Nov. 20, 1945. R. T. HARRISON 2,389,234

ROAD SIGN OR SIGNAL

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Fig. 1.

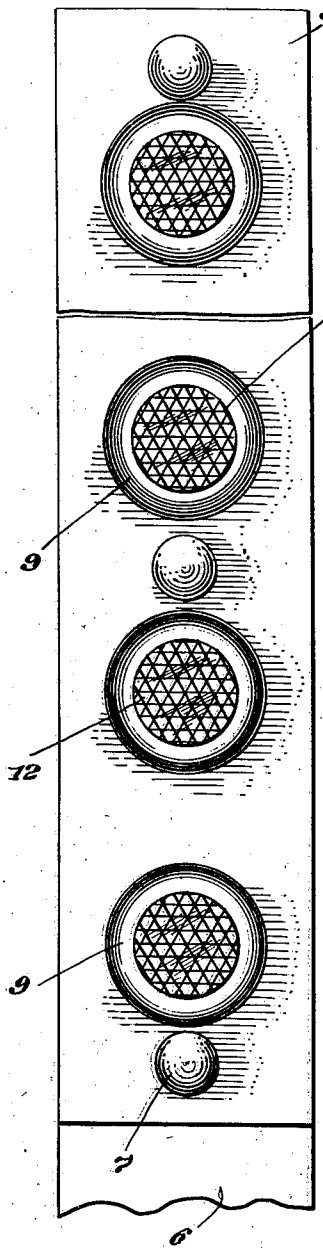


Fig. 2.

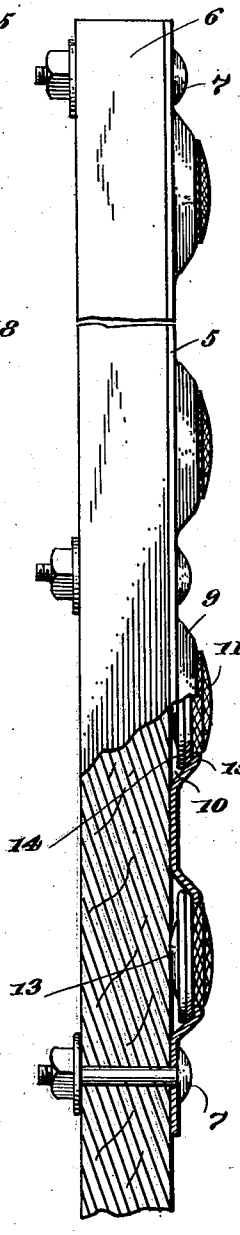


Fig. 3.

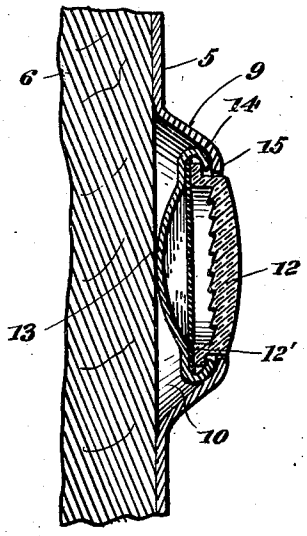


Fig. 4.

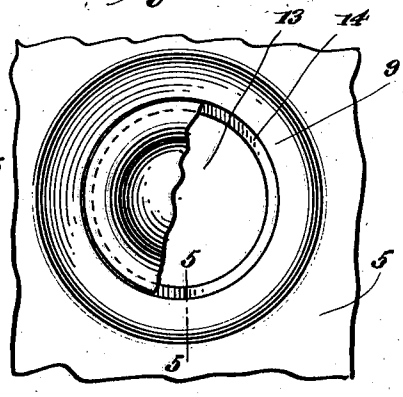
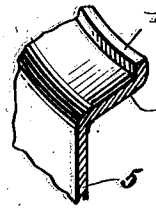


Fig. 5.



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ROAD SIGN OR SIGNAL

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Fig. 6.

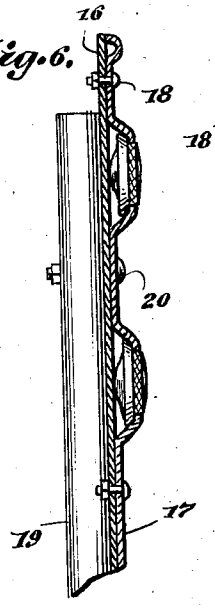


Fig. 7.

