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(54) Recessed lamp structure

(57) A recessed lamp structure suitable for being housed in a recessing hole formed in a panel (12) of a wall, a false ceiling or a false wall. The lamp comprises a light source (7) and a box-shaped support (6) wherein the light source is housed, and the support is integral with a plate (2) having a window (3) at which the light

source is positioned. The plate is mounted pivotably on a frame (1) engaged in the recessing hole and attached to the panel, the plate being lockable in a position substantially coplanar to the panel in the frame and having a cavity (5) around the window for housing a shim such as to be flush with the panel.

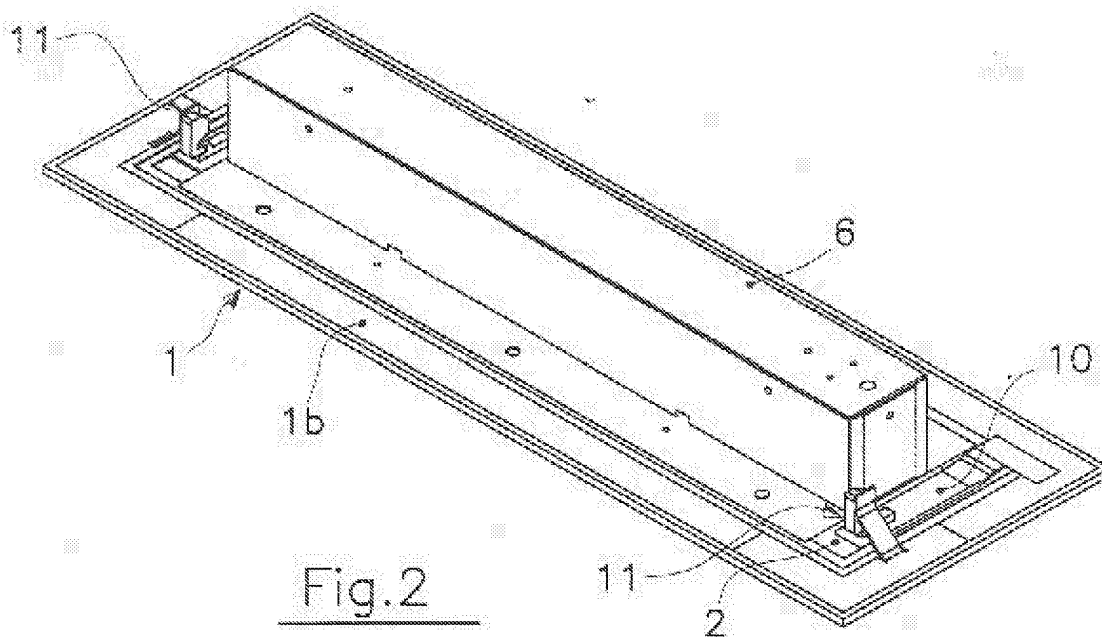


Fig. 2

Description

[0001] The present invention relates in general to the area of lighting fixtures and relates more particularly to a recessed lamp structure, that is to say of the type suitable for being recessed in a panel forming a false ceiling, a wall or a false wall.

[0002] It is known that the structure of conventional recessed lamps is designed to meet, in addition to the primary function of supporting the light source, also the need for easy assembly and maintenance. For this purpose the most common structural solution in conventional recessed lamps provides for the reflector, wherein the light source is placed, to be connected to a generally tubular support ending in a flange suitable for engaging in the recessing hole made in the panel forming the false ceiling, the wall or the false wall, in such a way as to make the flange abut on the external side of the panel. The lamp may therefore be attached to the false ceiling, the wall or the false wall by means of screws which connect the flange to the panel or via elastic means, integral with the tubular part of the support, which act on the internal side of the panel and maintain the flange in forced contact against the external side.

[0003] The attachment flange is therefore an essential functional element in the recessed lamps proposed hitherto. Nevertheless the presence of the attachment flange often constitutes an element which interferes with the aesthetic "purity" of the false ceiling, the wall or the false wall wherein the lamp is recessed. The effects of the discontinuity caused by the attachment flange may if necessary be limited by colour techniques (for example by making the flange the same colour as the back panel), yet cannot be completely eliminated. Traditional recessed lamps cannot therefore meet this aesthetic requirement.

[0004] The object of the present invention is to provide a recessed lamp structure able to meet the aesthetic requirement mentioned above and which, in particular, does not require the presence of an external attachment flange for its installation.

