Sept. 17, 1935. S. S. CRAMER 2,014,558

STREET SIGN

Filed July 30, 1932

FIG. 1

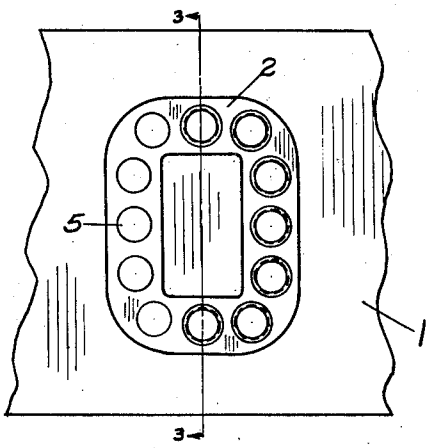


FIG. 2

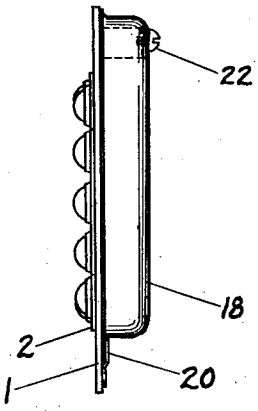


FIG. 7



FIG. 3

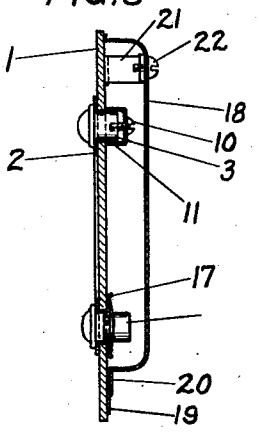


FIG. 4

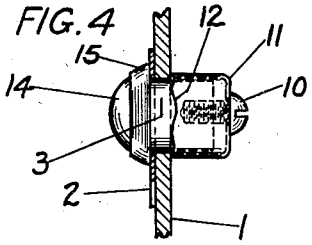


FIG. 8

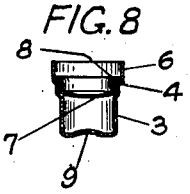


FIG. 5

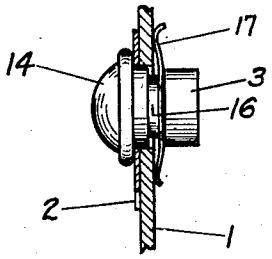


FIG. 6

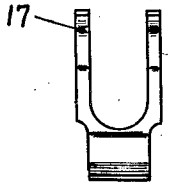


FIG. 9

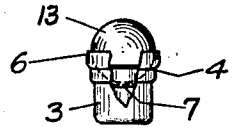
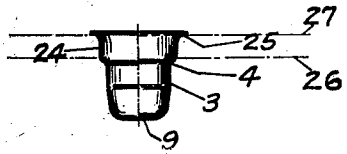


FIG. 10



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STREET SIGN

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Application July 30, 1932, Serial No. 626,489

8 Claims. (Cl. 88—82)

My invention relates to the design of street signs which reflect the light directed against the sign from the lamps of an approaching vehicle, whereby the sign itself appears to be self-illuminating.

I am aware that signs have been made in the past in which various types of indicia or light-reflecting units have been utilized in making up the different letters or parts of the sign.

As far as I am aware, many of these units are composed of elongated or cylindrically-shaped lenses which have been considered necessary in the construction of the sign herein described. I have found, however, that a cylindrical type of reflecting lens, whether made solid or hollow, and which is more or less expensive, is not necessary, and it is therefore the principal object of my invention to provide, first, a unitary light-reflecting unit which can be made up in quantities at low cost, and second, a completely assembled sign which has certain unique features which will be later pointed out in the detailed description.

My improved form of sign and light-reflecting unit will be readily understood by reference to the annexed drawing, wherein:

Figure 1 shows a fragmentary portion of the sign, illustrating one letter of a word commonly used in street signs.

