

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 892 469 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
20.01.1999 Bulletin 1999/03

(51) Int Cl.⁶: **H01R 13/73, H01R 19/40**

(21) Application number: **98500168.4**

(22) Date of filing: **16.07.1998**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Fernandez De Arroyabe Santos, Jose
Antonio**
01195 Vitoria (Alava) (ES)

(74) Representative: **Carpintero Lopez, Francisco**
HERRERO & ASOCIADOS, S.L.
Alcalá, 21
28014 Madrid (ES)

(30) Priority: **16.07.1997 ES 9701954 U**
17.09.1997 ES 9702383 U

(71) Applicant: **Daisalux, S.A.**
01195 Vitoria (Alava) (ES)

(54) Plug-in system for wall luminaires

(57) The luminaire structure, which comprises a base body (1) and an appropriate diffuser (2), between which two chambers (3) and (4) are established by means of a pan-shaped partition wall (5), includes an independent socket (6) which may be snap-fitted to the base body (1), which socket (6) has through holes for wall fixing screws (9) and catches or like means for fixing

one or several electric connectors (10), making up a sort of strip with grub screws (11) for fixing the relevant leads. When fitting the luminaire, the socket (6) is first of all fixed to the wall, the leads are then connected to the grub screws (11) of the connectors (10), and thereafter the rest of the luminaire parts are snap-fitted onto the socket (6).

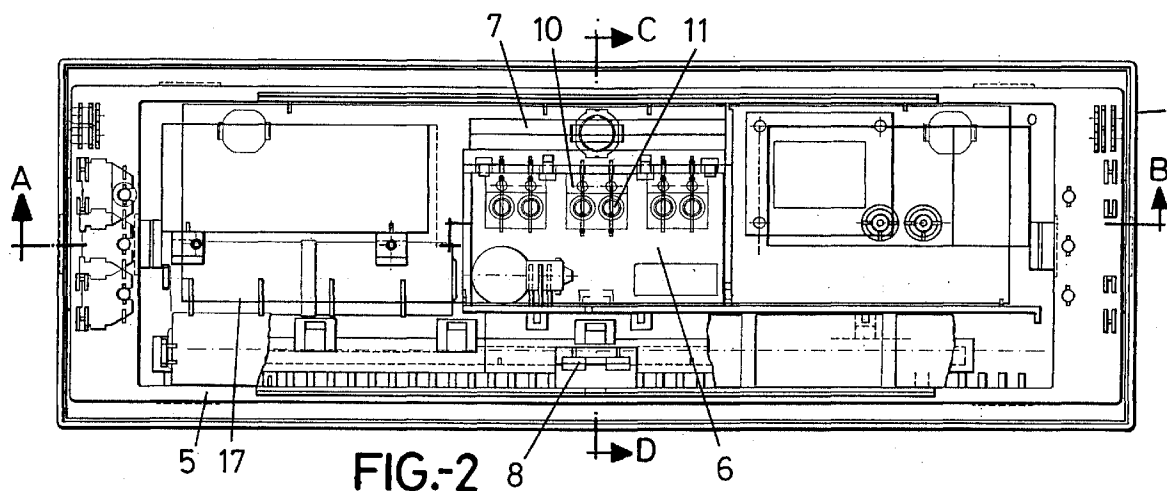
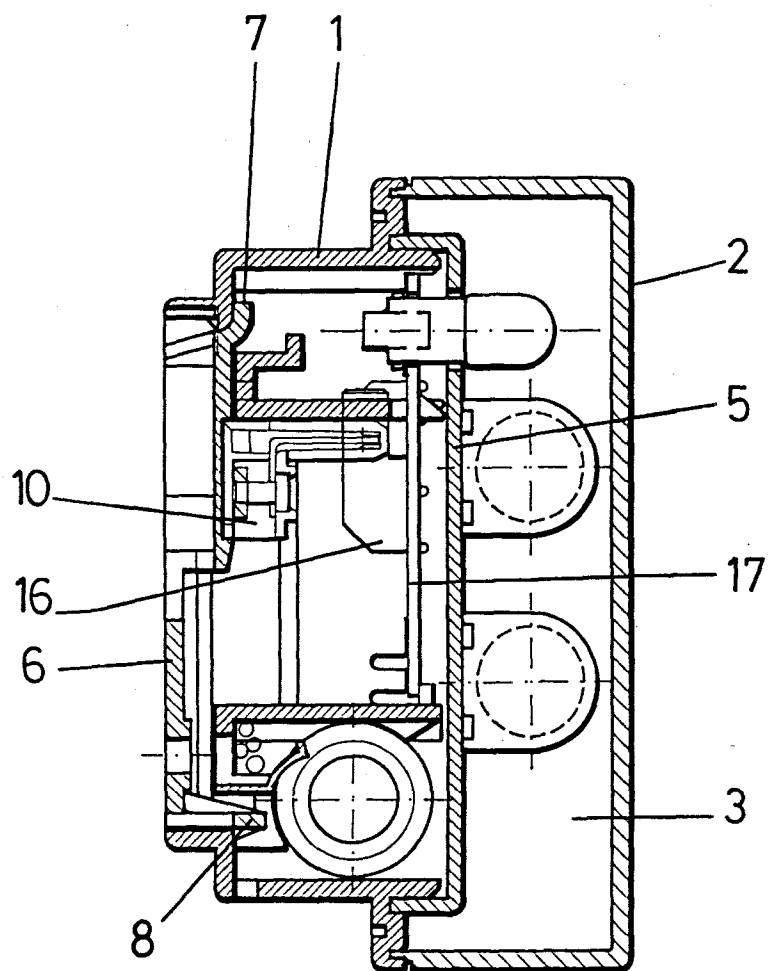