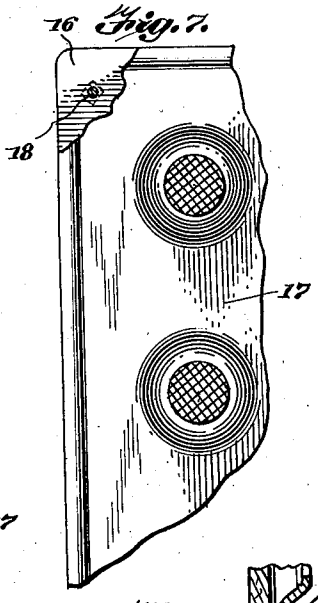


Fig. 8.

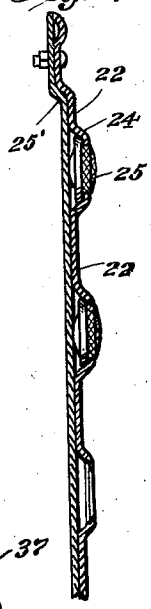


Fig. 9.

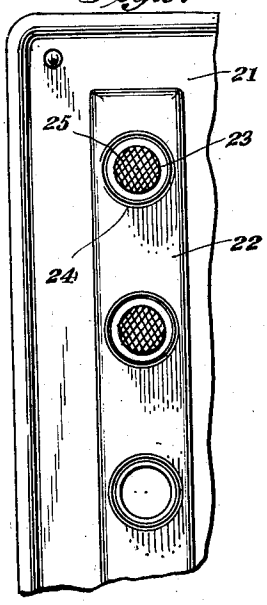


Fig. 15.

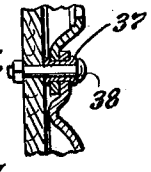


Fig. 10.

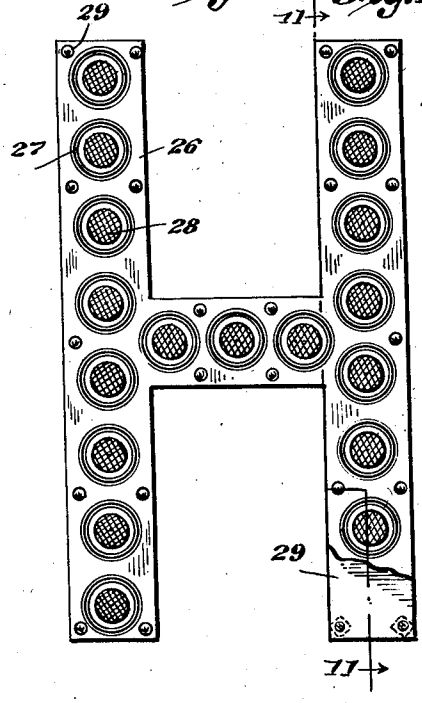


Fig. 11.



Fig. 12.

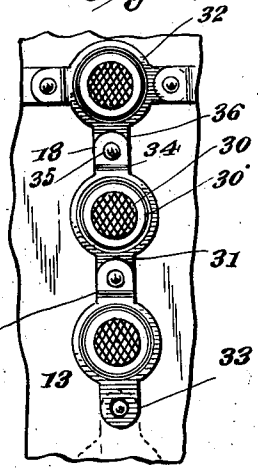


Fig. 13.

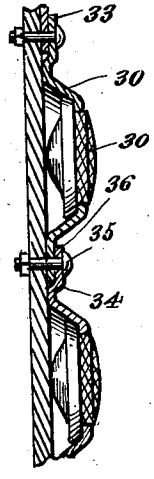
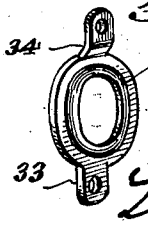


Fig. 14.



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2,389,234

UNITED STATES PATENT OFFICE

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ROAD SIGN OR SIGNAL

Robert T. Harrison, Greenville, N. C.

Application July 24, 1942, Serial No. 452,225

4 Claims. (Cl. 40—130)

This invention relates to road signs or signals and more particularly to that class of signs in which reflector units are rendered visible at night by reflected light for warning motorists that the driver must turn to the right or left or is approaching a bridge, sharp turn in the road, or other hazard in the path of travel.

The object of the invention is to provide a road signal or sign of simple and inexpensive construction in which the reflector units are retained in position on the face plate of the sign by individual embossed retaining members or collars entirely surrounding and engaging the marginal edges of the reflector units.

A further object is to form the inner face of each embossed collar, at the outer or free end thereof, with an inwardly extending locking flange, shaped to conform to and overlap the annular bead of the adjacent reflector unit, thereby to lock said reflector unit against accidental displacement.