[0005] Another object of the present invention is to provide a recessed lamp structure of the type mentioned above, wherein access to the recessed part of the lamp to allow maintenance can be achieved by simple operations and without the use of tools.

[0006] These objects are achieved with the recessed lamp structure according to the invention whose basic features consist in that the support of the light source is integral with a plate having a window at which the light source is positioned and in that the plate is rotatably mounted on a frame engaged in the recessing hole and attached to the panel forming the false ceiling, the wall or the false wall. The height of the frame is substantially the same as the thickness of the panel and around the window of the plate a seat is provided for housing a shim such as to be flush with the panel.

[0007] In this way, when the plate is locked in a posi-

tion substantially coplanar to the panel in the frame, the illuminating window is visible from the outside only, surrounded by a narrow slot separating the plate from the frame.

[0008] Further features and advantages of the recessed lamp structure according to the present invention will be made clearer by the following description of one of its embodiments, given by way of a non-limiting example, with reference to the accompanying drawings in which:

Figure 1 is a schematic, axonometric bottom view of the recessed lamp structure according to the present invention;

Figure 2 is an axonometric top view of the recessed lamp structure of Figure 1;

Figure 3 is a top plan view of the recessed lamp structure according to the present invention;

Figure 4 is a cross section of the recessed lamp structure of Figure 3 along line IV-IV;

Figure 5 is a cross section similar to that of Figure 4, but with the plate in an open position.

[0009] Referring to Figures 1 and 2, 1 denotes generically a metal frame formed by a tubular profile 1a and a flange 1b projecting outwardly from one of its ends. It has been indicated at 2 a plate placed in the tubular profile 1a and having a perimeter edge 2a extending perpendicularly therefrom. The shape and size of the plate 2 are substantially the same as those of the tubular profile 1a in such a way that the plate 2, once inserted therein, can close it in a substantially complete manner.

[0010] More particularly, in the present embodiment of the invention, the tubular profile 1a has a rectangular shape and the plate 2 is rotatably mounted on the frame 1, being able to rotate along an axis parallel to the longer sides. According to the shape of the tubular profile the configuration of the rotating connection between it and the plate 2 will vary in a manner evident to a person skilled in the art. The plate 1 is placed in the tubular profile 1a so as to be substantially coplanar to the flange 1b and the height of its edge 2a is substantially the same as the height of the tubular profile 1a in such a way that the respective free ends are coplanar to the panel forming the false ceiling, the wall or the false wall (denoted by 12 in Figures 4 and 5).

[0011] A window 3, defined by a perimeter wall 4 extending from the same side as the edge 2a and having the same height, is formed on the plate 2. The edge 2a and the wall 4 therefore define a cavity 5 on the plate 2.

[0012] With reference also to Figures 3, 4 and 5, a box-shaped body 6 wherein a light source 7 is placed (formed by two tubular elements in the embodiment illustrated in the drawings) and a power supply device 8 connected to the electrical network are mounted on the side of the plate 2 opposite to that where the cavity 5 is formed. The light source 7 is placed at the window 3 behind an opaline diffusing panel 9 and is supported by

conventional lampholders, not shown, attached to the box-shaped body 6.

[0013] The plate 2 can be hinged to the tubular structure 1 in any suitable known manner. In particular, in the present embodiment of the invention, the pivotable assembly of the plate 2 is achieved by means of a pair of square elements 10, attached by one of their arms along its smaller sides and resting with the other arm on the flange 1b of the tubular framework 1. The plate 2 is locked in the closure position, i.e. coplanar to the flange 1b, by means of a pressure releasable, snap closure device, generically denoted by 11 and of a known type. The male element 11a of the closure device is attached to the flange 1b, while the female element 11b is correspondingly attached to the respective arm of the square elements 10 integral with the plate 2. Naturally, equivalent locking devices, for example with a spring, can be used as an alternative.

[0014] In the use of the recessed lamp structure according to the present invention, the frame 1 is first engaged in the recessing hole made in the panel 12, forming a false ceiling, a wall or a false wall, and attached to the latter by means of self-threading screws whose heads are then plastered. The plate 2, on which the box-shaped body and the square elements 10 have already been attached, is inserted in the tubular profile 1a and fastened therein, resting the respective arms of the square elements 10 on the flange 1b and locking the plate in a position coplanar to the latter through the closure device 11.