FIG.-2

EP 0 892 469 A2



C-D
FIG.-3

Description

OBJECT OF THE INVENTION

The invention relates to a plug-in system for luminaires, in particular for wall luminaires, wherein the luminaire casing has a small independent socket which may subsequently be coupled thereto and is fitted with wall fixing means, which socket has a connector established therein which allows the socket to be previously connected to the mains and the luminaire as such to be subsequently and instantaneously connected by merely coupling the same to the socket.

BACKGROUND OF THE INVENTION

Wall luminaires are conventionally provided with a casing with a translucent front which may be coupled to their base body by different means, the base body having a hole through which the mains leads are inserted to be connected to a strip that is in turn previously connected to the inner luminaire circuit.

This means that in order for the luminaire to be fitted on the wall, its base body or casing must first of all be fixed, the mains leads must then be connected and the translucent front or shade must finally be fitted.

DESCRIPTION OF THE INVENTION

The plug-in system for luminaires disclosed herein allows the luminaire to be connected and hung on the wall in a manner which is so much easier and straightforward.

More specifically and in order to achieve the above, the invention is based upon the casing being divided into two parts, namely a casing as such and a small rear socket which may be snap-fitted in a window operatively made therein, being particular in that said socket, which is provided with wall fixing means of any conventional kind, is provided to house the luminaire connector, which comprises a sort of strip duly fixed to the socket, provided with two grub screws for the mains leads to be connected, the leads reaching said connector through a hole operatively made in the socket, two female contacts lying next to said grub screws, each contact based on two parallel pins lying very close to each other and between which a blade duly attached to the base body of the luminaire can be inserted in the contact.

In accordance with this construction, at a first operative stage, the luminaire socket is fixed to the wall, for instance with the assistance of pegs and coach screws, once the leads have crossed such a socket, thereupon to be coupled to the connector with the assistance of said grub screws, and therefore at a second operative stage it is sufficient to mechanically couple the rest of the luminaire to the prefixed socket in order for the blades to be inserted within the female contacts of said connector and thus as the general luminaire body is me-

chanically fixed, so are its inner mechanisms electrically connected.

