June 22, 1926. 1,589,769

R. A. TIBBS

ILLUMINATED SIGN

Filed Oct. 6, 1925

Fig. 1.

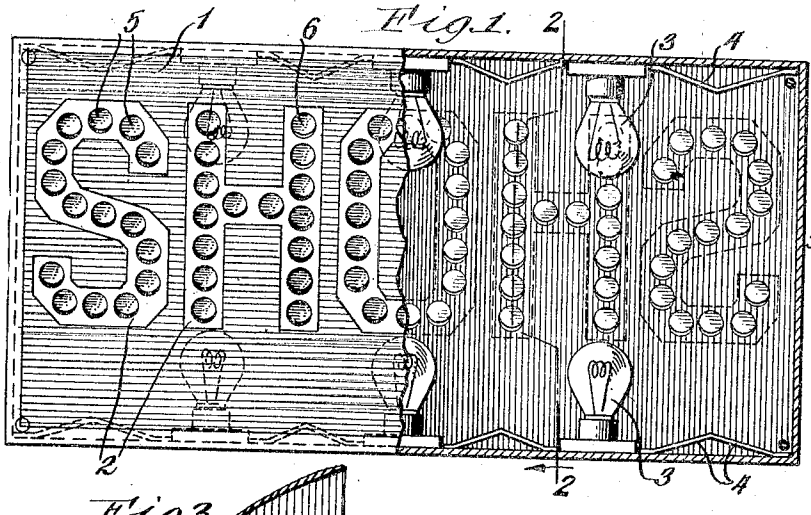


Fig. 2.

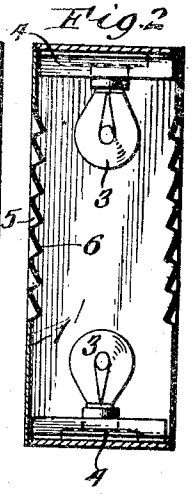


Fig. 3.

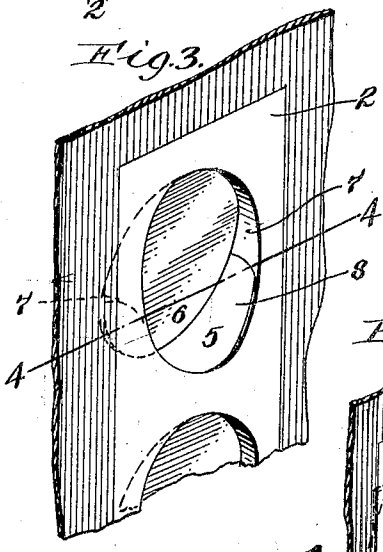


Fig. 4.

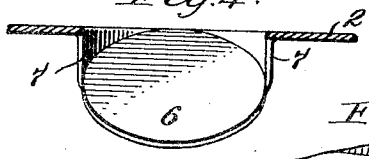


Fig. 5

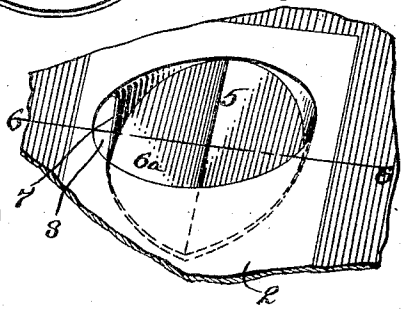


Fig. 8.

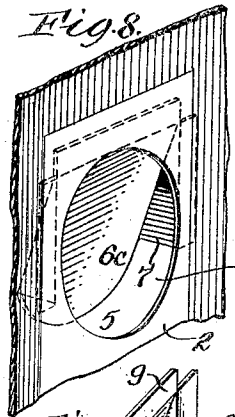


Fig. 7.