Figure 2 is a side view of the sign shown in Figure 1.

Figure 3 is a part-sectional and part-elevational view on the line 3—3 of Figure 1, showing two forms of the light-reflecting means.

Figure 4 is a view on a larger scale than that shown in Figure 3, of one form of the unit fastened to the main mounting plate.

Figure 5 is a view similar to Figure 4, showing a still further modified form of holder.

Figure 6 is a plan view of the clamping spring shown in Figure 5.

Figure 7 is an end view of a preferred form of holder which is shown in section in Figure 8.

Figure 9 shows an assembled view of the light-reflecting unit of my preferred form.

Figure 10 shows a still further modified form of lens holder.

In the different views of the drawing, 1 is a main mounting plate preferably colored to suit the purchaser of the sign. On the main plate 1 is carried an auxiliary plate 2 which may be fastened thereto in any satisfactory manner as by riveting or spot-welding, but as illustrated in the drawing, these assembly operations of the auxiliary plates 2 may be and preferably are avoided by reason of the fact that the auxiliary plate 2, which is preferably of a different color than the main plate 1, is held to the plate 1 by the holders 3 having shoulders 4 to engage the plate 2 around the holes 5 which are formed therein and which are adapted to align with corresponding holes in the main plate 1.

Each holder 3 comprises a cup-shaped casing having an enlarged open end-portion 6 adjacent the shoulder 4. Positioned within the holder 3, is a shallow dish-shaped member 7 having a lip 8 to engage the shoulder 4. The member 7 has the portion extending toward the open end of the member 3, highly polished so as to act as a reflector. The bottom of the casing, or the stem portion of the member 3 is provided with a tapped hole 9 to receive a screw 10 which fastens a cup-shaped retaining member 11 over the end of the stem 3. The rim of the cup-shaped retaining member 11 is preferably left irregular as indicated by the line 12, so as to better grip into the main plate 1 to draw the holder 3 into position.

Fitting within the edge 6 of the holder 3, and resting or nesting within the perimeter of lip 8 of the reflector 7, is a light-transmitting member or lens 13 which, in the preferred form shown in Figure 9, is a complete spherical or circular member of clear glass. In mounting the lens 13 in the holder 3, the edge 6 preferably extends above a horizontal plane through the center of the lens 13, referring to Figure 9, and the edge 6 may be slightly spun over; but to avoid this operation, I prefer to make the flanged edge 6 of the holder 3 so that it need not be crimped; that is to say, the fit between it and the lens 13 is such that the ball lens 13 may be pushed into position and will be held there by the press-fit between it and the holder 3, it being understood that the material of the holder 3 is made so as to have sufficient resilience to give the desired gripping effect.

It may also be noted that the reflector 7 may be held in the holder 3 by a similar press-fit, but if this construction is not followed, the ball lens 13 will hold it securely in position.

After the light-reflecting unit has been assembled as shown in Figure 9, it is ready to be mounted on the two mounting plates 1 and 2 as previously described. I have found that it is much easier and cheaper to make a round or completely spherical lens than any elongated or hollow type, as with the spherical or circular lens, the shrinkage on cooling is more uniform, and while theoretically, the circular lens may not be the best reflecting surface, it is extremely difficult to determine any difference between the preferred form shown in Figure 9, and the forms shown in

Figures 4 and 5 wherein a plano-concave lens 14 may be used with its respective holder 3, although even in the holders shown in these forms, the spherical lens may be used.

In the form shown in Figure 4, the holder 3 is shown as made up of a solid rod having a flange 15 to engage the plate 2, and which flange is so formed that it may be spun around the lens 14 as clearly shown in the drawing. However, in this form, the holder 3 is held to the mounting plate 1 by the retaining cap 11 as previously described.

In the form shown in Figure 5, the holder 3 is provided with a groove 16 to receive a forked retaining spring 17 as shown in Figure 6, but all the forms of holders illustrated are so constructed as to hold the auxiliary plate 2 in position on the plate 1 as has been described.