In the above-described luminaire construction, two chambers are established which are bound by a pan-shaped partition wall having its concavity facing towards the base body, and therefore the appropriate electric and electronic parts are housed in one of the chambers and the appropriate illumination lamps are housed in the other chamber, the foregoing such that the chamber in which the electric and electronic parts are located substantially invades the lamp chamber albeit only inside the luminaire, the side wall of the diffuser overlapping the side walls of the pan-shaped partition, which means that the diffuser can be oversized with respect to the base body, and hence the dimensional proportion between both parts can be substantially improved, which results in an enhanced overall appearance of the luminaire.

DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, in accordance with a preferred embodiment thereof, a set of drawings is attached as an integral part of the specification which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1. - Is a side elevation longitudinal sectional view of a luminaire provided with the plug-in system subject of the present invention.

Figure 2. - Is a front plan view of the base body of the luminaire, i.e. of the luminaire devoid of both the reflector and the translucent diffuser.

Figure 3. - Is a cross-sectional close-view of the luminaire at the height of the socket supporting the connector.

Figure 4. - Is a plan close-view of the connector, partially cut away, clearly showing its inner structure.

Figure 5. - Is likewise a sectional profile view of the connector of the preceding figure.

Figure 6. - Is a front elevation of the same connector of figures 4 and 5.

Figure 7. - Is a perspective rear view of the luminaire showing the socket to be fixed to the wall coupled to the luminaire body.

Figure 8. - Is a perspective view showing the inside of the luminaire and specifically the inside of the wall coupling socket.

Figure 9. - Is a side end view of the luminaire which forms part of the system subject hereof.

PREFERRED EMBODIMENT OF THE INVENTION

With reference to the figures, it follows that the plug-in system disclosed herein applies to a luminaire comprising a base body (1), which is opaque by nature, and a front diffuser or transparent body (2) duly fixed to the base body (1) and defining together with the latter two

chambers (3) and (4) separated by an intermediate partition wall (5), and therefore whereas the illumination lamps are housed in the front chamber (3), the electric and/or electronic parts of the luminaire are housed in the rear chamber (4).

Now then, based upon this basic, conventional construction, the system disclosed herein lies in establishing an independent socket (6) at a preferably central area of the rear wall of the base body (1), which may be snap-fitted to the base body (1), for instance by means of a coupling hook (7) established on one of its edges, and resilient catches (8) located on the other edge, said socket (6) having through holes for wall fixing screws (9) designed therefor, or any other conventional wall fixing means, wherever the mains lead for powering the luminaire are located, which leads will reach the compartment (4) through any hole operatively made to such end.

The inner face of said socket (6) is provided with catches similar to the above-mentioned catches or with any other means for fixing one or more connectors (10), of which there are three in the practical embodiment of figures 1 and 2, though the number can vary depending on the luminaire performance requirements, the connectors as shown in figures 4 to 6 making up a sort of strip in which a pair of grub screws (11) are established for fixing said mains leads, and at each grub screw (11) a pair of parallel resilient pins (12) are provided projecting from a common part (13) crossed by the actual grub screw (11), as shown specifically in figure 5, the electroconductive pins being duly protected by a coating (14) of electrically insulating material, such as plastic for instance, and defining slots (15) also affecting the electrically insulating coating (14) which may be accessed by broad blades (16) duly attached to a support (17) established within the base body, which blades (16) are in turn previously and permanently connected to the luminaire circuit or circuits.

Going back to the partition wall (5) that bounds the luminaire chambers (3) and (4), it is noteworthy that it is pan-shaped with its side wall facing in such manner that its mouth is coupled to the base body (1) within the perimetric edge of said base body, the side wall of said partition wall (5) being concealed by the side wall of the diffuser (2). The surface view of said diffuser, in so far as the luminaire side wall is concerned, is therefore substantially oversized with respect to that of a conventional diffuser, i.e. there is a contrary effect on the side surface of the base body (1), i.e. the classic lack of proportion between the luminaire body (1) and the transparent body constituting the diffuser (2) is inverted, whilst maintaining the required dimensions of the chambers (3) and (4), which results in the outer overall appearance being greatly enhanced.

