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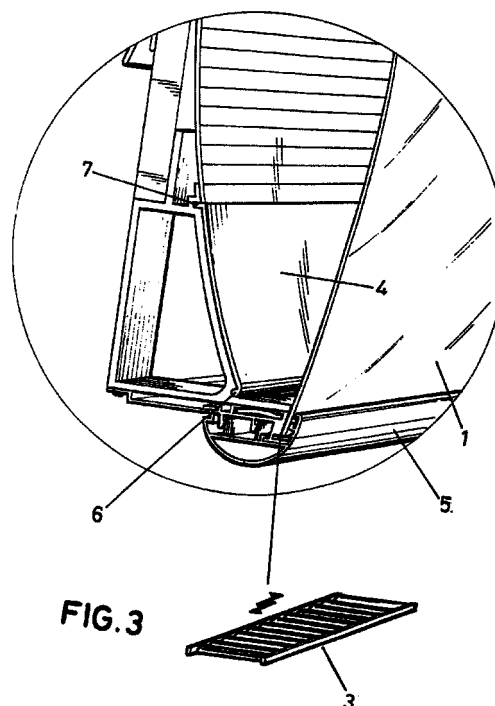
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(54) **Improvements in electric signs**

(57) Improvements are disclosed in electric signs comprising a lower door which allows accessing the interior of the sign and maintenance operations, allowing a single worker without specific skills to easily carry out such tasks. The improvements also consist in incorporating a set of rollers on which rests the polycarbonate bearing the publicity or informative lettering which allow lateral sliding of the polycarbonate as it expands or contracts with the ambient temperature allowing to use polycarbonate sheets of any length.



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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to improvements made in electric signs bearing publicity, or any other information, with which an easier access is provided to the interior of the sign, so that a minimal number of workers without specific training may carry out maintenance tasks of the sign.

[0002] Additionally, the improvements also allow use of continuous polycarbonate sheets of considerable length, preventing expansion problems which previously prevented use of very long sheets.

BACKGROUND OF THE INVENTION

[0003] Presently known electric signs present problems in their maintenance tasks both in replacing the fluorescent tubes inside them when their useful life ends and in any type of repair work, as well as when replacing the polycarbonate sheets which bear the information or publicity, as generally two skilled workers are required to carry out these tasks, a specialist in disassembly of the sign and an electrician.

[0004] Presently known electric signs also suffer from thermal expansion of the polycarbonate sheets, which prevents making continuous signs of a considerable length as large sheets, as upon expanding due to a temperature rise, but not having room to expand or due to the weight of the sheet itself on the resting surface, they may bulge in an undesirable manner or even break.

[0005] For this reason continuous signs of a considerable length cannot be made, and several individual polycarbonate sheets are employed, with an expansion joint provided between them, resulting in a considerable aesthetic disadvantage for these devices.

DESCRIPTION OF THE INVENTION

[0006] The improvements introduced in this invention consist of providing on the bottom of the sign structure and along its entire length a door which, upon being opened towards the inside of the sign, reveals a space sufficiently large for the worker to access the inside of the sign and comfortably carry out any maintenance tasks, so that no specifically skilled labourers are required for this task, as well as resulting in a considerable reduction of the time employed as no sign components need to be disassembled and assembled.

[0007] The other improvements introduced consist of providing, in the bottom bar which defined the lower edge of the sign, a set of small rollers which are free to rotate and which occupy the entire length of the sign, placed perpendicular to the polycarbonate sheet so that this sheet rests on them on its bottom edge. Due to these rollers the weight of the sheet does not hinder its thermal expansion as the rollers allow its displacement

during expansion or contraction.

[0008] In this way, an electric sign provided with said rollers will allow to install continuous polycarbonate sheets of a considerable length.

DESCRIPTION OF THE DRAWINGS

[0009] Further characteristics and advantages of the present invention will more fully appear from the accompanying set of drawings where, for the purpose of illustration only and not intended as a definition of the limits of the invention, the following is shown:

Figure 1 is a perspective view of an electric sign with the improvements of the invention, with the search door closed, and with an enlargement of a lower area of the sign.

Figure 2 is a similar view in which the polycarbonate sheet is represented partially sectioned in order to show how by opening the search door an easy access is provided to the interior of the sign.

Figure 3 is a perspective view of a lower section of the sign in order to show the location of the rollers, which are shown in an enlargement.

PREFERRED EMBODIMENT OF THE INVENTION

[0010] Figure 1 shows the bar based structure of a known electric sign, consisting of an bar (2) for attachment to the wall, and decorative bars (5) which conform the top and bottom longitudinal ends and on which are inserted the edges of a polycarbonate sheet (1) bearing the information or publicity.

[0011] One of the improvements of the invention consists in that on a lower area of the rear wall of the sign is provided a search door (4) formed from a bar as shown in figure 3, which occupies the entire length of the sign and which opens inwards in order to allow easy access to the sign interior, as shown in figure 2.

