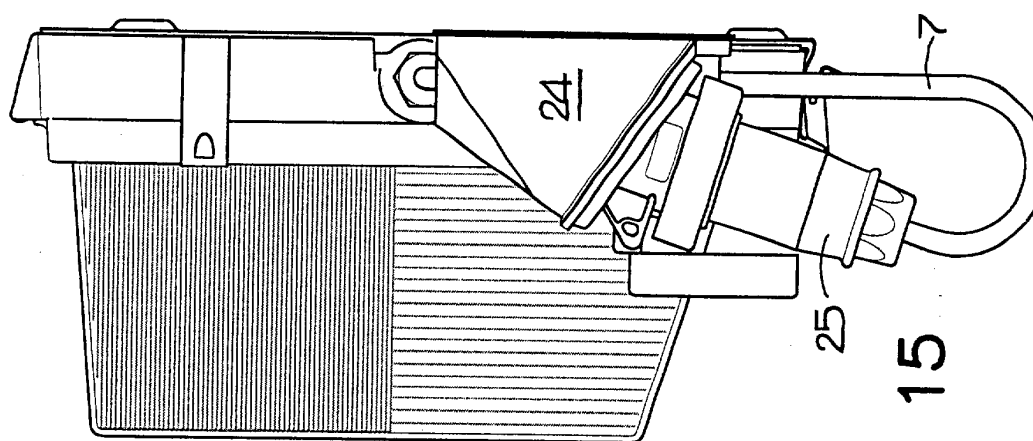


FIG 15