A further object is to provide a reflector unit mounting which can be used with equally good results on any type of warning sign or signal and used either with or without a backing plate for engagement with said reflector units.

A further object is to provide an embossed reflector unit mounting that can be embodied in the pivot links of a sign forming chain and further to provide one of the links of the chain with an auxiliary pivot ear so as to permit the chain to be used for forming certain letters or fashioned into any desired shape.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency as well as to reduce the cost of manufacture.

In the accompanying drawings:

Figure 1 is a front elevation of a road sign or signal embodying the present invention.

Figure 2 is a side elevation.

Figure 3 is an enlarged detail sectional view through one of the reflector units and its associated parts, showing the manner of mounting said reflector unit on the face plate.

Figure 4 is a rear view thereof with the backing strip removed.

Figure 5 is a detail vertical sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a vertical sectional view illustrating a modified form of the invention.

Figure 7 is a front elevation thereof.

Figure 8 is a vertical sectional view illustrating a further modification.

Figure 9 is a front elevation thereof.

Figure 10 is a front view of a display letter showing the reflector units mounted in position thereon.

Figure 11 is a vertical sectional view on the line 11—11 of Figure 10.

Figure 12 is a front elevation of a sign forming chain, the links of which are provided with embossed collars for mounting the reflector units therein.

Figure 13 is a vertical sectional view on the line 13—13 of Figure 12.

Figure 14 is a perspective view of one of the links detached.

Figure 15 is a detail sectional view showing the pivot pins of the links hollow to permit the passage of fastening devices.

The improved road sign or signal forming the subject matter of the present invention comprises a face plate 5 preferably formed of metal of any desired length, width and thickness, said plate being secured at predetermined points to a backing strip 6 by means of bolts or similar fastening devices indicated at 7. The plate 5 is cut or punched to form a plurality of vertically alined openings 8 and the metal constituting the walls of said openings is pressed outwardly to form embossed retaining collars 9 defining sockets 10 for the reception of reflector units or buttons indicated at 11.

The reflector units or buttons are of standard construction and each comprises a lens portion 12 fitted in a concavo-convex backing holder 13 the marginal edge of which is pressed around the lens 12 to form a retaining bead 14. The reflector units are formed of plastic material possessing optical properties, the outer face of the lens of each unit being smooth and slightly convex and the inner face thereof molded or otherwise formed with pyramidal-shaped projections constituting a reflecting surface, there being a rubber gasket 12' interposed between the lens and backing holder 13 for the purpose of preventing the formation of condensation or moisture on the pyramidal reflecting face of the lens which would tend to interfere with its brilliancy. However, any type or style of reflector unit may be mounted on the sign, but it is preferred to employ the units shown in the drawings for the purpose hereinafter referred to.

The inner wall of each embossed collar 9, at the outer or free end thereof, is pressed inwardly with a die or other suitable tool to form an overhanging retaining flange 15 curved to conform to the shape of the bead 14 to form a seat for said bead and thereby prevent accidental displacement

of the reflector unit. It will here be noted that the retaining flange 15 extends entirely around the lens while the outer surface of the collar 9 and said retaining flange gradually merges into the smooth, convex surface of the lens so as to form, in effect, a continuation thereof and thus assist in preventing the lodgement of snow or ice thereon. It will further be noted that the flange 15 not only serves to center the lens within the socket 10 but, by engagement with the bead 15, serves to retain the backing holder 13 in position on the backing strip.

In the form of the invention illustrated in Figures 1 to 4 inclusive, the convex side of the button holder bears against the adjacent surface of the backing strip 6 so that when the face plate, with the reflector units thereon, is positioned against the backing strip and the bolts 7 are tightened, a slight tension will be exerted on the convex portions of the holders 13 of the units so as to clamp said units in engagement with the retaining flanges. As previously stated the outer faces of the reflector units are disposed substantially flush with the retaining flanges of the embossed collars 9 so as not to offer any surface obstruction and thus assist in preventing breakage. It will furthermore be noted that, owing to the depth of the embossed collars 9, should the backing strip 6 warp or otherwise tend to separate from the face plate 5, liability of the reflector units working rearwardly and dropping downwardly between the face plate and backing strip is reduced to a minimum. This objectional feature often occurs where the openings in the face plate are not provided with embossed collars. It will thus be seen that the embossed collars perform a three-fold function, namely, first, to reinforce and strengthen the face plate; second, to provide sockets for the reception of the reflector units; and third, to protect and retain said reflector units in position on the face plate.