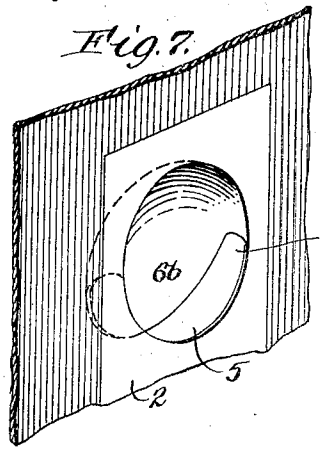


Fig. 9

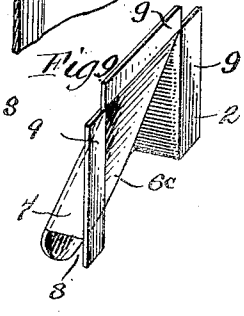
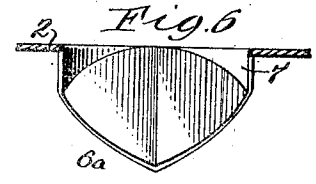


Fig. 6



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UNITED STATES PATENT OFFICE.

RICHARD A. TIBBS, OF BAKERSFIELD, CALIFORNIA.

ILLUMINATED SIGN.

Application filed October 6, 1925. Serial No. 60,739.

This invention relates to improvements in illuminated signs of the general type disclosed in my prior Patent No. 1,494,761, of May 20, 1924, that is to say of the general type wherein the lamps are enclosed in a hollow box-like body having a wall, or two opposite walls, accordingly as the sign may be single face or double face, provided with apertures arranged in somewhat close association and in considerable number in the outline of the letter, character or device to be displayed, and with reflecting projections coinciding with the apertures and which intercept the rays of the lamps and deflect them through the apertures.

In such constructions the reflecting projections which are usually integrally connected to the face plate of the lamp casing have given more or less trouble because of the weakness of the connections between the projections and the face plate and while special forms such as that shown in my said prior patent have provided for greater strength of the connections between the projections and the face plate it has been found that the objection has not been entirely overcome and that the projections are liable to be bent when the sign is handled during its shipment or erection or in connection with its maintenance, that is to say cleaning, painting or repairing operations. Such bending of any one of the projections causes the same to reflect the light at a different angle from its neighbors and hence interferes with the uniform appearance and display qualities of the lighted sign.

The principal object of the present invention is to provide a sign which shall have the advantages of signs of the type described but wherein the projections are not liable to become bent or distorted in consequence of the handling of the sign in its transportation, erection or maintenance, and further are so formed and arranged that the lamps are not in the lines of vision and a more even distribution of reflected light of uniform intensity is made possible.

With the above objects in view the invention is particularly directed to the form and construction of the reflecting projections and to the relation between such projections and the face plate of sign with which they cooperate.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a view partly in side elevation and partly in vertical section of a sign embodying the present improvements.

Figure 2 is a cross section on the line 2—2 of Figure 1.

Figure 3 is a detail perspective view of one of the reflecting projections incorporated in the construction of Figure 1.

Figure 4 is a detail sectional view on the line 4—4 of Figure 3 looking in the direction of the arrow.

Figure 5 is a detail perspective view showing a reflecting projection of modified form.

Figure 6 is a cross section on the line 6—6 of Figure 5.

Figures 7 and 8 are perspective views illustrating further modifications in the form of the reflecting projections.

Figure 9 is a detail perspective view of the reflecting projection shown in Figure 8.

The sign box or casing 1 may be of any suitable construction and may have the characters to be displayed arranged on one wall, or on two opposite walls, accordingly as the sign may be single face or double face, a double face sign being shown. The characters to be displayed may, if desired, be suitably produced on the wall or face of the sign; this is not necessary but it is to be preferred. As shown, said characters, as 2, are painted on the outer face of the sign in a color which contrasts suitably with the general color of the sign box. The sign may have as many rows or tiers of characters as circumstances may require, that shown consisting of a single row of characters which form the word "Shoes". The lamps may be arranged in accordance with any standard practice. As shown the lamps 3 are arranged in upper and lower rows, the lamps of said rows being supported by the top and bottom walls of the casing and being arranged at regular intervals preferably with reflectors 4 placed between them. Each display face of the sign is provided with openings 5 of suitable diameter which are regularly arranged in the outline of the letter or character strokes and within the painted areas 2. The rays from the lamps 3 are reflected through the openings 5 by reflecting projections 6. These, according to the invention, are braced and connected to the display wall of the sign by flanges or webs 7 which register with the opening 5 throughout a distance of half of its circumference more or less. The projections 6

