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(54) Lighting fixture for fixed installation

(57) This invention relates to a lighting fixture (1) for fixed installation, comprising a base (2), having a cavity (3) for housing electric and/or electronic components, a lid (6), having a cavity (26) whose opening faces toward said cavity (3) of said base (2), said lid (6) and said base (2) defining a closed space for enclosing at least one lighting source (8), a seal (19) for sealing said lid (6) against said base (2); characterized in that said base (2) has a frame (9) and a plurality of support feet (4), each foot (4) having a hole (5) for receiving fastener means; in that said lid (6) has at least two external parallel elongated projections (16); in that two locking brackets (20, 21) are provided to lock said lid (6), said brackets (20, 21) being removably joined to said outer frame (9) and being adapted to engage said external elongated projections (16); and in that said lid (6) is transparent and/or translucent.

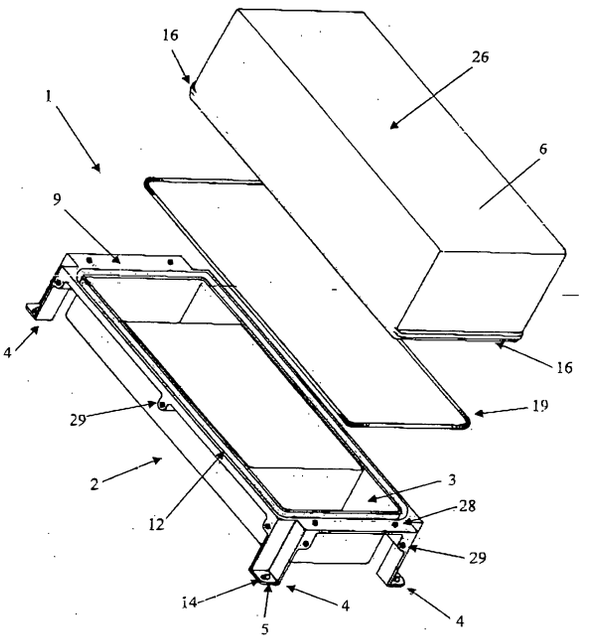

Fig. 1

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Description

[0001] This invention relates to a lighting fixture for fixed installation, preferably for outdoor use.

[0002] According to a prior art technique, a lighting fixture for fixed installation has a base, usually designed to be fastened to a wall or a ceiling, which is adapted to house the lighting source and the electric and/or electronic components required to assure the operation of the lighting source.

[0003] The lighting source is covered by a generally box-like metal lid, in which apertures are formed to allow light to pass therethrough.

[0004] The metal lid of such fixture is usually made by die-casting of light alloys.

[0005] To minimize manufacturing costs, the mold is already shaped with apertures for light passage.

[0006] The internal components of the lamp are protected from weather by closing such apertures with transparent elements, typically glass plates or lenses.

[0007] To this purpose, these apertures have a recessed periphery, for supporting glass plate edges and for receiving a suitable sealant, typically silicone thereon.

[0008] However, prior art wall-mounted lighting fixtures have various drawbacks.

[0009] A certain skill is required to seal the glass elements, and such operation considerably affects manufacturing times and costs.

[0010] In order to simplify manufacturing of casting dies and minimize costs therefor, the glass plate supporting groove is formed on the outside of the metal lid.

[0011] The high temperature variations and weather effects whereto the lamp lid is exposed cause the silicone to lose its effectiveness, whereby glass plates may fall off the lid.

[0012] This causes the lamp to have a poor operation reliability with time.

[0013] The main object of this invention is to obviate at least some of prior art drawbacks and particularly the above mentioned drawbacks.

[0014] This object is fulfilled by a wall-mounted lighting fixture as defined in claim 1.

[0015] Further advantages may be also obtained by the additional characteristics of the dependent claims.

[0016] A possible embodiment of the fixture, as claimed in the attached claims, will be described hereafter with reference to the accompanying drawings, in which:

- Figure 1 is an exploded view of a first embodiment of the lighting fixture;
- Figure 2 is a partly exploded view of a second embodiment of the lighting fixture;
- Figure 3 is a partly exploded view of a third embodiment of the lighting fixture;
- Figure 4 is an axonometric view of the same lighting fixture as shown in Figure 2;
- Figure 5 is an axonometric view of the same fixture as shown in Figure 3;
- Figure 6 is an axonometric view of a fourth embodiment of the fixture;
- Figure 7 is an axonometric view of a fifth embodiment of the fixture;
- Figure 8 is an axonometric view of a sixth embodiment of the fixture;
- Figure 9 is a cross sectional view of the fixture as shown in Figure 5;
- Figure 10 is an exploded view showing the installation arrangement of the fixture of Figure 5 on a frame integral with a post;
- Figure 11 shows the coupling arrangement of two lighting fixtures as shown in Figure 5, with a frame integral with a post.

[0017] Referring to the drawings, numeral 1 generally designates a lighting fixture for fixed installation.

[0018] Such fixture comprises a base 2 having a plurality of support feet 4.

[0019] Each support foot 4 has a hole 5 for receiving fastener means, e.g. screw fasteners.

[0020] Thus, the base 2 may be fastened to a wall, a ceiling or a suitably shaped metal framework.

[0021] Preferably, such holes 5 have a circular shape, with an eyelet 14 - or two eyelets 14 disposed on two orthogonal axes - to assist mounting of the base 2.

[0022] The base 2 of the fixture includes a cavity 3, which contains the electric and/or electronic components of the fixture, such as voltage transformers, ballasts, terminal strips, fuses, batteries, etc.

[0023] The base 2 also has an electrical and mechanical socket for at least one lighting source 8, e.g. a filament lamp, a quartz-iodine lamp, a neon lamp or a discharge lamp.

