March 22, 1949. L. E. PETERS 2,465,034

ILLUMINATED SIGN WITH VENTILATING MEANS THEREFOR

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Fig. 1

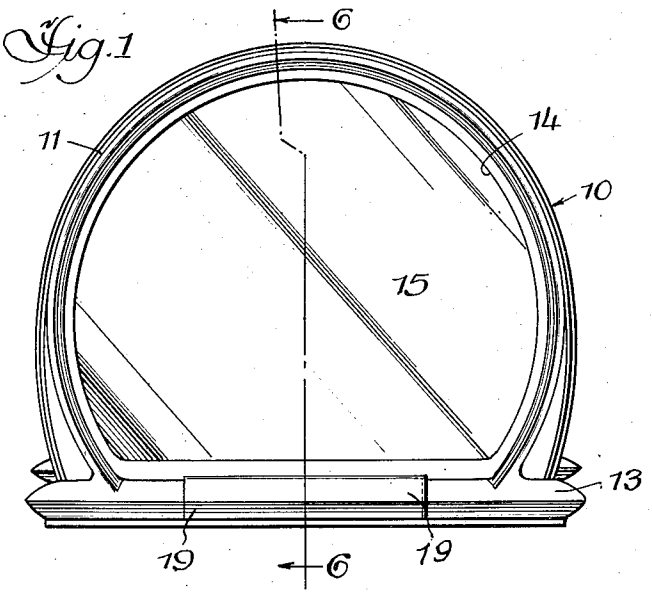


Fig. 2

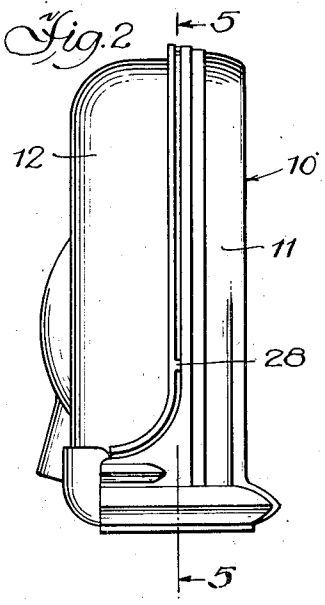


Fig. 3

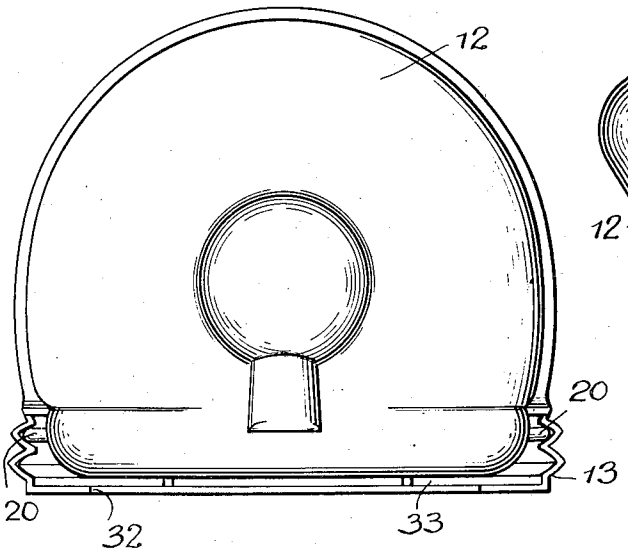
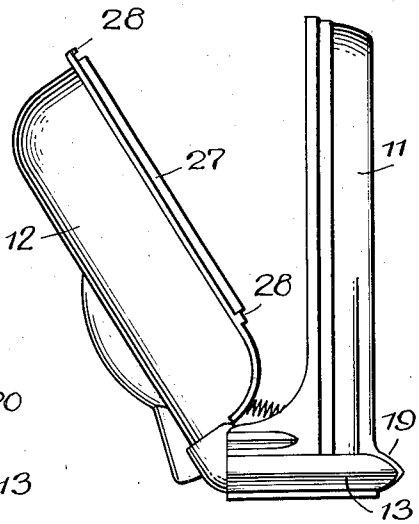