touch the circumference of the opening 5 at one point and the flanges or webs 7 extend symmetrically in opposite directions from such point, each flange extending through approximately a quarter of a circle and increasing in width according to the angle at which the projection 6 is intended to lie relatively to the display face. Beyond the flanges or webs 7 and coinciding with the remaining half, more or less, of the circumference of the opening 5 a relatively long and wide gap 8 intervenes between the projection 6 and the edge of the opening 5 through which the rays from the lamps 3 reach the projection.

Reflecting projections having the above general characteristics may be of various forms and may be constructed and arranged in different ways. As shown in Figures 1 to 4 the projections 6 are flat and are formed integrally with the face plate by being pressed from said plate by dies constructed to provide the webs or flanges 7 and the gap 8. The projections may also be varied as to their points of direct connection with the face plate, such variation involving corresponding variation in the lamp arrangement. As shown in Figures 1 and 2 the projections are directly connected to the face plate at their extreme upper points and from such points are inclined inward and downward and are reached in all directions, within the limits of the gap 8, by the direct and reflected rays from the lamps. It will be noted that the lamps are effectively concealed and that the arrangement is such that their direct rays will not be in the line of vision so that all glare spots are eliminated, and the arrangement of the lamps being uniform an even distribution of reflected light of uniform intensity throughout the entire area of the sign is obtained.

Figures 5 and 6 illustrate a modified or alternative form of reflecting projection which embodies the same features of construction and the same principles of operation as that shown in Figures 3 and 4 but wherein the projection, as 6^a, is of V-shaped cross section. Figure 7 shows a further modified construction of reflecting projection which embodies the features of structure and operation of the reflected projection shown in Figures 3 and 4 but wherein the projection, as 6^b, is of concave form. Figure 8 illustrates a construction which is applicable to light emitting openings of relatively large size. In this modification the reflecting projection, as 6^c, instead of being integrally combined with the display wall is made originally as a separate element and of generally rectangular or oblong form, as shown in Figure 9 and is provided along three edges with flanges 9 which are fastened in any suitable manner to the display wall, that is to say by soldering or welding. Light reflecting projections having the features herein disclosed will give highly effective display and illuminating results while at the same time being strongly braced to the display wall throughout approximately half of their extent and symmetrically at each side of their points of contact with said wall, will never become broken and will not be liable to bending, distortion or displacement as a result of the handling of the sign, even though roughly, in connection with its shipment, erection or maintenance.

Having fully described my invention, I claim:—

1. An illuminated sign comprising a casing having openings in one or more of its walls in the outlines of the letter or character strokes to be displayed, lamps enclosed in said casing and reflecting projections adjacent said openings, said projections extending inward from and at an angle to the wall in which said openings are formed and webs or flanges connecting said projections and said wall and bracing said projections, said webs or flanges extending symmetrically from the points of contact of said projections and said wall and having an extent of approximately half of the extent of the walls of said openings, thereby leaving relatively wide gaps between said projections and the remaining extent of the walls of said openings.

2. An illuminated sign comprising a casing having openings in one or more of its walls in the outlines of the letter or character strokes to be displayed, lamps enclosed in said casing and reflections adjacent said openings, said projections extending inward from and at an angle to the wall in which said openings are formed and webs or flanges with which said projections are pressed from said wall and which integrally connect said projections and said wall and brace said projections, said webs or flanges extending symmetrically from the points of contact of said projections and said wall and having an extent of approximately half of the extent of the walls of said openings, thereby leaving relatively wide gaps between said projections and the remaining extent of the walls of said openings.

In testimony whereof I affix my signature.

RICHARD A. TIBBS.