March 16, 1937. C. C. KREBS 2,073,968

HIGHWAY MARKER

Filed March 9, 1936

Fig. 1.

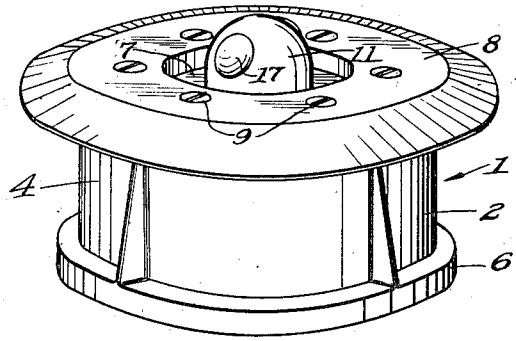



Fig. 2.

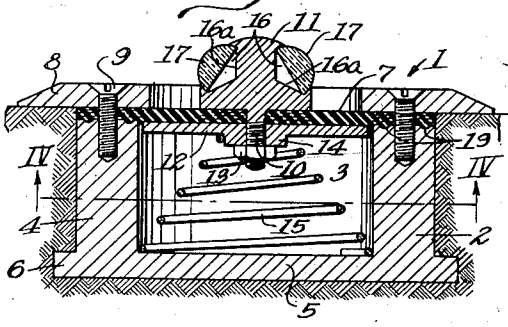



Fig. 3.

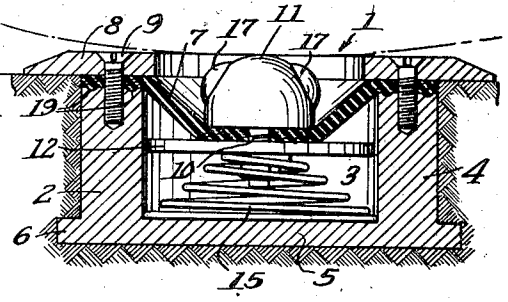



Fig. 4.

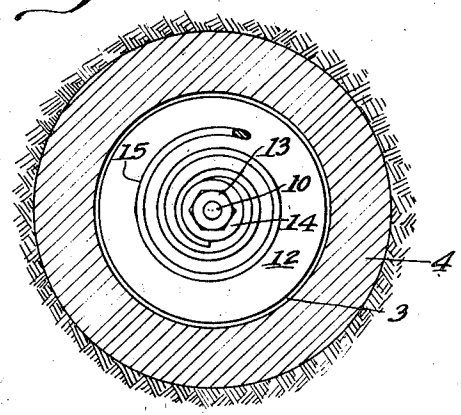
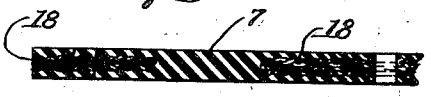



Fig. 5.

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# UNITED STATES PATENT OFFICE

2,073,968

## HIGHWAY MARKER

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Application March 9, 1936, Serial No. 67,905

8 Claims. (Cl. 40—125)

This invention relates to traffic indicators and more particularly to that type of indicator adapted to be embedded in the surface of a highway to serve as a marker and divide said highway into different traffic lanes.

The primary object of the present invention is the provision of an indicator of the type mentioned above which will be depressed when driven over by a vehicle.

Another object is the provision of a device of this character into which water cannot enter and one that will be unaffected by the elements.

A still further object resides in providing a traffic marker which will not injure the rubber tires of a vehicle driven thereover.

It is also an object of the present invention to form a marker of the type specified which will give long service without requiring any undue attention.

With these and other objects in view, which will appear as the description proceeds, the invention consists in the novel features of construction, combination of elements and arrangement of parts hereinafter described and pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of the marker comprising the present invention;

Fig. 2 is a vertical transverse sectional view therethrough;

Fig. 3 is a similar view with the indicating mechanism in a depressed position;

Fig. 4 is a horizontal sectional view taken on the line IV—IV of Fig. 2;

Fig. 5 is a detail sectional view on an enlarged scale of a flexible diaphragm used in the marker.

Referring more particularly to the drawing, the numeral 1 designates the marker in its entirety. The marker comprises a base 2 which may be constructed of a metallic casting and includes, in the particular marker illustrated, a circular cup-shaped body having a central bore 3, relatively heavy side walls 4 and a bottom wall 5. The base 2 is adapted to be set into the paving of the roadway and to prevent it from working out or otherwise being removed, an annular flange 6 is formed at the lower end which will be over-hung by the concrete or other material forming the road surface. Vertical reenforcing ribs are connected to the walls 4 and the flange 6 to provide strength.

Arranged to cover the open upper end of the base is a circular rubber diaphragm 7 conforming in size to the base 2. A metallic ring 8 is provided above the diaphragm and threaded fastening elements 9 pass through aligned openings in the ring and diaphragm and are received in correspondingly threaded openings in the upper edge of the side walls 4 of the base. When the screws 9 are tightened, they cause the ring 8 to firmly clamp the diaphragm in place over the open upper end of the base.