[0015] The cavity 5 is advantageously filled with the same material constituting the panel 12 as far as the edge so that, with the installation complete, the only visible gaps in the false ceiling or the wall are the window 3 and the narrow slot which remains between the tubular profile 1a and the edge 2a of the plate 2.

[0016] The recessed lamp structure according to the present invention is particularly albeit not exclusively designed for use with false ceilings, walls or false walls of considerable thickness, formed for example by panels in covered plasterboard, whose standard thickness is normally 12.5-15-18-20-25 mm. In this case the cavity 5 is also filled with plasterboard or a similar material.

[0017] The window 3 may have a different shape from that illustrated, also according to the shape and arrangement of the light sources. More particularly its shape may be generically polygonal, circular or elliptical and of any width, even in the form of one or more slots or notches of various lengths and development.

[0018] Access for maintenance purposes to the box-shaped body 6, where the power supply unit and light source are housed, is particularly simple, it being sufficient for this purpose to exert a light pressure from the outside on the plate at the two closure devices 11 to actuate their release and allow rotation of the plate outwards through gravity.

[0019] Variations and/or modifications may be made to the recessed lamp structure according to the inven-

tion, without departing from the scope and spirit of the invention as set forth in the following claims.

5 Claims

1. Recessed lamp structure, suitable for being housed in a recessing hole formed in a panel (12) of a wall, a false ceiling or a false wall, said lamp comprising a light source (7) and a box-shaped support (6) wherein said light source is housed, **characterised in that** said support is integral with a plate (2) having a window (3) at which said light source is positioned and **in that** said plate is pivotably mounted on a frame (1) engaged in said recessing hole and attached to said panel, said plate being lockable in a position substantially coplanar to said panel in said frame and having a cavity (5) around said window for housing a shim so as to be flush with said panel.
2. Recessed lamp structure according to claim 1, wherein said frame (1) is formed by a tubular profile (1a) and a flange (1b) projecting outwardly from one of its ends, said flange resting on said panel (12) and being attachable to the latter.
3. Recessed lamp structure according to claims 1 or 2, wherein said plate (2) has a perimeter edge (2a) extending perpendicular therefrom and the window (3) formed thereon is defined by a perimeter wall extending from the same side as said edge and having substantially the same height as it.
4. Recessed lamp structure according to any one of the previous claims, wherein the heights of said tubular profile (1a), of the perimeter edge (2a) of said plate (2) and of the perimeter wall of said window (3) are such that, when said plate (2) is mounted on said frame (1), their respective free ends are coplanar and flush with the external side of said panel (12).
5. Recessed lamp structure according to any one of the previous claims, wherein said plate (2) and said tubular profile (1a) have a rectangular shape and said plate is pivotable around an axis parallel to the longer sides, a closure device (11) also being provided, for maintaining said plate (2) in a position substantially coplanar to said flange (1b) .
6. Recessed lamp structure according to claim 5, wherein the closure device (11) is of the pressure releasable, snap type or of the spring type or equivalent.
7. Recessed lamp structure according to any one of the previous claims, wherein at the two smaller sides of said plate (2) respective square elements

(10) are attached by one of their arms, the other arm resting on said flange (1b) .