[0024] The electric and electronic components and the lighting sources 8 for the present fixture are known and therefore will not be further described.

[0025] Preferably, the cavity 3 has a generally and/or substantially rectangular shape and its opening size is larger than its depth.

[0026] A hole (not shown) is also provided on a side wall or on the bottom of the base 2, allowing the passage of a power cord with a strain relief.

[0027] The base 2 has an outer frame 9, whose function will be better explained hereafter.

[0028] The fixture further includes a lid 6, which is removably joined to the base 2 with an interposed seal 19.

[0029] The lid 6 has a cavity 26 whose opening faces toward the cavity 3 of the base 2.

[0030] Thus, the lid 6 and the base 2 define a closed space for enclosing the lighting source of the fixture.

[0031] The lid 6 has two external parallel elongated projections 16 at its edges.

[0032] Two locking brackets 20, 21 are further provided, which engage the outside projections 16 of the lid 6, while exerting a pressure against the seal 19.

[0033] The locking brackets 20, 21 are in turn connected to the outer frame 9 of the base 2 by reversible connector members, such as screws inserted in threaded holes 28.

[0034] According to the embodiment of the figures, the seal 19 is received in a groove 12 extending all around the cavity 3 of the base 2.

[0035] A feature of the fixture consists in that the lid 6 is made of a transparent and/or translucent material, typically glass.

[0036] Thanks to this feature, no sealing action is required in the apparatus.

[0037] In cheaper embodiments, other transparent materials may be obviously also used in lieu of glass, such as polycarbonate, in compliance with the characteristics of the lighting source.

[0038] According to a preferred embodiment, the lid 6 has a generally box-like shape, with an open side and the four side walls of the lid 6 are slightly inclined, typically to 5° relative to the vertical plane, whereas the top wall of the lid 6 may be flat or slightly concave.

[0039] This arrangement is preferred when the lid 6 is made by molding, as the inclination of the side walls facilitates the removal of the lid from the mold.

[0040] A reflector element (not shown) may be placed inside the cavity 3 of the base 2 and/or the cavity 26 of the lid 6, for directing light emission toward the lid 6 or a portion thereof.

[0041] According to a few preferred embodiments (see Figures 2, 3, 4, 5, 8), the lighting apparatus may also have an opaque screen 22, removably joined to the base 2 by reversible fastener means 30.

[0042] Preferably, the reversible fastener means are screws 30 to be tightened in threaded holes 29 formed in the outer frame 9.

[0043] Preferably, the threaded holes 29 have their axis parallel to the plane of the opening of the cavity 3.

[0044] The screen 22 partly covers the transparent and/or translucent glass 6 and the base 2, and therefore allows to create specific desired lighting areas, and to customize the exterior appearance of the fixture.

[0045] In one embodiment (see Figure 8), the screen 22 is shaped in such a manner as to only accomplish the function of covering, at least partly, the base 2.

[0046] In other possible embodiments (see Figures 6 and 7), two opaque screens 22 may be provided.

[0047] The screens 22 may also have louvers 23 to provide particular lighting effects.

[0048] In the embodiments of the figures, the opaque screens 22 are rectangular U-bent metal sheets.

[0049] Preferably, the screen 22 is made from stainless steel sheet and its outer surface may be painted or satin finished.

[0050] The skilled person will appreciate the weatherproofness of the outer surface in the unpainted variant, and the advantage of being able to customize the exterior aspect of the fixture and its lighting effects by using the same base 2 and the same lid 6 and by only changing the shape of the opaque screen 22.

[0051] The apertures and the opaque screens 22 may be simply and inexpensively customized, e.g. by using laser cutting machines.

[0052] The base 2 may be made from aluminum or an aluminum alloy, the latter arrangement being preferred, amongst other things, in that is provides a light-weight fixture, which is sturdy and able to withstand the high temperatures generated by certain lighting sources.

[0053] Suitably, the aluminum alloy (or aluminum) base 2 may be surface-treated, e.g. by anodic oxidation, thereby providing a very hard anticorrosive and partly electrically insulating coating, or painted with powdered paints, after a special pre-treatment for outdoor use.

[0054] If the base 2 is made from aluminum or an aluminum alloy, the threaded holes 28 and 29 may be provided as stainless steel threaded bushings.

[0055] This arrangement prevents weather corrosion from making the removal of the fixture difficult with time.

[0056] The above described fixture is typically mounted to a wall or a ceiling.

[0057] Nevertheless, it can also be fastened, alone or in pairs (see Figures 10 and 11) to a hanging structure, e.g. a post 33, with the interposition of a frame 32, having threaded holes 34.

Claims

1. Lighting fixture (1) for fixed installation, comprising:

- a base (2), having a cavity (3) for housing electric and/or electronic components;
- a lid (6), having a cavity (26) whose opening faces toward said cavity (3) of said base (2), said lid (6) and said base (2) defining a closed space for enclosing at least one lighting source (8);
- a seal (19) for sealing said lid (6) against said base (2);

characterized in that said base (2) has a frame (9) and a plurality of support feet (4), each foot (4) having a hole (5) for receiving fastener means;
in that said lid (6) has at least two external parallel elongated projections (16);
in that two locking brackets (20, 21) are provided to lock said lid (6), said brackets (20, 21) being removably joined to said outer frame (9) and being adapted to engage said external elongated projections (16);
and **in that** said lid (6) is transparent and/or translucent.

2. A fixture as claimed in claim 1, wherein said lid (6) has a generally and/or substantially box-like shape and wherein said cavity (3) of said base (2) has a generally rectangular shape.

3. A fixture as claimed in claim 1 or 2, further comprising at least one opaque screen (22) which partly covers said lid (6), at least one end of said opaque screen (22) being joined to said outer frame (9) by reversible fastener means (30).