In accordance with this construction and as aforesaid, in order for the luminaire to be mounted, a first stage will comprise fixing the socket (6) to the wall and connecting the leads to the screws (11) of the connec-

tors or strips (10) and thereafter it will be sufficient to snap-fit the rest of the luminaire onto said socket, by coupling the hook (7) and then coupling the resilient catch (8) in order for the luminaire to be perfectly fixed and electrically connected.

Claims

1. A plug-in system for wall luminaires, specifically for luminaires provided with a base body, which is opaque by nature, housing within it the electric and/or electronic parts powering the appropriate illumination lamps, and the latter, characterised in that it comprises arranging on the bottom of the base body (1) of the luminaire a socket (6) separate therefrom, which may be snap-fitted to said base body (1), provided with wall fixing means (9) and means for fixing one or several electric connectors (10) at each of which grub screws (11) are established for connecting the mains leads, and female contacts able to have male contacts operatively established in the base body (1) of the luminaire plugged into them when the body is coupled to the socket (6).
2. A plug-in system for wall luminaires, as in claim 1, characterised in that the socket (6) is provided at one of its edges with an arched hook (7) to be coupled to the respective edge of the window of the base body (1) to which said socket is coupled, whereas the opposite edge is provided with at least one resilient catch (8) which, upon said hook (7) being coupled, defines a snap-fit of the socket (6) to the rest of the luminaire.
3. A plug-in system for wall luminaires, as in the preceding claims, characterised in that the inner face of the socket (6) is provided with resilient catches for fixing the electric connectors (10).
4. A plug-in system for wall luminaires, as in claim 1, characterised in that each female contact in each connector (10) comprises a pair of parallel resilient pins (12) projecting from a common body (13) fixed to the relevant grub screw (11), which pins (12) are provided with an electrically insulating material coating (14) and define slots (15) into which the respective male contacts may be plugged, the latter contacts comprising blades (16) having a broad surface, which are inserted in said slots (15) to establish an automatic electric connection upon the rest of the luminaire being fitted onto the socket (6).
5. A plug-in system for wall luminaires, as in the preceding claims, characterised in that a pan-shaped partition wall (5) is mounted between the base body (1) and the appropriate conventional diffuser (2) with its concavity facing the base body (1) and its

side wall (7) drawn in with respect to the periphery of said base body (1), which allows the span of the side wall of the diffuser (2) to be substantially increased, at the expense of a reduction of the side wall of the base body (1), thereby enhancing the appearance of the luminaire without the size of the two chambers (3) and (4) established therein being altered; the side wall of the partition wall (5) being thus provided to lie within the marginal oversized area of the side wall of the diffuser (2).