The center of the diaphragm is also provided with an opening through which a threaded stud 10, formed in connection with a semispherical button 11, passes. A circular plate 12 slightly smaller in diameter than the bore 3 is threaded on the stud 10 and secures the button 11 in place on the diaphragm. A lock nut 13 is employed to preclude loosening of this plate on the stud.

At the center of the plate 12 on its under surface, a boss 14 is formed. This boss is received within a coil formed at the upper end of a conical coil spring 15 and serves to correctly position the upper end of the spring. The lower end of the spring 15 rests against the bottom wall 5 of the base. The spring acts to force the diaphragm and button 11 upward. To limit movement in this direction, the internal diameter of the clamp ring 8 is made a little smaller than the outside diameter of the plate 12. When the spring moves the plate upward to the position shown in Fig. 2, the edge of the plate will engage that portion of the diaphragm under the overhanging edge of the ring and upward movement of the parts will be stopped. Due to the fact that rubber is positioned between the metallic plate and ring, no objectionable sound will be heard when this occurs.

The button 11 is provided on a pair of opposed sides with shallow holes 16 in which are positioned magnifying lenses 17. These lenses are secured in place by the edge of the hole being pressed inward to engage the outer surfaces thereof. The bottom of the hole 16 is formed angular and polished or coated to produce a reflecting surface 16*a*. When light rays from the head lights of a vehicle pass through one of the lenses 17, a portion of the rays will be reflected by the surface 16*a* to indicate the presence of a marker.

When the wheel of a vehicle is driven over the marker, the button 11 will be engaged by the tire and pressed down to the position shown in Fig. 3 and as soon as the tire is removed, the spring will force the movable parts upward to their normal position shown in Fig. 2. The button 11 is rounded on top and the outer upper

edge of the ring 8 is bevelled to prevent the same from injuring the tires of vehicles driven over the marker.

Annular rings of fabric material 18 are incorporated in the rubber diaphragm 7 to provide strength at the points where the perforations are arranged. This reenforcement is omitted between the clamp ring and the button 11 to permit the diaphragm to stretch.

The upper edge of the side walls of the casing 2 may be annularly grooved as at 19 to receive the rubber of the diaphragm and prevent the entrance of water which might freeze and injure the marker or prevent movement of its parts.

While there has been shown and described one particular embodiment of the present invention, numerous changes may be made in the mechanical construction of the various parts thereof without departing from the spirit and scope of the invention as set forth by the following claims.

What is claimed is:

1. A depressible traffic indicator comprising a cup-shaped casing open at its upper end, a flexible diaphragm positioned over the open upper end of said casing, a clamp ring for securing said diaphragm in place, a semispherical button secured to the upper surface of said diaphragm, and spring means positioned within said cup and yieldably holding said diaphragm in its uppermost position.

2. A depressible traffic indicator comprising an open topped cup-shaped casing, a flexible diaphragm positioned over the open upper end of said casing, a clamp ring for securing said diaphragm in place, a semispherical button secured to the upper surface of said diaphragm, and a conical coil spring positioned within said casing to resist downward movement of said diaphragm and button.

3. A depressible traffic indicator comprising a base formed with a central bore open at its upper end, a flexible diaphragm positioned over the open upper end of said base, a ring clamping said diaphragm in place on said base, the inside diameter of said ring being slightly smaller than the diameter of the bore in said base, an indicator button positioned on the upper side of said diaphragm, a plate secured to the under side of said diaphragm, the outside diameter of said plate being greater than the inside diameter of said ring and a conical coil spring yieldably holding said plate in its uppermost position.

4. An indicator of the character described comprising a base formed with a central bore open at one end, a flexible diaphragm clamped over the open end of said base, a signal member secured to said diaphragm and spring means positioned in said base between said diaphragm and the bottom of said bore and holding said signal member and diaphragm in their normal position.

5. An indicator of the character described comprising a cup-shaped base member open at one end, a flexible diaphragm closing the open end of said base member, a signal member carried by said diaphragm, spring means tending to force said diaphragm outward away from said casing, and means provided in connection with said indicator for limiting the outward movement of said diaphragm.

6. A traffic indicator comprising a hollow base member open at its upper end, a flexible diaphragm secured to the upper end of said base member in fluid-tight relationship, and a signal member secured to the upper surface of said diaphragm.

7. A traffic indicator comprising a cylindrical base member closed at one end and open at the other, a diaphragm clamped in fluid-tight relationship over the open end of said base, a spring positioned between the diaphragm and the closed end of said base, and a signal carried by said diaphragm exteriorly of said base.

8. A traffic indicator comprising a base member provided with an upstanding annular side wall, said wall being provided with an annular groove in its upper edge, a circular rubber diaphragm positioned upon the upper edge of said side wall, a clamp ring securing said diaphragm in place on said side wall with a portion positioned in said groove, a signal button provided with a threaded stud positioned upon the upper surface of said diaphragm, said stud projecting through said diaphragm, a plate positioned upon said stud and clamping said diaphragm against said signal button, and a spring positioned between said plate and base and yieldably holding the former against downward movement.

CARL C. KREBS.