In Figures 6 and 7 of the drawings, there is illustrated a modified form of the invention in which the backing member 16 is in the form of a metal plate secured to the face plate 17 by bolts or rivets 18, and the parts thus secured together being mounted on a suitable standard or support 19 by transverse bolts 20.

In Figures 8 and 9 of the drawings, the face plate 21 is preferably rectangular in shape and provided with embossed portions 22 fashioned in the form of a letter, there being openings 23 formed in the embossed portion 22 with the walls of said openings embossed to produce retaining collars 24 for the reception of the reflector units or buttons 25. In this form of the device, the backing plate is pressed inwardly, at the embossed portions 22, as indicated at 25', for contact with the convex portions of the reflector buttons.

If desired, the face plate may take the outline of a selected letter or number and, in Figures 10 and 11 of the drawings, the plate 26 is made in the form of the letter H having openings formed therein and the metal pressed outwardly to provide retaining collars 27 in which are seated the reflector units or buttons 28. In this form of the device, the letters formed with the reflector units or buttons may be secured to a backing plate by suitable fastening devices indicated at 29.

In Figures 12 to 14 inclusive, there is illustrated a further modified form of the invention, in which the reflector units 30 are fitted within embossed collars 30' on links 31 and 32 so as to form, in effect, a chain which may be fashioned to produce letters of the alphabet or any other selected design. The links 31 and 32 are provided with laterally extending ears 33, one ear of each link being offset at 34 to accommodate the ear of an adjacent link, and through which links are passed pivot bolts 35 to permit disposing one link at an angle to another.

In order to form certain letters, such as the letters T and L, the top link 32 is provided with an auxiliary pivot ear 36 disposed at substantially right angles to the other ears 33, as best shown in Figure 12 of the drawings.

If desired, the links may be pivotally connected by hollow rivets or eyelets 37 to permit the passage of bolts or other fastening devices 38 for mounting the chain on a backing plate or other suitable support. In this case, the links are pivotally and permanently connected by the hollow rivets and after said connected links have been fashioned into a letter or other desired shape, they may be retained in such shape by passing the bolts 38 through the hollow rivets for engagement with a suitable backing strip or support.

In all form of the invention, the face plate is provided with an embossed retaining collar and an inwardly extending locking flange for engagement with a reflector unit. The number of reflector units and the disposition of said units with respect to the face plate may be changed or varied at will, according to the purpose of the sign and the conditions under which the sign is used. It will, of course, be understood that the signs or signals may be used on roadways or in any other desired location and that said signs may be made in different sizes and shapes and constructed of any suitable material, without departing from the spirit of the invention.

Having thus described the invention what is claimed is:

1. A sign comprising a base plate provided with an offset socket formed with a circular opening and a flange defining said opening, an annular reflector unit seated in said opening, said reflector unit comprising a lens having a peripheral recess cut out of the periphery thereof, thereby forming an annular flange larger in diameter than said circular opening, a cup-shaped backing holder having the concave side outermost, and an annular bead carried by said holder encompassing said second flange, said bead bearing against such first flange and said first flange seating in said recess.

2. A sign as set forth in claim 1 including a backing member bearing against the rear face of said base plate and against the concave surface of said holder, and means securing said base plate to said backing member.

3. A sign comprising a supporting member having a circular opening therein the walls of which are pressed outwardly to form a continuous embossed annular retaining collar defining a socket, the material at the inner wall of the collar adjacent the outer end thereof being pressed inwardly to form an overhanging retaining flange, and an annular reflector unit having a convex outer face seated in the socket and bearing against said retaining flange, the outer surface of the retaining flange being disposed substantially flush with the convex outer face of the reflector unit, said reflector unit including a lens having a peripheral recess in which said retaining flange is seated, and said recess having a depth whereby the outer faces of said retaining flange and said lens will be substantially continuous.

4. A sign comprising a face plate having open-

ings formed therein, the walls of which are pressed outwardly to form embossed retaining collars defining sockets, the inner walls of the collars at the outer ends thereof being pressed inwardly to form retaining flanges, reflector units seated within the sockets and provided with rearwardly extending concave convex lens holders having marginal lens retaining beads, a backing member secured to the rear of the face plate and bearing against the convex faces of the lens holders for holding the beads in engagement with the retaining flanges and a lens in each holder having a peripheral recess in which said collar engages said recess forming an annular flange seating in said bead.

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