5

10

15

20

25

30

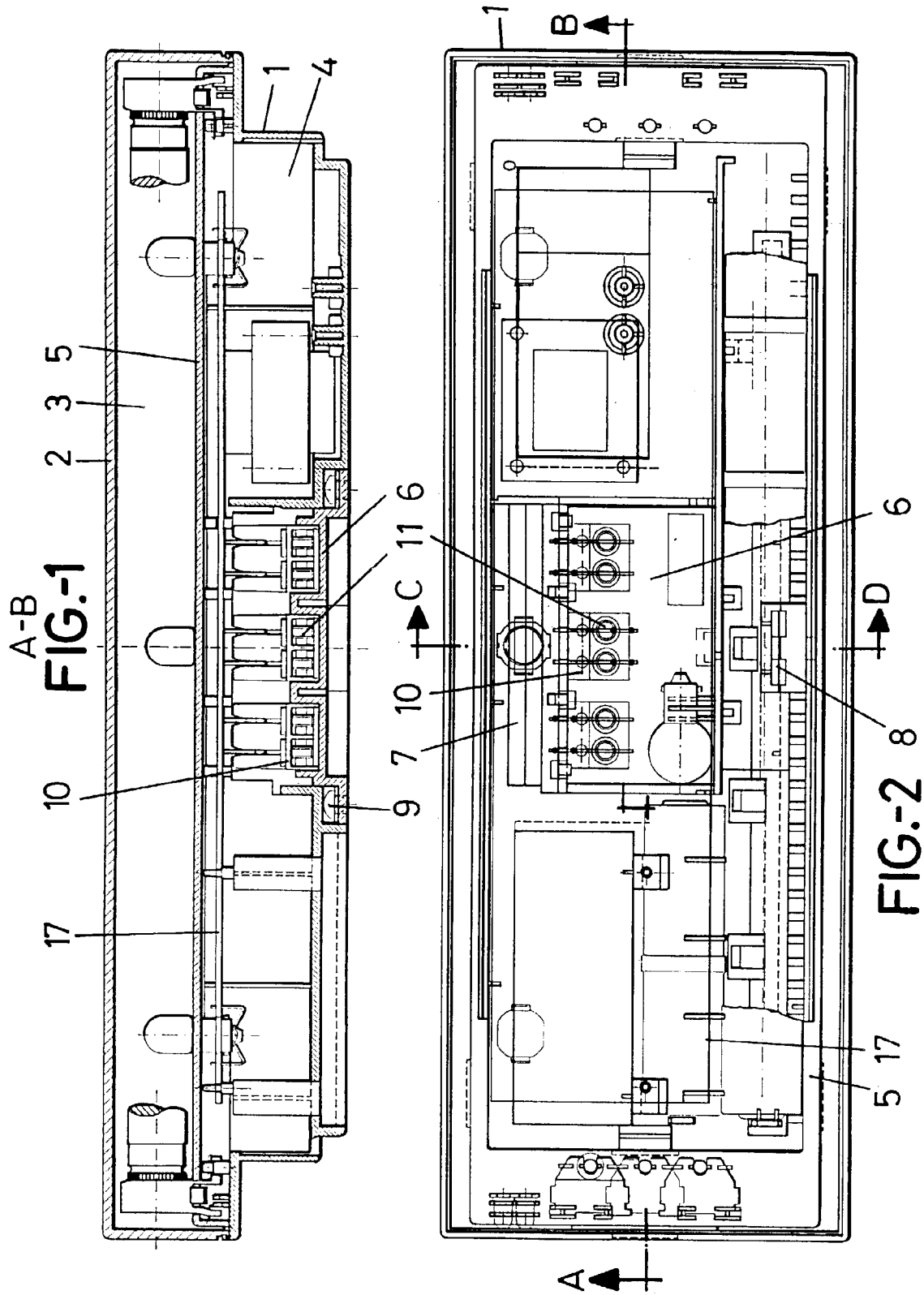
35

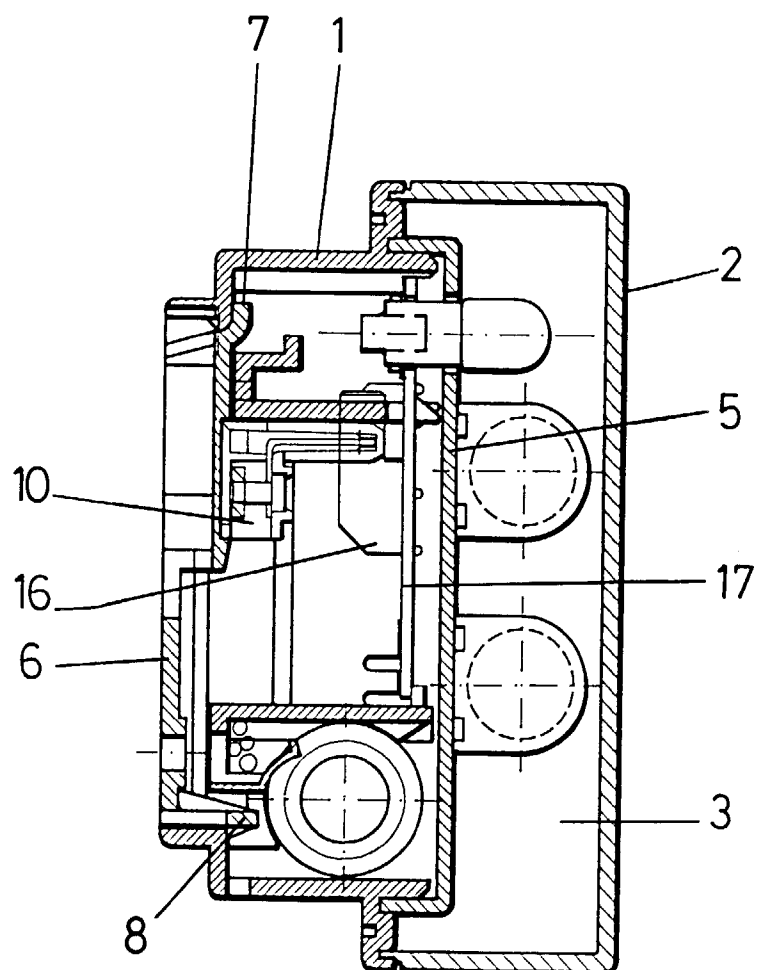
40