In Figure 10, the holder 3 is made with an enlargement 24 terminating in an annular flange 25. With this construction, the same holder can be used for mounting plates of different thicknesses; for example, when the holder is used with the plates 1 and 2 as illustrated, the shoulder 4 engages the plate 2 along the line 26 as in the form shown in Figure 9, but if a thicker plate is used, a larger hole 5 is made therein to receive the enlargement 24, and the flange 25 will then engage the plate along the line 27. In either case, the holder will take the same cap 11.

In order to cover the backs of the various holders with their retaining caps 11 where they project through the main mounting plate 1, a cover plate 18 is provided. This may be attached to the mounting plate 1 in any satisfactory manner, but in the form illustrated in Figures 2 and 3, the main plate has fastened thereto a member 19 having an offset 20 to receive the flanged edge of the cover 18. The main plate 1 carries one or more brackets 21 to which the top part of the cover 18 may be fastened as by screws 22.

By reason of the construction herein described, I have provided a unitary light-transmitting member and a complete sign, all the parts of which may be quickly assembled and the cost thereby materially reduced, at the same time producing a sign which fulfills the operating requirement with a high degree of satisfaction.

Having thus described my invention, what I claim is:

1. A unitary device for building up indicia for street signs, including a cup-shaped casing having an enlarged open end and an annular shoulder adjacent the end, a shallow dish-shaped member having a flanged rim to engage the interior of said annular shoulder, a light-transmitting member having a part positioned within the dish and held in place by the casing edge, the bottom of said casing having a threaded hole, and a retaining cap fitting over the threaded end of the casing and held thereto by a screw engaging said threaded hole.

2. A unitary device for building up indicia for street signs, including a cup-shaped casing, a dish-shaped reflector positioned within the casing near the opening thereof, a spherical light-transmitting member positioned in said reflector and held in place within the rim of the casing, a retaining cap fitting over the end of the casing and cooperative means acting between the cap and bottom of the casing to secure the cap in holding position.

3. A unitary device for building up indicia for street signs as set forth in claim 2, characterized in that the casing has an annular flange for the purpose described, and the retaining cap an irregular edge to grip a mounting plate.

4. A unitary device for building up indicia for street signs, including a shouldered holder having an integral stem portion, a reflector mounted within the holder on the shoulder thereof, a light-transmitting member nested in the reflector, and a retaining cap fitting over the stem and fastening means acting between the cap and stem to secure the cap in holding position, the edge of said cap engaging a mounting plate to fasten the holder thereto.

5. A unitary device for building up indicia for street signs as set forth in claim 4, characterized in that the reflector is mounted within the holder near its open end and said light-transmitting member is nested within the perimeter of said reflector, and further characterized in that the edge of the retaining cap has an irregular edge to grip a mounting plate for carrying the holder.

6. A unitary device for building up indicia for street signs, including a cup-shaped casing having a resilient rim portion, a reflector positioned within the casing adjacent said rim portion, a spherical lens press-fitted within said casing rim and within the perimeter of said reflector, a retaining cap fitting over the end of the casing, and cooperative means acting between the cap and bottom of the casing to secure the cap in holding position.

7. A unitary device for building up indicia for street signs as set forth in claim 4, characterized in that the shouldered part of the holder terminates in a mounting flange whereby the same holder can be used for at least two thicknesses of mounting plates as set forth.

8. For a sign having a mounting plate with apertures therein, a light-transmitting element, a holder for said element to fit one of said apertures, said holder comprising two bodies having slidable telescopic engagement with each other, one of said bodies directly carrying said light-transmitting element spaced at a considerable distance from the bottom of said body, said bodies having clamping abutments on opposite sides respectively of said plate about said aperture, and screw-threaded means cooperating at and between the ends of said bodies away from said mounting plate for causing said abutments to grip said plate.

STANLEY S. CRAMER.