Fig. 4



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Fig. 5

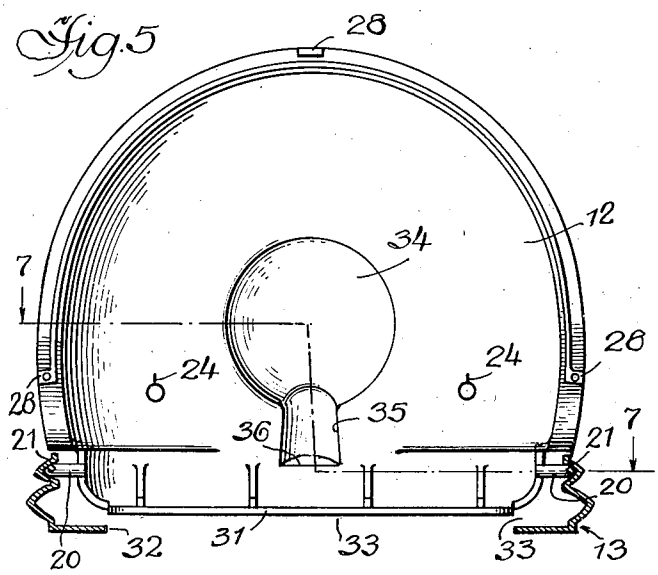


Fig. 6

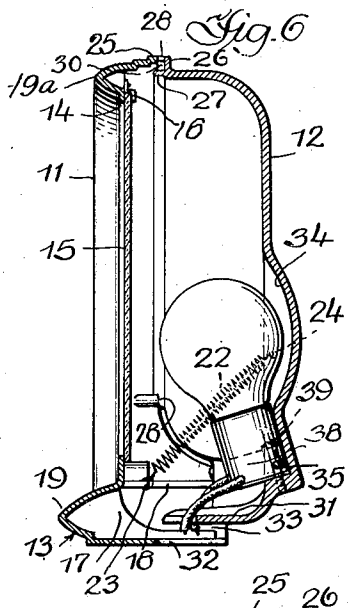
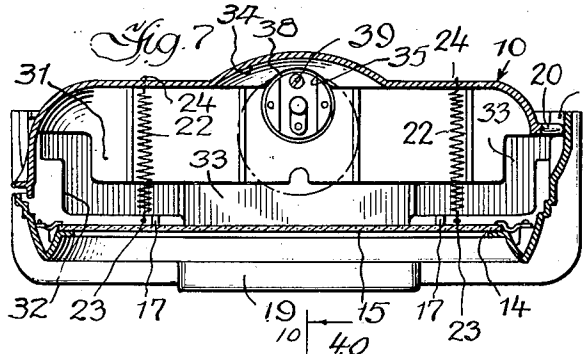


Fig. 7



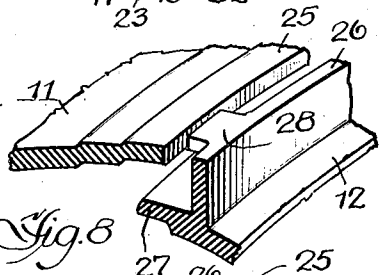


Fig. 8

Fig. 9

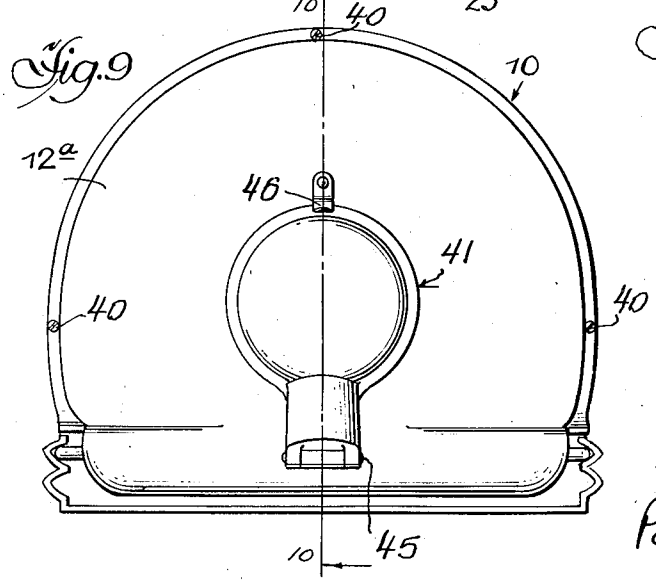
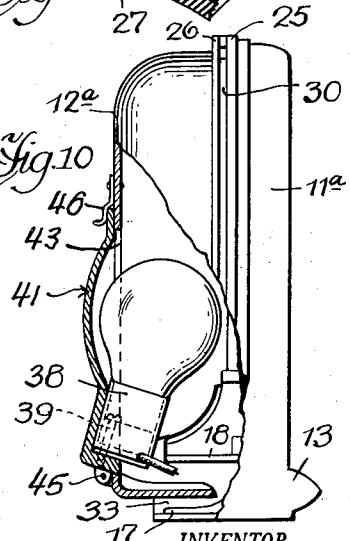


Fig. 10



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ILLUMINATED SIGN WITH VENTILATING MEANS THEREFOR

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Application August 28, 1948, Serial No. 46,692

5 Claims. (Cl. 40—132)

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This invention relates to improvements in illuminated signs for advertising purposes and more particularly to portable signs having an enclosed casing with illuminating means such as an electric light bulb in the interior adapted to shine through a translucent sign in the front face of the casing.