45

50

55





C-D
FIG.-3

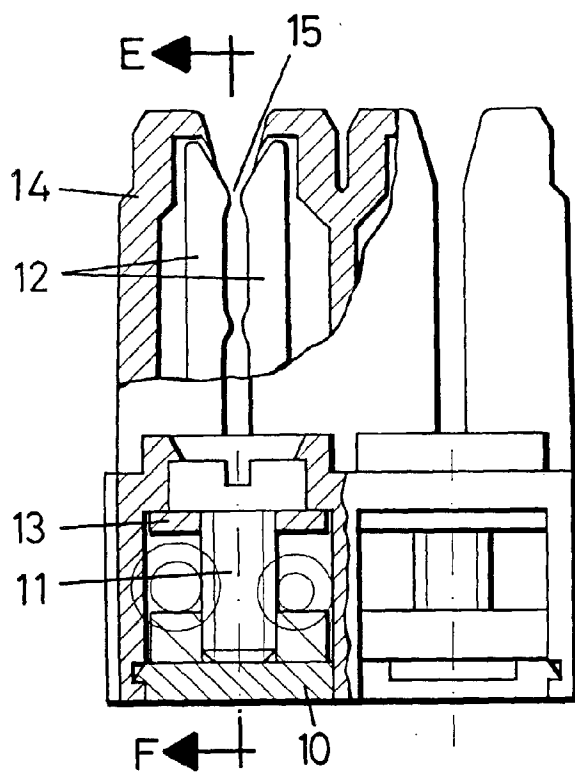


FIG.-4

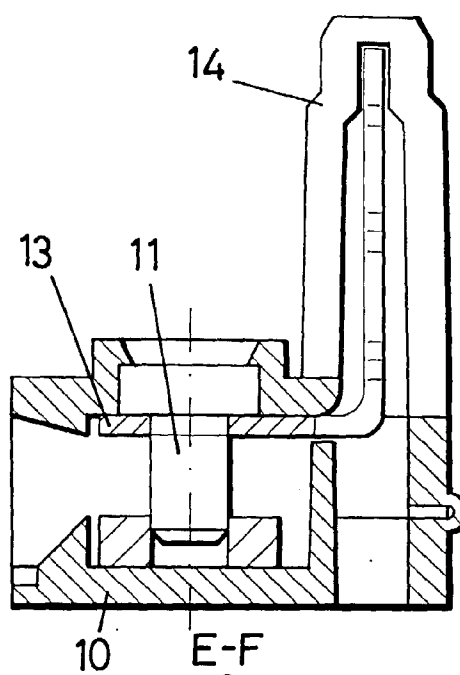