[0012] In certain embodiments of the invention, such as for a very long sign, search door (4) may be shorter than the full length of the sign, and several doors may even be provided which span the length of the sign.

[0013] For this purpose, the bar which forms search door (4) has a lower rounded edge (6) about which it may open as it is inserted in the corresponding complementary groove of bar (2). Search door (4) is shaped along its entire top edge in the form of a catch (7) meant to lock search door (4) in its closed position by pressure, as this edge is inserted in a catch (7) in a complementary groove of bar (2), so that search door (4) can be opened simply by pushing it inwards until it is unlocked.

[0014] Polycarbonate sheet (1) is installed in the electric sign by means of its top and bottom edges which are inserted in decorative bars (5, 5'), the second improvement of the invention being based on incorpo-

rating a set of rollers (3) along the inside of lower bar (5), placed so that polycarbonate sheet (1) rests on them.

[0015] Rollers (3) may be made from any material and in any size considered suitable for their functionality, and are placed perpendicular with respect to the normal plane of polycarbonate sheet (1) so that they allow the latter to slide as it expands and contracts with ambient temperature. 5

[0016] In this way any length of polycarbonate sheets (1) may be used without suffering from the problems which result from expansion in conventional signs. 10

Claims

1. Improvements made in electric signs meant to facilitate access to the inside of the sign and to simplify maintenance operations, and likewise meant to allow use of polycarbonate sheets of any length, characterised in that the electric sign is provided at its lower area along part or all of its length, with one or several search doors (4) which form a lower rounded edge (6) about which they may open, and an opposite edge as a catch (7) with which they are locked, and which once opened inwards reveal a space inside the sign sufficiently large to allow easy access to the interior; and in that the electric sign is provided at its bottom with a set of rollers (3) on which is meant to rest a polycarbonate sheet (1) or a similar device bearing the information or publicity, said rollers (3) placed perpendicular to the sheet and as its support along its entire length, so that they allow displacement of the sheet upon expansion or contraction due to changes in the ambient temperature. 15 20 25 30 35

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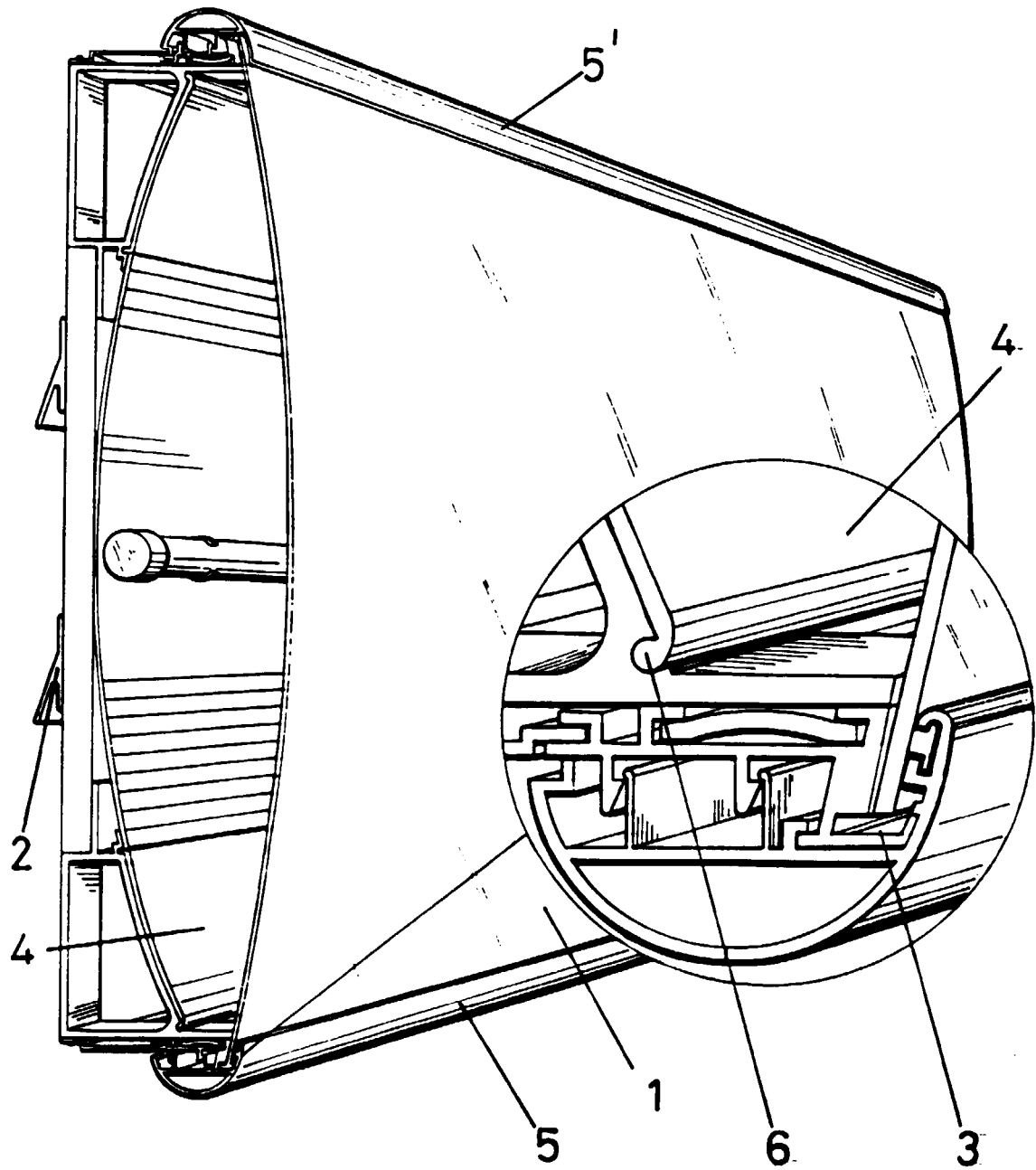


