

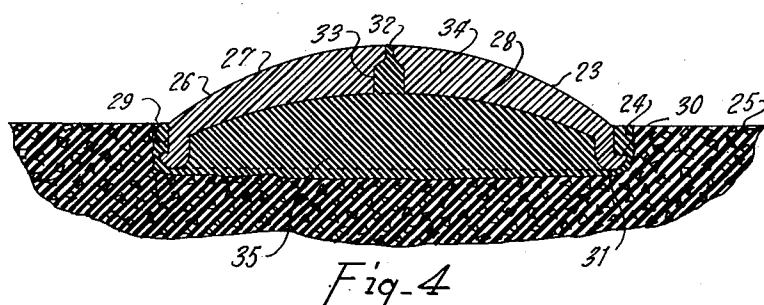
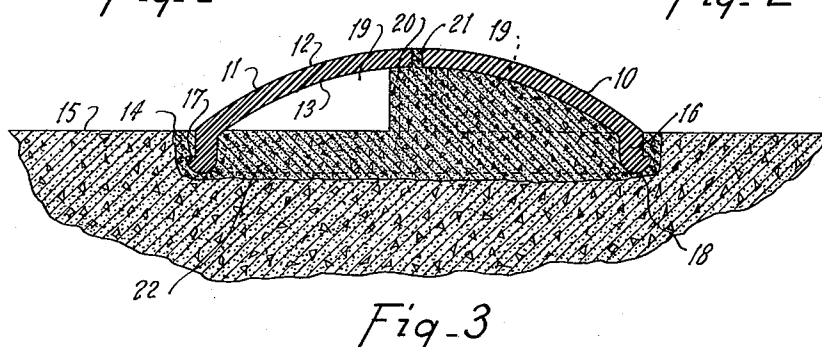
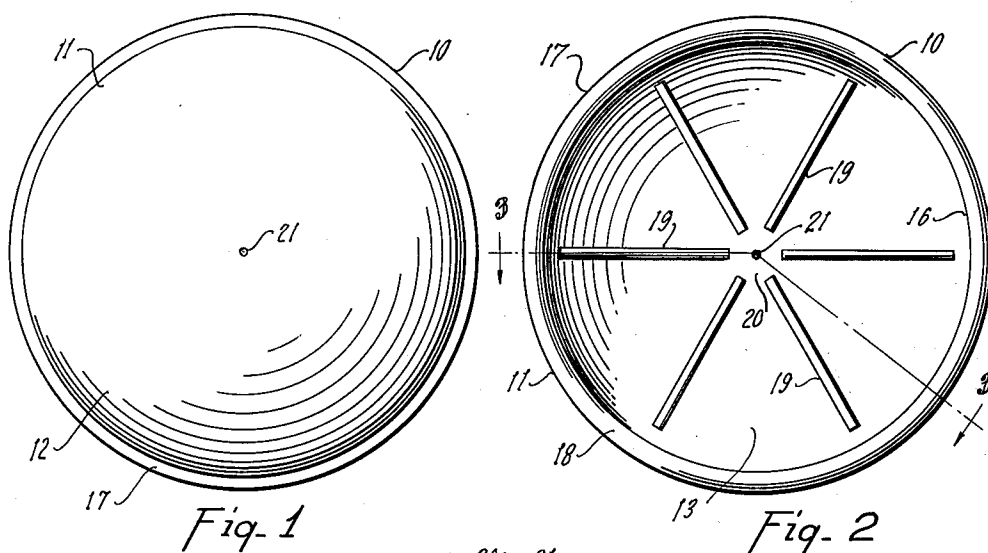
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TRAFFIC MARKER

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TRAFFIC MARKER

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This invention relates to new and useful improvements in traffic markers.

One object of the invention is to provide an improved traffic marker of such construction that the same may be used efficiently in permanently marking lanes on streets, roads and parking areas.