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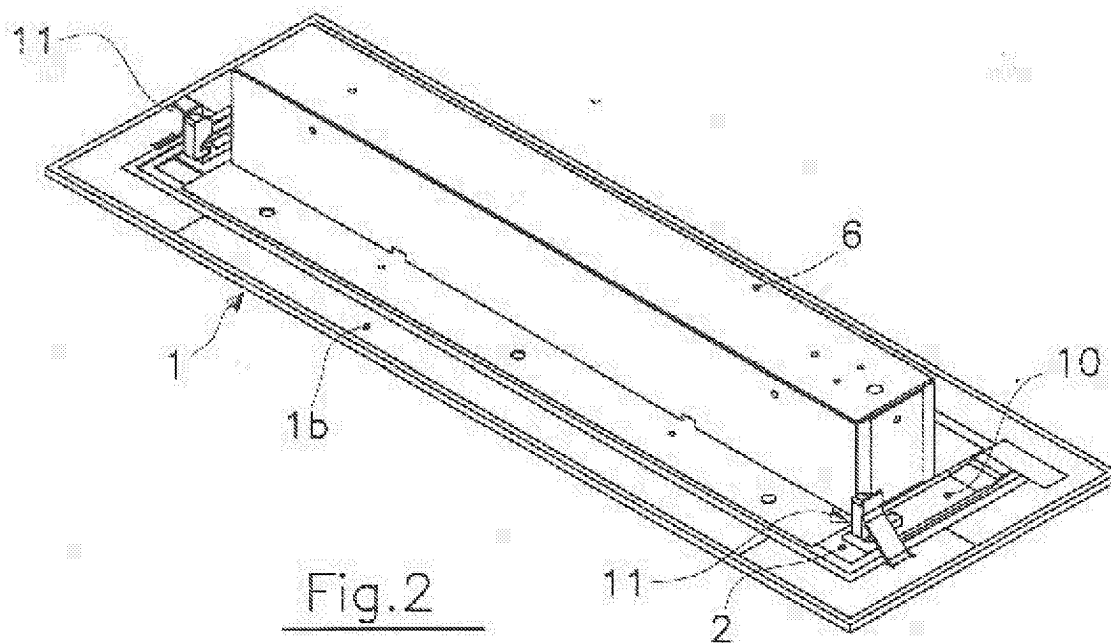
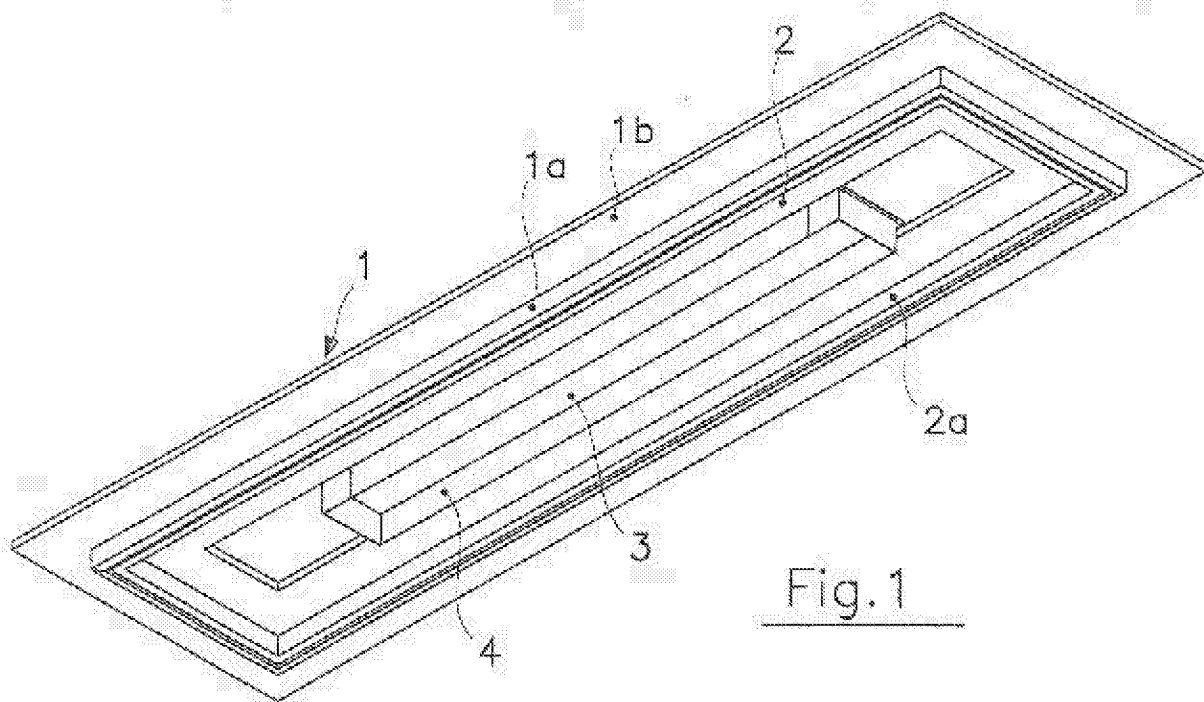
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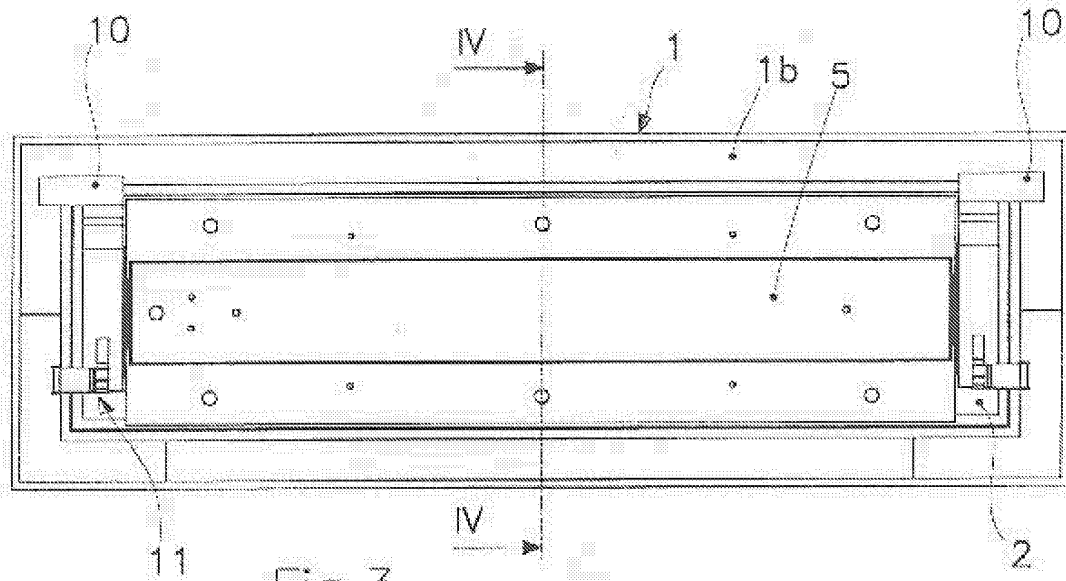