Among the objects of the invention is to provide a simple and economical form of sign of the character described with an improved means for ventilating the same to permit escape of heated air from its interior without the use of ventilating holes or the like in the sides or rear of the casing through which direct rays from the light source may pass.

A further object of the invention is to provide an improved form and arrangement of casing and parts thereof especially adapted for molding of plastic materials.

A still further object of the invention is to provide an improved means for mounting an electric bulb socket in the rear wall of the casing arranged to insure an even spread of light from the light source through the transparent sign panel at the front of the casing.

Another object is to provide a simple and efficient means for mounting the bulb socket in the casing.

Other objects and advantages will appear from time to time as the following description proceeds.

The invention may best be understood with reference to the accompanying drawings in which:

Figure 1 is a front view of a sign;

Figure 2 is a side view of a sign;

Figure 3 is a rear view of a sign;

Figure 4 is a side view of the sign with the rear shell partially open;

Figure 5 is a vertical section taken on line 5—5 of Figure 2 with the lighting means removed;

Figure 6 is a section taken on line 6—6 of Figure 1;

Figure 7 is a section taken on line 7—7 of Figure 7 with the light bulb removed;

Figure 8 is a fragmentary detailed perspective view;

Figure 9 is a rear view of a modified form of sign; and

Figure 10 is a section taken on line 10—10 of Figure 9.

Referring now to details of the embodiment of the invention illustrated in Figures 1 to 8, of the drawings, a hollow sign body indicated generally at 10, is made up of two generally concave front and rear shell portions 11 and 12 respectively. The front shell 11 is formed with a widened base 13 on which the sign rests, and with an upstanding open frame portion 14 integral therewith, in which is suitably mounted a transparent or translucent sign panel 15 carrying any desired form of advertising material. The advertising panel may be detachably mounted to the frame by any suitable means such as clips 16, 16.

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The front shell 11 may preferably be made of molded plastic material which is semi-transparent so that when the sign is illuminated from the interior, the entire front shell, including the base 13 and upper frame portion 14 is illuminated by the light source within the casing, although usually to a less degree than the sign panel 15 carrying the advertising material.

When made of molded plastic material as shown, the base 13 and frame portion 14 of front shell 11 are formed with relatively thin walls of substantially uniform thickness so that said shell is entirely hollow and open toward the rear. Certain reinforcing webs, such as indicated at 17, 18 may be provided where necessary to strengthen the structure. The arrangement is such that the light transmitted through base and frame portions, and as viewed from the front of the sign, will be of substantially uniform intensity, excepting, of course, for normal variations in light intensity produced by the decorative forms of the front shell, such as by the thickened ribs 19, 19a on the front of the base.

The rear shell 12 of the casing is formed to fully enclose the rear opening of the front shell 11 and forms therewith a completely enclosed sign body. The rear shell may be formed of any suitable material, as molded plastic, or of sheet metal, but preferably of an opaque material, in contrast to the translucent base and frame of the front shell 11.

In the preferred form shown in Figures 1 to 8 the shell 12 is provided with laterally extending hinge pins 20, 20 near its base, which are seated in laterally projecting, rearwardly opening hollow side pockets 21, 21 at the rear of the base 13.

The rear shell 12 is normally held in closed position relative to the front shell 11 as by a pair of coil springs 22, 22, having their front ends connected to eyes 23, 23, formed in the base 13 and their rear ends connected to eyes 24, 24, formed in the rear shell 12 at a somewhat higher level than the eyes 23, 23. The hinged arrangement just described is such that the springs 22, 22 will normally maintain the front and rear shells in

closed position, with the hinge pins 20, 20 seated in the side pockets 21 and held therein by tension of said springs. The rear shell may, however, be readily swung to open position against the tension of the springs 22.

Referring now more particularly to the improved ventilating means for the casing, it will be observed in Figure 6 that one of the body portions, preferably the front shell 11 has its rear margin 25 normally in spaced relation from the opposed front margin 26 of the rear shell 12 by suitable stops formed on one or the other of the opposed margins, as for instance, by three stops 28, 28 formed on the rear shell 12. The margin 26 of the rear shell is also provided with an integral flange 27 offset inwardly of its margin 26, and which projects within and is spaced from the front shell margin 25 when the two shells are in their normal, fully closed position. With this arrangement, an open ventilating space 30 is maintained at all times between the opposed margins 25 and 26 of the front and rear shells around the top and both sides of the casing. The inwardly offset flange 27 on the rear opaque shell, however, forms an underlap for this open space, to prevent the escape of direct rays from within the casing.

