Feb. 9, 1926. 1,572,214

L. B. McEWING ET AL

ROAD SURFACE SIGNAL LAMP

Filed Jan. 21, 1924

FIG. 1

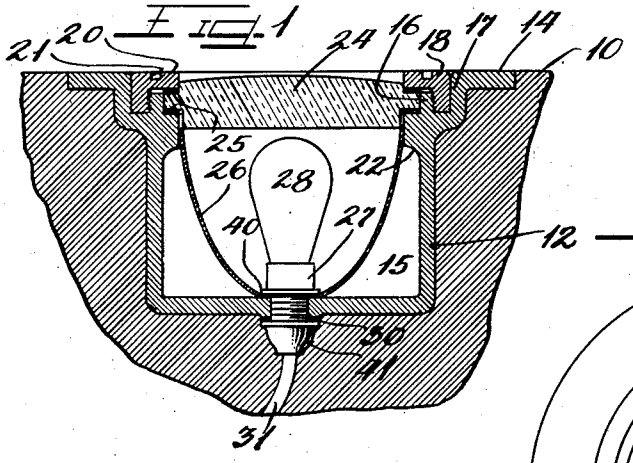


FIG. 2

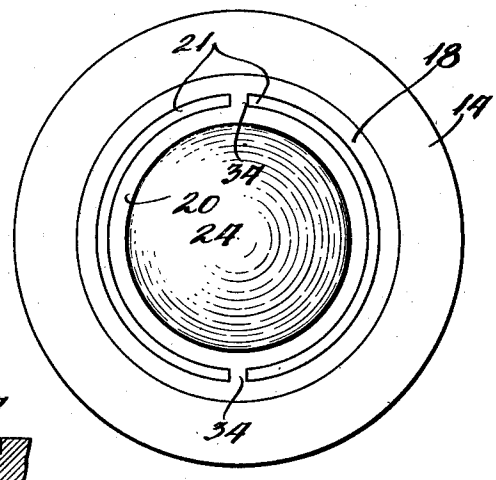
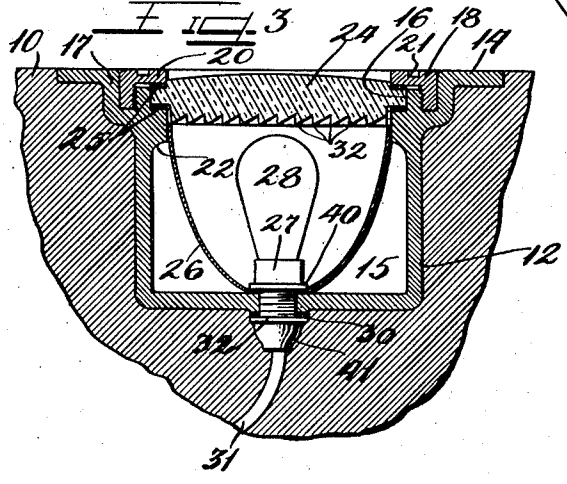


FIG. 3



Witnesses

H. G. Parks

Carlson Hill

Inventors

Luther B. McEwing

George S. Clayton

by Charles O. Hill Atty.

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UNITED STATES PATENT OFFICE.

LUTHER B. McEWING AND GEORGE S. CLAYTON, OF CHICAGO, ILLINOIS.

ROAD-SURFACE SIGNAL LAMP.

Application filed January 21, 1924. Serial No. 687,462.

To all whom it may concern:

Be it known that we, LUTHER B. McEWING and GEORGE S. CLAYTON, both citizens of the United States, and residents of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Road-Surface Signal Lamp; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention is related to traffic signals of the type that give an indication to automobile drivers by making an illuminated place in the roadway without presenting an obstacle against which the vehicle may collide.

It is an object of this invention to devise a signal of the class described which shall present no part projecting above the surface of the roadway.

It is a further object of this invention to devise a signal of this sort which shall give an upwardly extending beam of light instead of an illuminated object near the surface of the road.

It is a further object of this invention to give an inclination to the upwardly extending beam when road conditions require it.

It is a further object of this invention to provide a housing for a lamp beneath the surface of the roadway in which the lamp shall be amply protected from moisture or dust.

Other and further objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a vertical section with parts in elevation illustrating a lamp structure embodying this invention.

Figure 2 is a top plan view of the structure.

Figure 3 is a view similar to Figure 1 illustrating a slightly modified form.