Another object of the invention is to provide an improved traffic marker which is of rugged, compact construction so as to be capable of being formed of plastic material and subjected to heavy vehicular traffic without danger of breakage or displacement.

A particular object of the invention is to provide an improved traffic marker having a substantially concavo-convex body formed with a peripheral lip whereby the marker may be embedded in bonding material and firmly secured to pavement, the body having an axial opening for venting air, water and excess material upon installation of said marker.

An important object of the invention is to provide an improved traffic marker, of the character described, wherein the concavo-convex body is formed of plastic material and is reinforced by radial ribs or a thickened wall section so as to withstand loads and wear imposed by contact with heavy vehicles.

A further object of the invention is to provide an improved traffic marker, of the character described, having internal reinforcing ribs spaced from the outer periphery of the body with the inner ends of the ribs being spaced from one another whereby the spaces between said ribs communicate with one another and with the vent opening to accommodate flow of the bonding material.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, wherein examples of the invention are shown, and wherein:

Fig. 1 is a top plan view of a traffic marker constructed in accordance with the invention,

Fig. 2 is an underside plan view of the marker,

Fig. 3 is a cross-sectional view, taken substantially on the line 3—3 of Fig. 2, showing the marker embedded in bonding material and secured to pavement, and

Fig. 4 is a view, similar to Fig. 3, of a modified form of marker.

In the drawing, the numeral 10 designates a

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traffic marker which includes a circular shell or body 11 of substantially concavo-convex or dished shape. Thus, the body 11 has a smooth convex exterior or upper surface 12 and a smooth concave lower surface or underside 13. It is desirable for the body to be relatively flat and this is accomplished by swinging its curved surfaces on relatively large arcs. Although the body may be formed of any suitable material, it is preferable to employ a hard, non-elastic plastic material. As shown in Fig. 3, the marker is adapted to be disposed within a circular recess 14 of slightly greater diameter formed in pavement 15, such as streets, roads and parking areas, which has been illustrated as concrete. A plurality of markers are adapted to be placed in rows for defining traffic lanes, pedestrian crosswalks, parking lines and safety zones. The markers are used in place of painted lines and are slightly elevated above the surface of the pavement so as to be contacted by vehicles. Each recess 14 is cut or formed in the pavement 15 by a suitable tool (not shown).

An annular flange or lip 16 depends from the periphery of the body 11 in co-axial relation so as to extend in a plane parallel to the plane of the axis of said body. The flange 16 has relatively little height, being slightly less than the depth of the recess 14, and is preferably angular in cross-section so as to provide an outwardly-directed, radial or lateral flange or lip 17 at its lower margin. As shown by the numeral 18, the bottom of the flange 16 and its lip 17 is preferably rounded or arced. Reinforcing means is made integral with the convex underside 13 of the body and has been shown in the form of spaced, radial ribs 19 (Fig. 2). The latter depend from the underside of the body in planes parallel to the axis of said body and preferably have straight lower edge portions extending normal to said axis. An axial recess 20 is provided by spacing the inner ends of the ribs 19 from one another and this recess is in free communication with the spaces between said ribs. The outer ends of the ribs terminate short of the periphery of the body so as to be spaced from its flange 16 and be disposed thereabove. Thus, the spaces between the ribs communicate with one another around the lower edge portions of said ribs as well as at the inner and outer ends thereof. An axial vent or opening 21, of relatively small diameter, communicates with the recess 20.

After the forming of the recess 14 in the pavement 15, a suitable bonding material 22 is placed therein and the body is pressed into said material. The bonding material 22 is preferably in the na-

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ture of a cement and best results have been obtained when the cement is of a type which expands upon setting. A mixture of sand and cement with a suitable bonding ingredient has been found to be highly satisfactory. Sufficient bonding material is placed in the pavement recess to fill said recess as well as the concavity of the body. Thus, the ribs 19 as well as the peripheral flange of the body are embedded in the material which fills the spaces between said ribs and the recess 20. Any excess bonding material or extraneous matter, such as air or water, is vented through the opening 21. Therefore, the provision of this vent opening assures the setting and hardening of the bonding material.