4. A fixture as claimed in claim 3, wherein said at least one opaque screen has one or more louvers (23).

5. A fixture as claimed in any preceding claim, wherein said cavity (3) of said base (2) has an opening that is wider than its bottom.

6. A fixture as claimed in any preceding claim, wherein said base (2) has a groove (12), extending all around said cavity (3), in which said seal (19) is received.

7. A fixture as claimed in any of claims 1 to 6, wherein each hole (5) for receiving said fastener means is a circular hole having an eyelet (14).

8. A fixture as claimed in any of claims 1 to 6, wherein each hole (5) for receiving said fastener means is a circular hole having two eyelets (14) extending along two orthogonal axes.

9. A fixture as claimed in any preceding claim, wherein said outer frame (9) has a plurality of threaded holes (28) for fastening said brackets (20, 21) and a plurality of threaded holes (29) for fastening said opaque screen (22).

10. A fixture as claimed in claim 9, wherein said base (2) is made of an aluminum alloy and wherein said threaded holes (28) are provided as stainless steel threaded bushings.

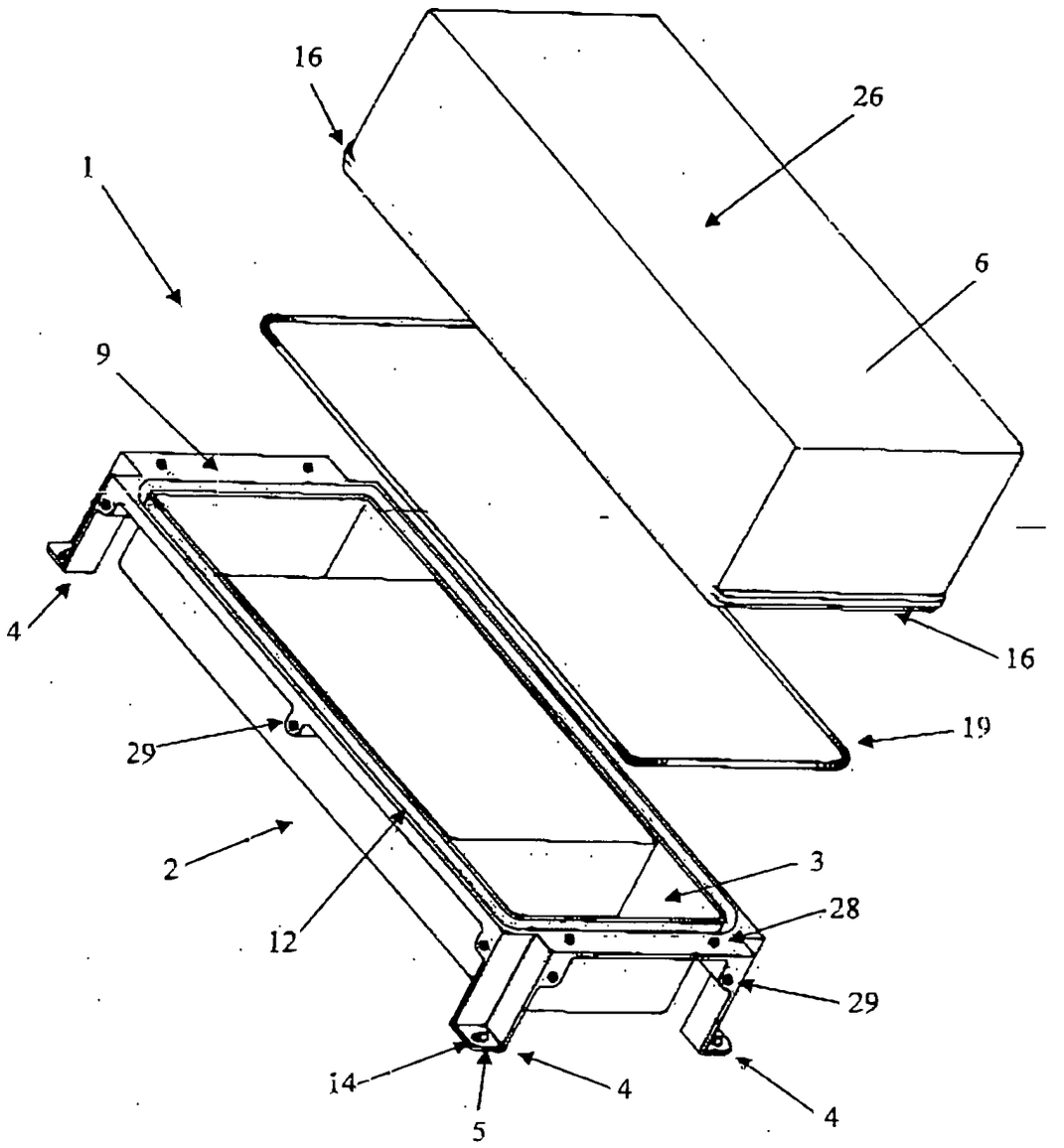

Fig. 1

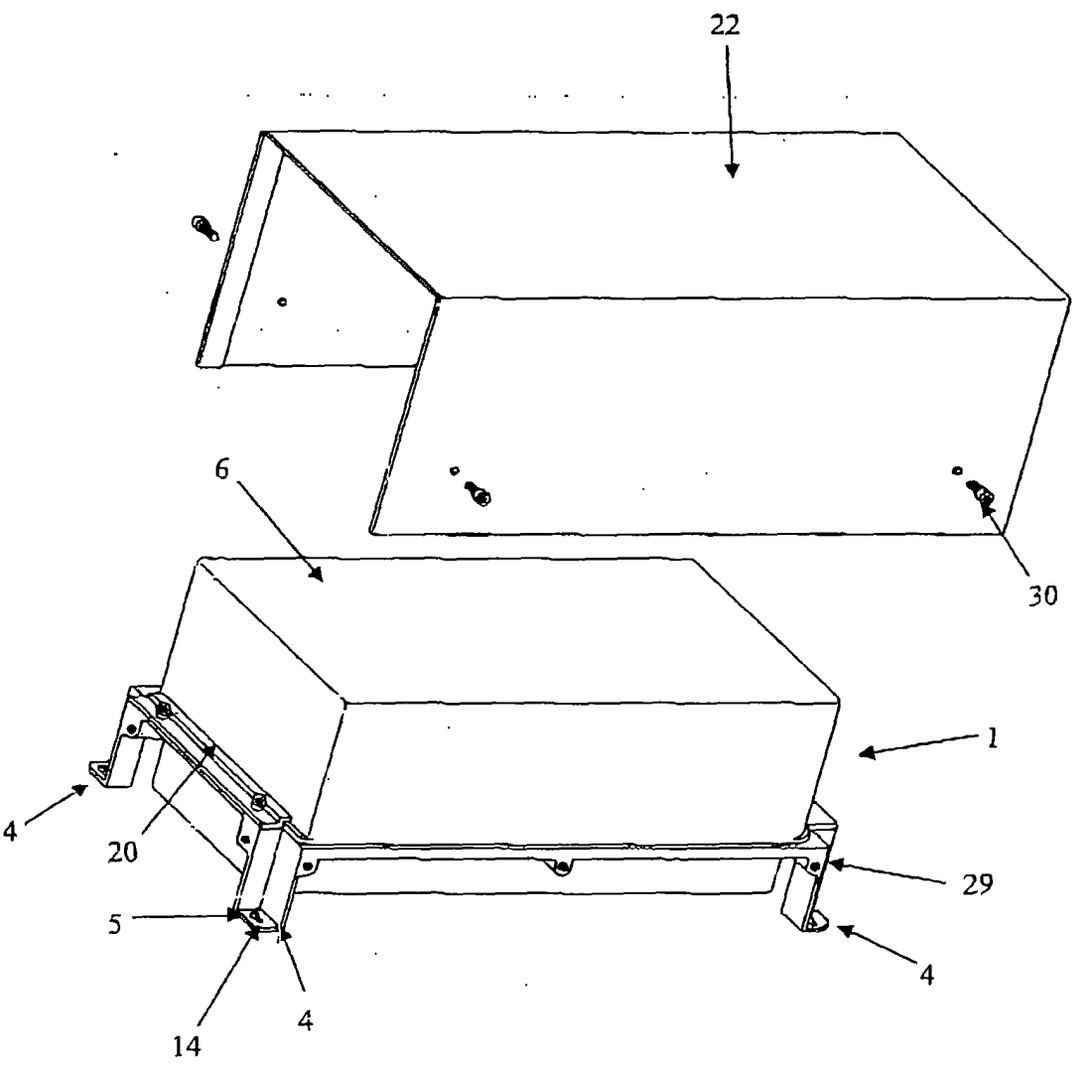

Fig. 2

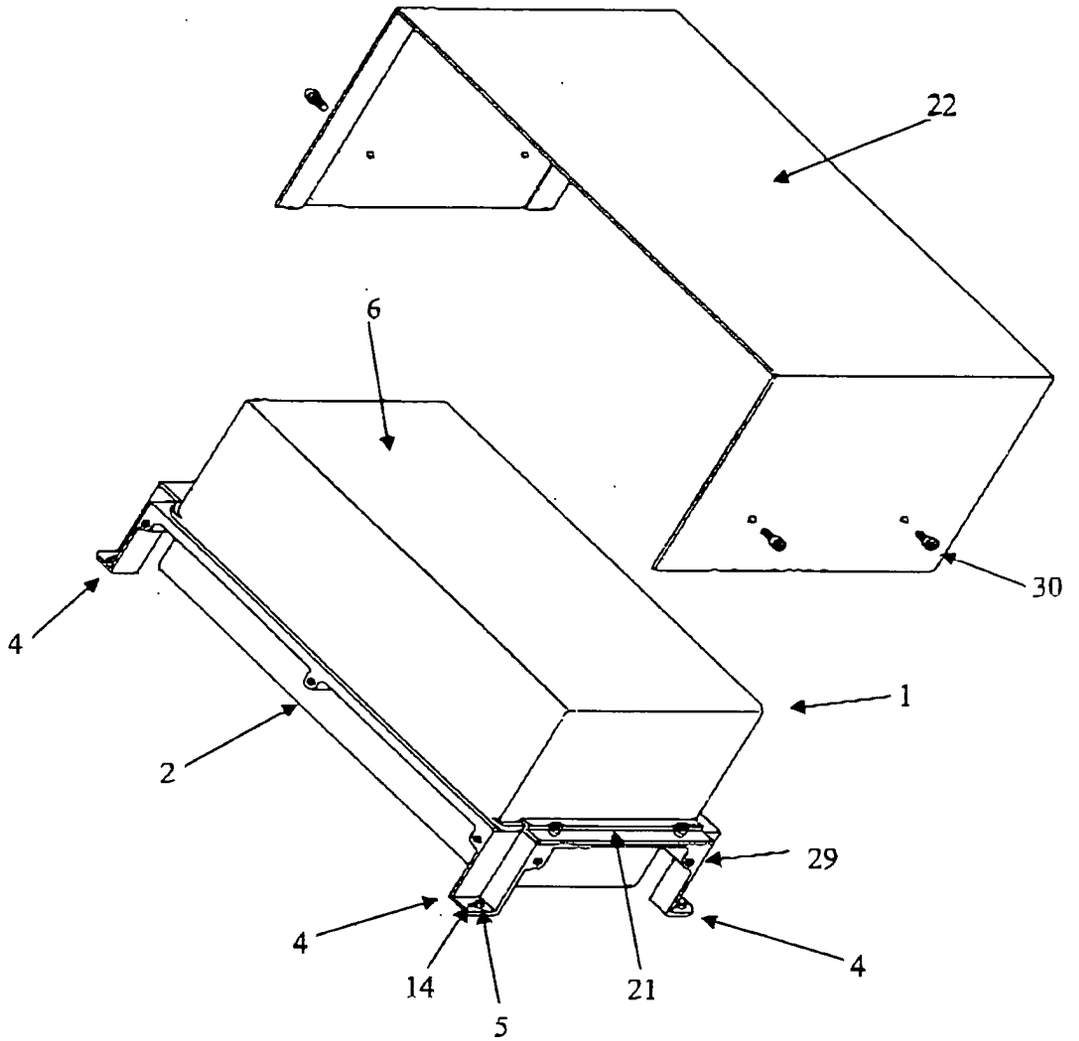

Fig. 3

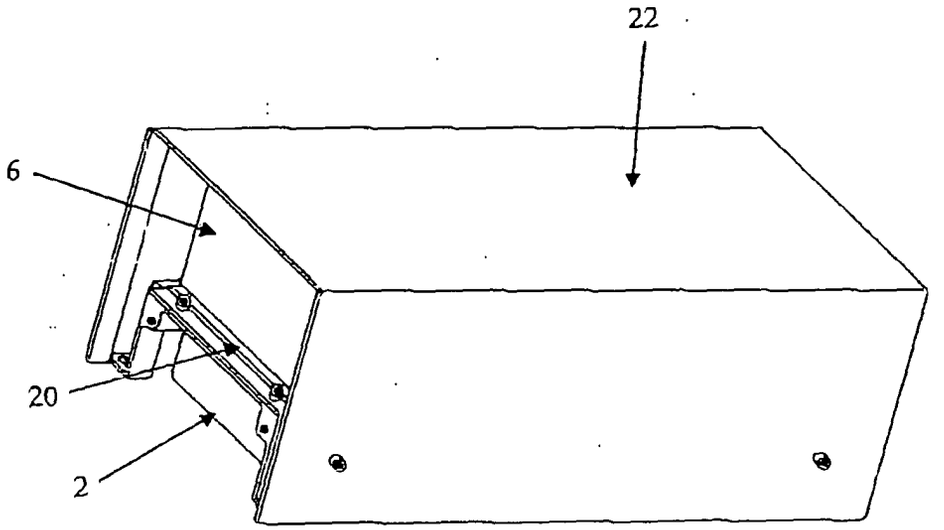

Fig. 4

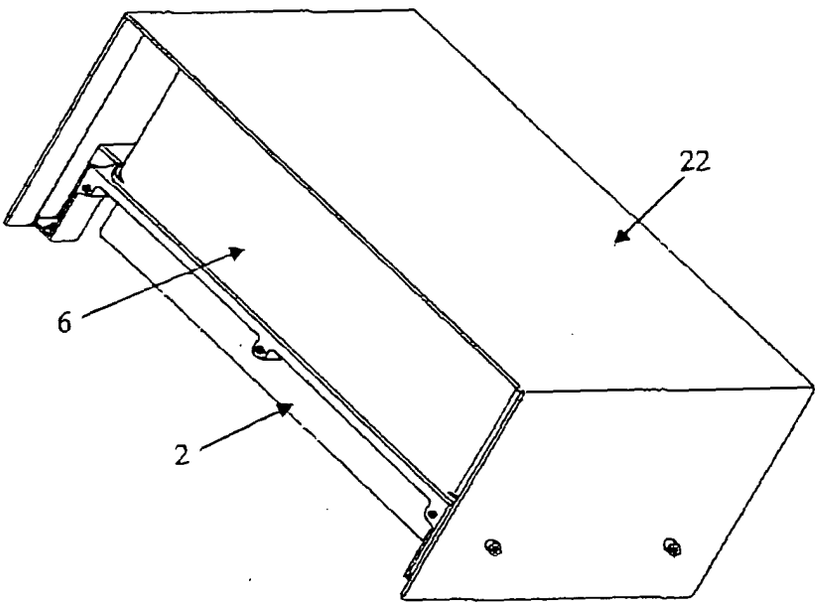

Fig. 5