FIG.-5

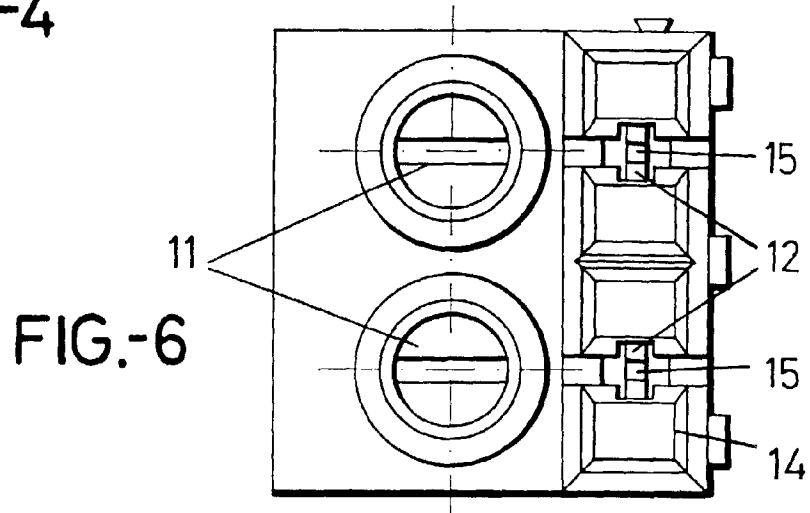


FIG.-6

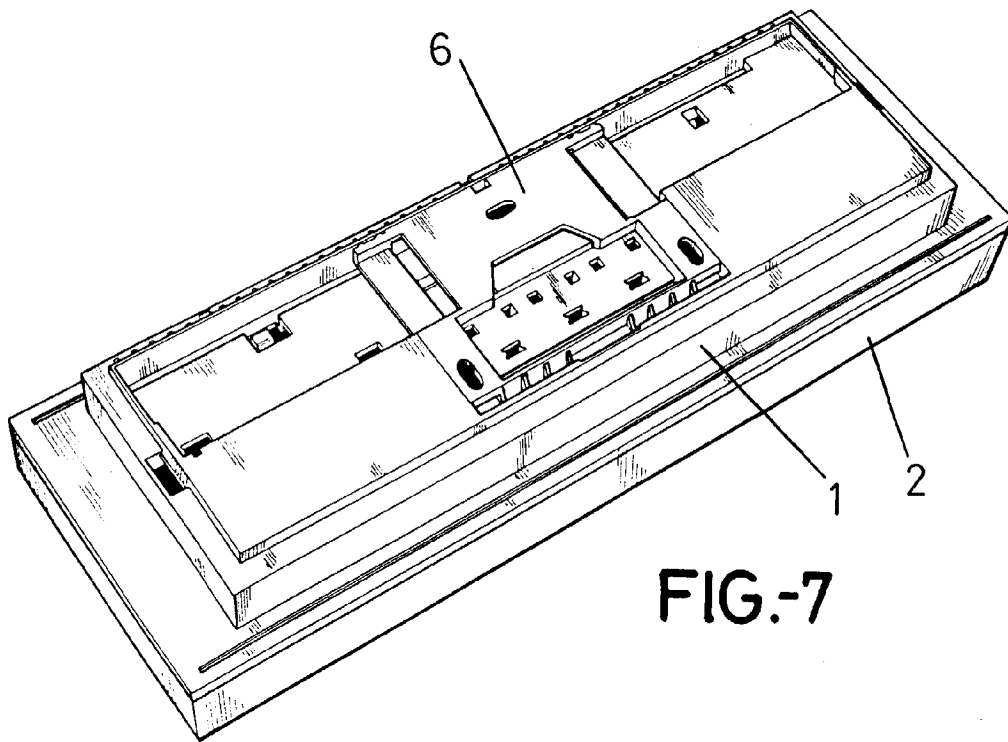