It will further be observed that the rear shell 12 has a forwardly projecting flange 31 along its bottom, below the hinged axis of said rear shell. This bottom flange projects forwardly into the hollow base 13 of the front shell 11. The bottom wall of the base is cut away at 32 along the central portion of its rear edge to provide clearance for the flanged lower edge of the rear shell, and permit pivotal movement of the latter relative to the base. There is thus a substantial air space 33 beneath and around the bottom flange 31 of the rear shell, so that cool air may enter at the bottom of the casing for flow upwardly through the casing and escape through the ventilating spaces 30 between the opposed marginal flanges 25 and 26 of the front and rear casing.

Referring now more particularly to the mounting of the illuminating means on the rear shell 12, Figures 1 to 8 show a concave reflector surface 34, substantially at the center of the rear shell, and an associated pocket 35, therebelow, both formed integral with the rear shell 12. Said pocket is substantially semi-cylindrical in vertical cross section, with a shelf 36 at its bottom, but said pocket and shelf are formed with their upright axis tilted forwardly at a substantial angle of say 15° with respect to the vertical plane in which the casing normally rests. A cylindrical electric bulb socket 38 is fitted in the pocket 35, which may be of commercial form, with its base resting on the shelf 36. In the preferred form shown herein a single retaining screw 39 is passed through the bottom of bulb socket 38 from the inside thereof, and screwed into the shelf 36. The screw 39 is offset rearwardly of the axis of the bulb socket, so that said socket is held against turning in the pocket by the single screw.

The mounting arrangement for the electric bulb just described wherein the bulb socket 38 is tilted forwardly in pocket 35 is such that the light bulb will also be tilted forwardly toward the sign panel when the sign is illuminated, thereby exposing the entire sign panel to substantially equal illumination from the bulb, and eliminating undesirable shadows which commonly occur in illuminated signs of this character, where it is necessary that the bulb and its socket be placed relatively close to the translucent sign panel, and when disposed in normal upright position, the socket usually causes undesirable shadows or diminution of light effective on the lower portion of the sign panel.

Referring now to the modified form of sign shown in Figures 9 and 10, it will be observed that the front shell 11a and rear shell 12a are similar in general form to the front and rear shells 11 and 12 previously described excepting that the two shells 11a and 12a are permanently secured together as by screws 40, 40, and a reflector and associated socket support indicated generally at 41 is hinged to the central portion of the rear plate 12a so as to close a corresponding opening 43 in said rear plate when the device is in normal condition as shown in Figure 10. Nevertheless this modified form includes the same ventilating space 30 between the opposed margins of the front and rear shell as is provided in the form shown in Figure 1 to 8.

In this modified form the reflector and socket support 41 is hinged by pins 45, 45, to the rear face of the shell 12a and is normally held in closed position by a clip 46. Said reflector and socket support 41 are arranged as above described on a forwardly tilted angle to provide an even spread of light from the bulb upon the sign panel. The reflector and socket support can be swung to open position for replacement of the bulb when necessary, by removing the clip 46.

Although I have shown and described a practical and operative device, nevertheless many changes may be made in the size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my drawings and description to be taken as in a broad sense illustrative or diagrammatic, rather than as a limitation to my precise showing.

I claim:

1. In an illuminated sign, a hollow casing having a light source therein, said casing consisting of complementary hinged front and rear shell portions swingable toward and away from each other for access to said light source, the margins of said shells being normally disposed in opposed spaced relation to each other, and flange means on one of said margins extending in inwardly offset spaced relation to the margin of the other shell portion to form an open ventilating space along said margins communicating with the interior of the casing but closed by said flange means against escape of direct beams from the light source.

2. A sign structure in accordance with claim 1, wherein the front shell is made of translucent material and the rear shell is made of opaque material, and the flange means is formed integrally with the opaque rear shell.

3. A sign structure in accordance with claim 1, wherein the front shell includes a hollow base and an upper frame portion, and the rear shell includes a bottom flange projecting forwardly into said hollow base in spaced relation therewith to provide an air inlet at the bottom of said casing.

4. A sign structure in accordance with claim 1, wherein stop means are interposed between the opposed margins of the front and rear shells to maintain the ventilating space therebetween when the rear shell is in closed position against the front shell.

5. A sign structure in accordance with claim 1, wherein the front shell is made of molded material including a hollow base having rearwardly opening hinge pin seats at opposite sides thereof, the rear shell being provided with laterally ex-

tending pins adapted to fit in said seats, and spring means yieldingly connected between said front and rear shell above said hinge pins to maintain the latter in said seats while permitting hinged opening of said rear shell relative to said front shell.

LEWIS E. PETERS.

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