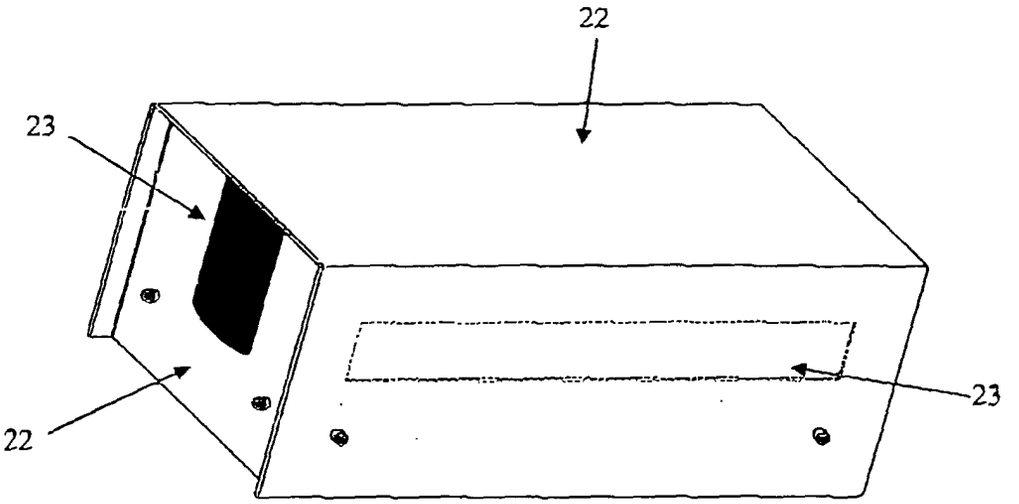

Fig. 6

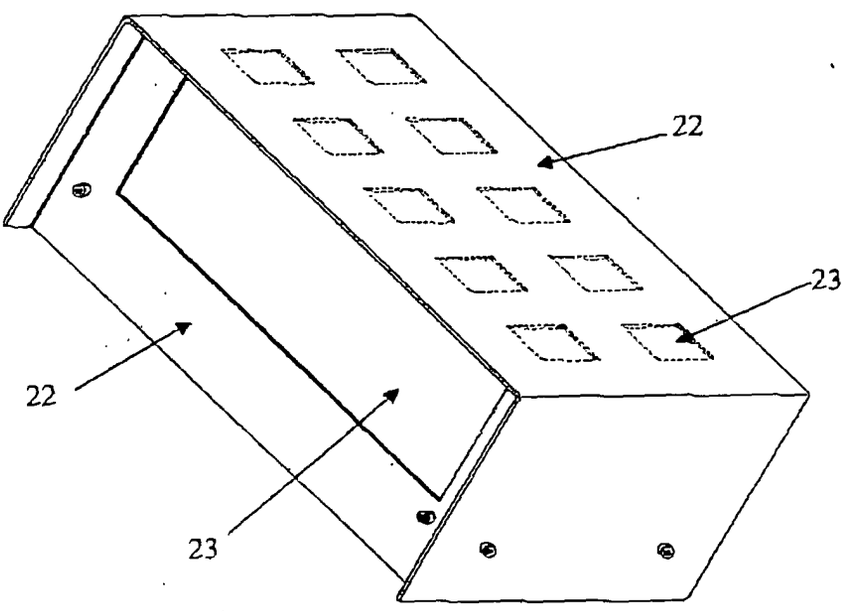

Fig. 7

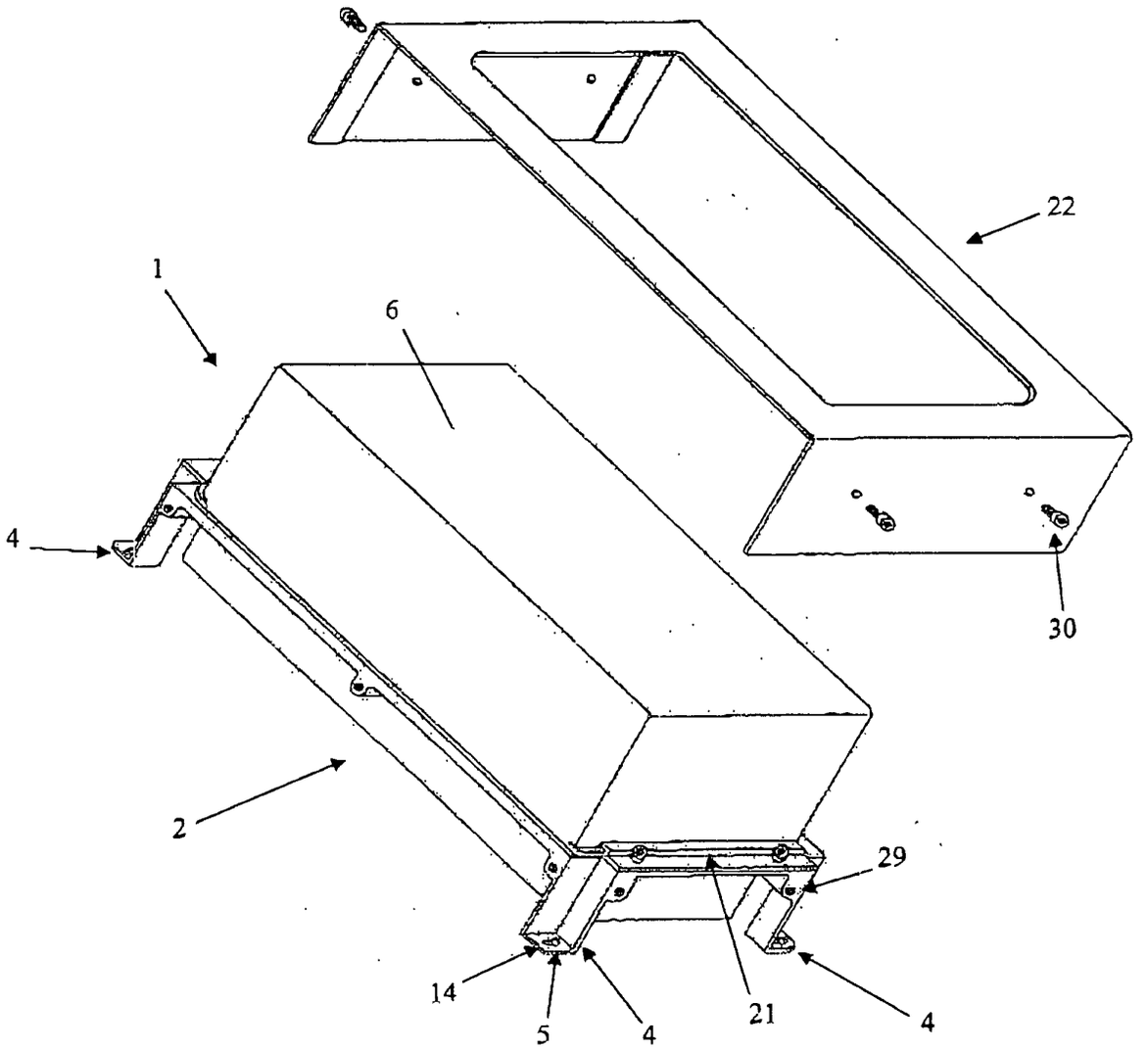

Fig. 8

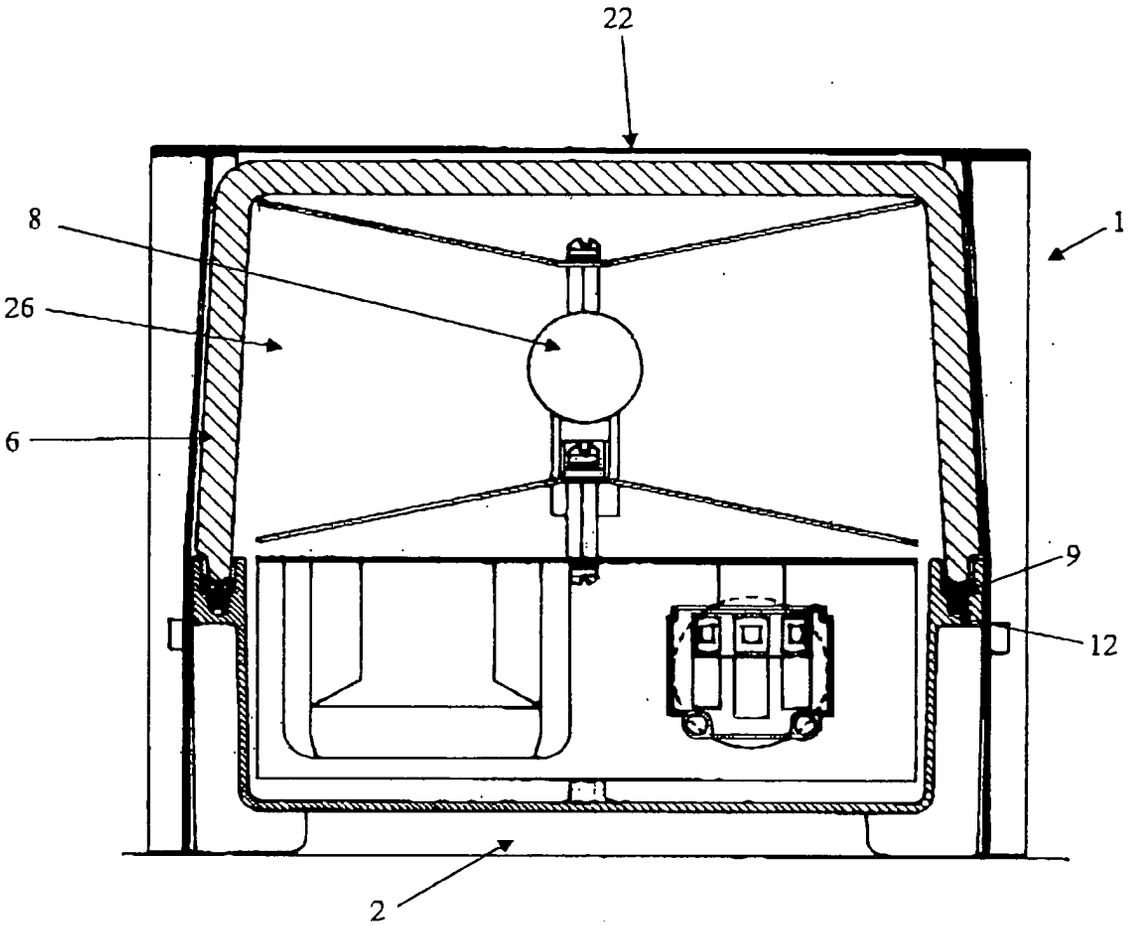

Fig. 9

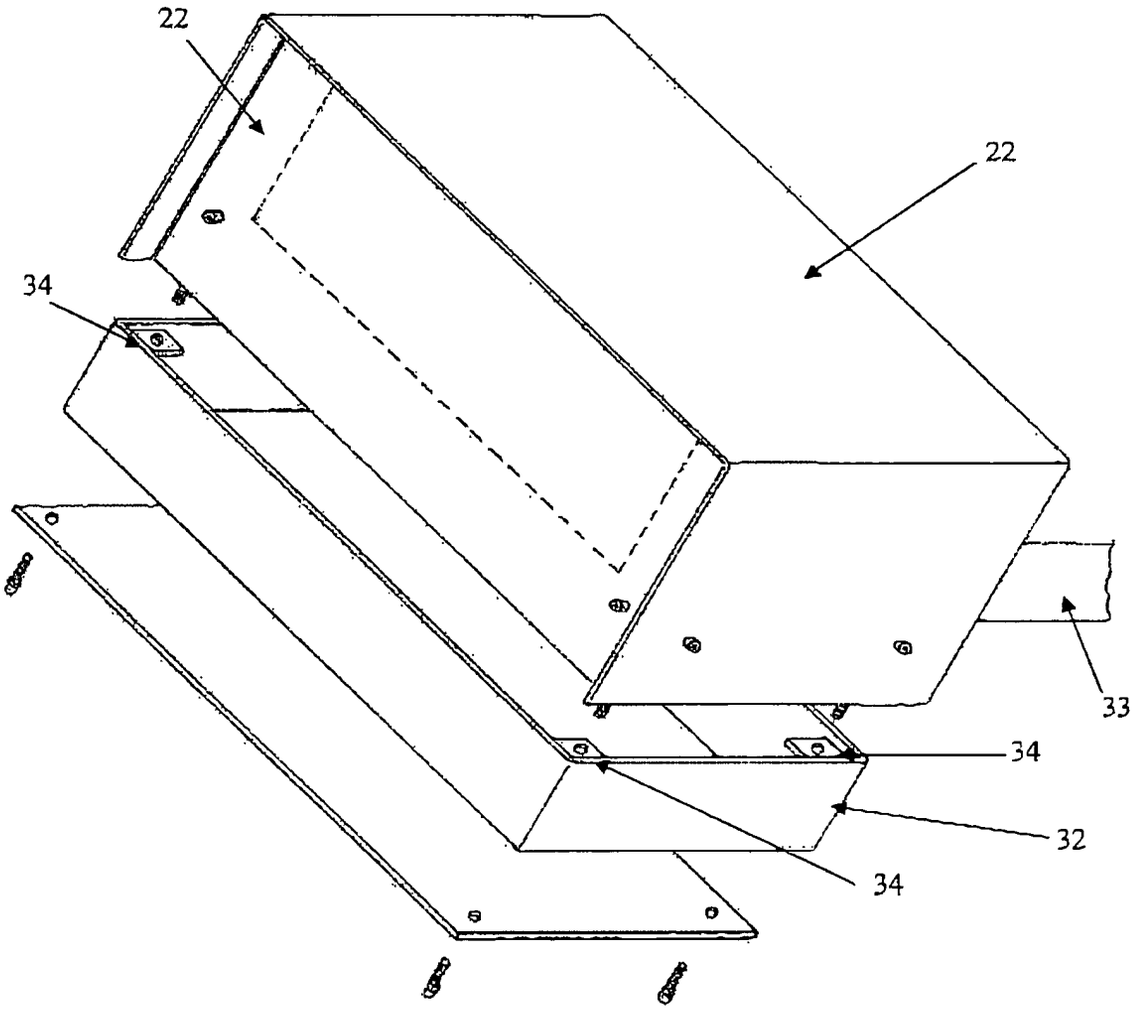

Fig. 10

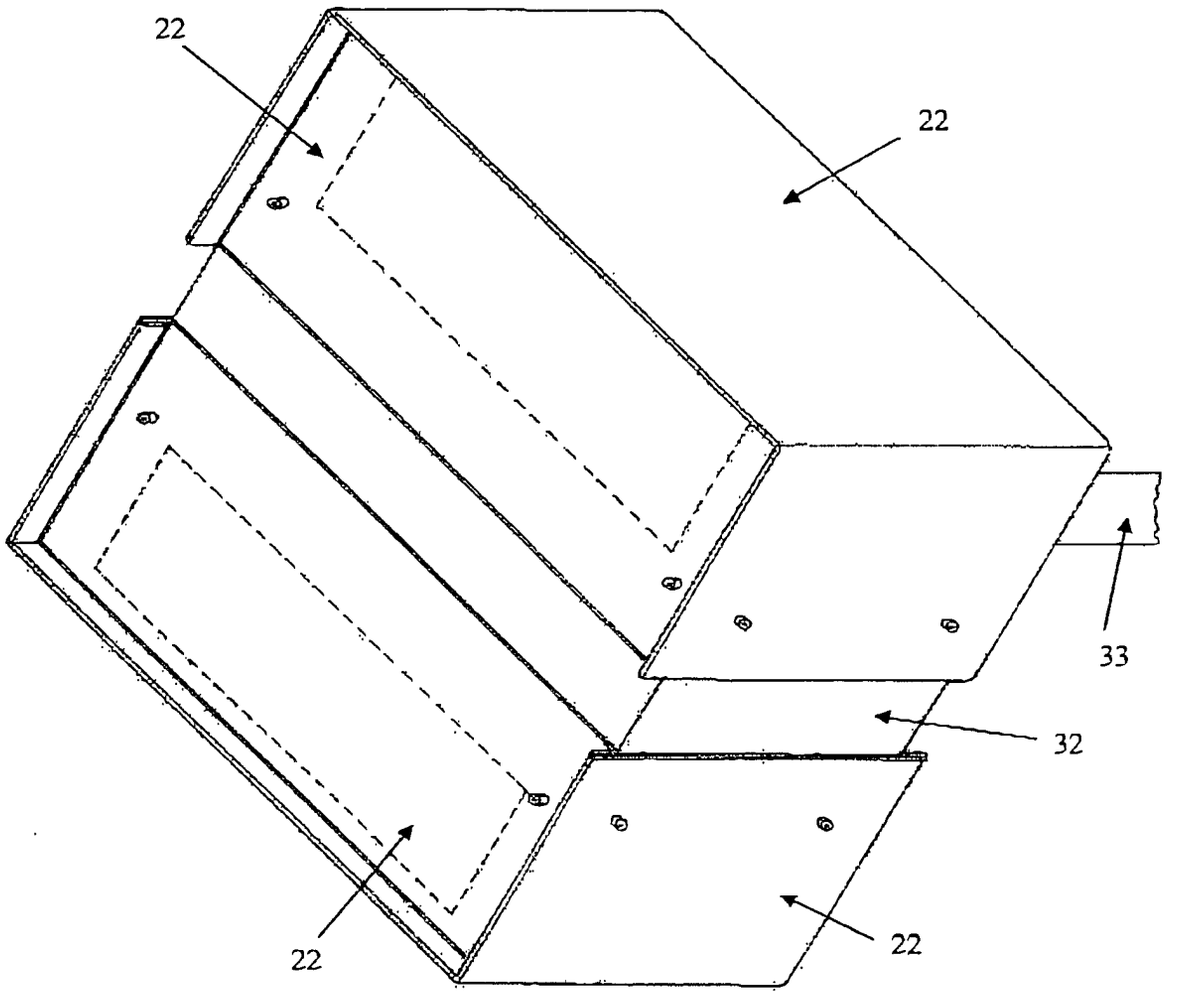

Fig. 11