FIG.-7

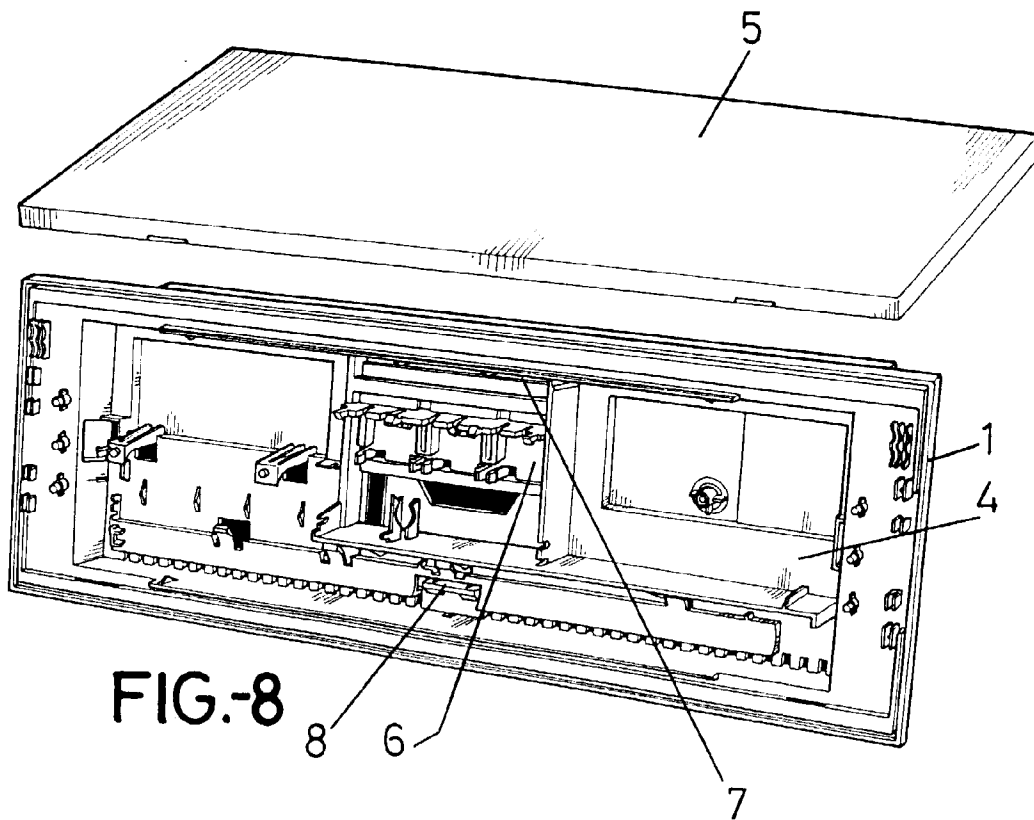


FIG.-8

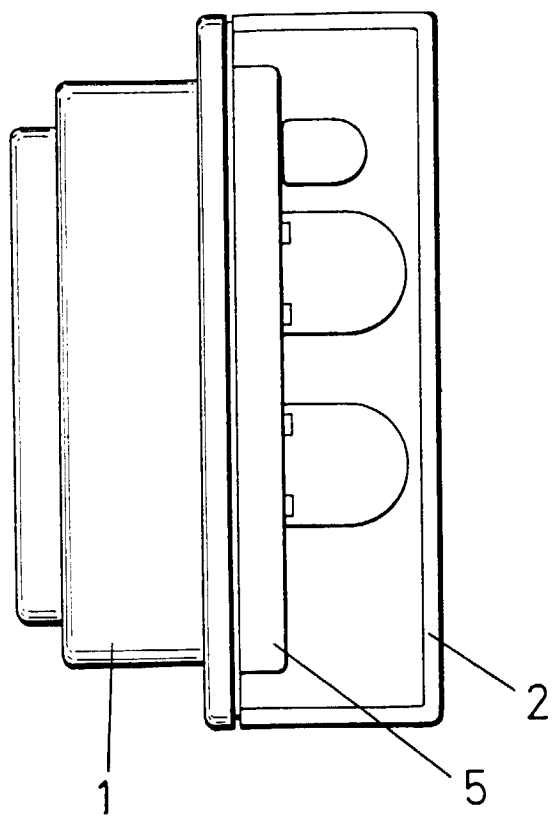


FIG.-9