As shown on the drawings:

The road surface 10, which may be of concrete, asphalt, macadam or any other enduring material, is provided with a recess into which a metallic casing 12 is set. This casing has a flange 14 flush with the surface of the roadway, and a pocket 15 extending deep enough to accommodate a lamp and a lens. The flange 14 is connected to the upright wall of the pocket by a connection of Z-shaped cross section. The upright wall of the casing extends above this cross section to afford an upstanding flange 16, the outer surface of which is threaded. The upright part 17 of the connection is spaced away from the flange 16 a sufficient distance to accommodate a ring 18, which is threaded to cooperate with the threads upon the flange 16. The upper part of the ring 18 has an inwardly extending annular flange 20 which is provided with a pair of arcuate slots 21. Preferably these slots extend nearly through a semi-circumference in order that they shall not become so completely filled with dirt that a spanner wrench cannot be used therein.

The wall of the pocket 15 has an inwardly projecting annular flange near the upper part thereof, as shown at 22, and the upper surface of this flange stands opposite the under surface of the flange 20 upon the ring 18. Held between the flange 20 and the flange 22 is a lens 24, and packing 25 is provided between the lens and each of these flanges. The flange 22 also serves to laterally support the upper edge of a parabolic reflector 26, the lower end of which is received under a flange 40 on the socket 27 of a lamp 28. The lower part of this socket is screw-threaded and extends through the bottom of the casting 12. A cap 41 at the end of a cable 31 screws onto the lower end of the lamp socket. It is provided with a flange 32. A packing 30 is provided above the flange 32 to insure a water-tight joint. The cable 31 extends through any desired conduit and feeds the lamp 28.

In the form shown in Figure 3, the under surface of the lens 24 is provided with a series of prisms 32 all parallel to one another and all facing the same way.

In the assembly of the device, the cable 31 has the cap 41 attached thereto and is placed in its conduit, the cap 41 being thus in position to come against the hole in the bottom of the casting 12. This casting 12 is put in place in the surfacing material of the road 10 when the road is built, the cable 31 or the conduit for the cable being laid at the same time. The reflector 26 is placed in the pocket 15 with the hole in its

apex placed to receive the socket 27 of the lamp 28. The socket 27 is then screwed into the cap 41 and the flange 40 on the socket 27 being pressed against the mirror 26 draws the outer flange 32 against the packing 30. This makes a tight joint which will prevent any seepage of moisture from the roadbed into the pocket 15.

The lamp 28 is then screwed into the socket 27. The packing 25 is placed on the upper surface of the flange 22; the lens 24 is placed on this packing; the other packing 25 is placed on the lens 24; and the ring 18 is screwed home.

This ring fits closely between the upright part 17 of the connection and the upright flange 16 so that no dirt is likely to enter into the groove between these upright parts and prevent ready removal of the ring when necessary for inspection or repairs. The ring is manipulated by placing a spanner tool in the grooves 21. If these grooves are partly filled with dirt, there will be rotation of the tool until the dirt packs between it and the necks 34 which separate the ends of the grooves. When the dirt has thus packed, the ring will be turned by further movement of the spanner tool. The grooves are long enough to make it easy to clean out enough space for the lugs of the spanner tool to be inserted at some point in each groove. Thus the accumulation of dirt in the grooves 21 will not prevent manipulation of the ring.

When the lamps are illuminated, in the form shown in Figure 1, a shaft of light will extend upwardly from the signal. The approaching automobilist will see a vertical column of light, which will be visible because of the impingement of this shaft of light on the dust, moisture or other particles in the air. If the automobilist should ignore this signal, or by bad steering should run against the signal, the automobile will pass over the level surface afforded by the flange 14, the ring 18 and the lens 24 without damage to the signal and without danger of upsetting the automobile.

In the form shown in Figure 3, the column of light emerging from the signal, instead of being vertical will be oblique because of the action of the prisms 32. A signal of this character would be used at or near a turn in the road, the slant of the column of light indicating to the automobilist the direction of the turn, so that the automobilist can prepare for such a turn.

We are aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and we therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

We claim as our invention:

1. In a lamp casing for a roadway, a housing, an exterior flange on said housing spaced therefrom to form a groove between said flange and the wall of said housing, an interior flange on said housing, a ring fitting said groove, and a lens adapted to be clamped between said interior flange and said ring.

2. In a traffic signaling device, light-containing means disposed in and substantially flush with the roadway, and means associated therewith for projecting a shaft of light therefrom upwardly and obliquely.

3. In a traffic signaling device, light-containing means disposed in and substantially flush with the roadway, and means associated therewith for projecting a shaft of light therefrom upwardly and obliquely, said projecting means being adjustable in said light-containing means.

In testimony whereof, we have hereunto subscribed our names.

LUTHER B. McEWING.
GEORGE S. CLAYTON.