Fig.3

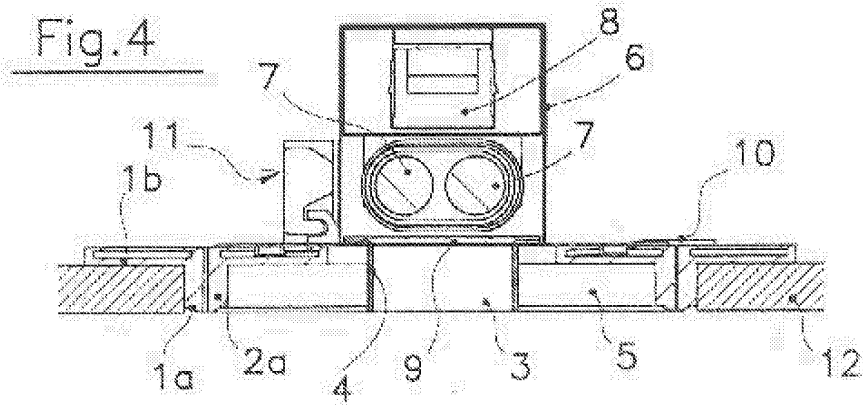


Fig.4

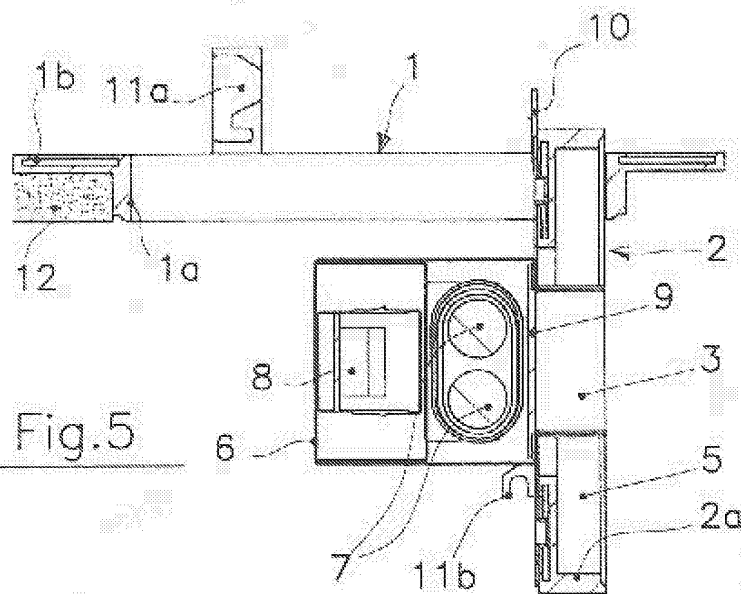


Fig.5