Since the pavement recess is of a diameter slightly greater than the diameter of the marker, the bonding material flows around the periphery of said marker and overlies the radial lip 17 so as to positively secure the marker to the pavement. The depending ribs increase the surficial contact or engagement of the marker and bonding material. It is noted that the height of the peripheral flange is such that substantially all of said flange is embedded in the bonding material and its upper edge portion is substantially flush with the surface of the pavement. Thus, only the convex upper surface of the marker is exposed.

The form of the invention described hereinbefore, is particularly adapted for use with concrete pavement. In asphalt and similar pavements which are yieldable, it has been found necessary to strengthen the marker because such pavements give under heavy traffic and there is nothing to support said marker. Instead of increasing the height and length of the ribs and connecting their inner ends, it is preferable to make said ribs integral so as to preserve the axial recess and vent opening of the marker.

In Fig. 4, a marker 23 of such modified construction is shown mounted in a recess 24 formed in asphalt or similar pavement 25. The marker 23 includes a circular body 26, similar to the body 11, having a convex top or upper surface 27, a concave lower surface or underside 28, a depending, peripheral flange 29 and an outwardly directed, radial lip 30. As shown by the numeral 31, the lower edge portion of the flange and its lip is beveled or rounded. An axial vent or opening 32 is formed in the body and communicates with an aligned, underlying recess 33 of greater diameter. The latter is formed by the reinforcing means or one-piece rib 34 which is provided by increasing the thickness of the body between its convex and concave surfaces. A bonding material 35, in the nature of a mastic, is employed for embedding and securing the marker in the pavement recess 24. This type of bonding material has an affinity for the material of the pavement and adheres to the marker so as to prevent displacement thereof. It is noted that the modified marker occupies the same position relative to the surface of the pavement and has its peripheral flange 29 completely embedded in the bonding material whereby the latter overlies the radial lip 30. The concavity of the marker and its recess 33 is completely filled with the bonding material and any excess material or extraneous matter may escape through the vent opening 32, said recess directing such material or matter to said opening.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made,

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within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A traffic marker including, a substantially concavo-convex relatively flat body of plastic material disposed in a recess in pavement, bonding material filling the recess and the concavity of the body to bond said body to the pavement, said body having a central vent to permit the escape of excess material and extraneous matter, and spaced radial ribs on the concave underside of said body spaced above and from the lower margin of said body and from the vent, whereby the spaces between the ribs have their inner and outer ends in communication, the spacing of said ribs from said vent providing a central recess establishing communication between said vent and the inner ends of said rib spaces, whereby flow of the bonding material toward the recess and vent is permitted during installation of the marker.

2. A traffic marker including, a circular relatively flat body of plastic material disposed in a recess in pavement and having a convex top and a concave underside, a circular marginal flange depending from the outer portion of the top having an outwardly directed annular lip at its bottom, bonding material filling the body and covering the flange and lip in the pavement recess for securing the body in place, said body having a central opening for venting excess material and extraneous matter during installation of said marker, and spaced reinforcing ribs radiating from the central opening on the underside of said body and integral therewith having their outer ends spaced from the flange and their inner ends spaced from said opening to provide a central recess around said opening, whereby the ribs provide channels extending inwardly and opening into said central recess.

3. A traffic marker including, a circular relatively flat body disposed in a recess in pavement and having a concavity in its underside, bonding material filling the recess and the concavity of the body to bond said body to the pavement, said body having a central opening for venting excess material and extraneous matter, and spaced reinforcing ribs on the underside of said body in its concavity and radiating from the opening, the ribs having their inner ends spaced from said opening and their outer ends spaced from the periphery of said body whereby the spaces between said ribs are in communication with each other and with said opening.

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