FIG.1

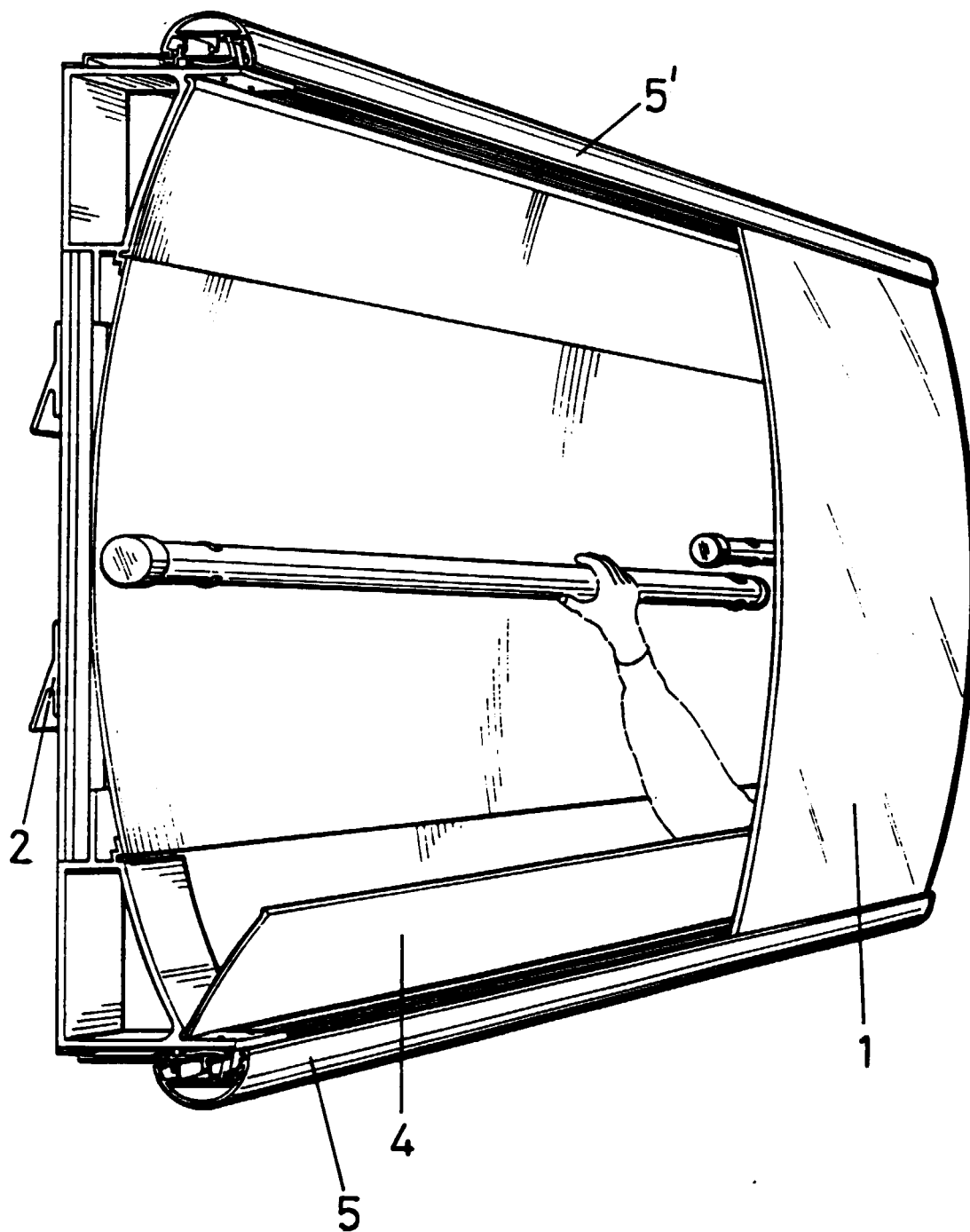


FIG.2

