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3,147,734

ROAD MARKERS

Filed Sept. 17, 1963

FIG. 1

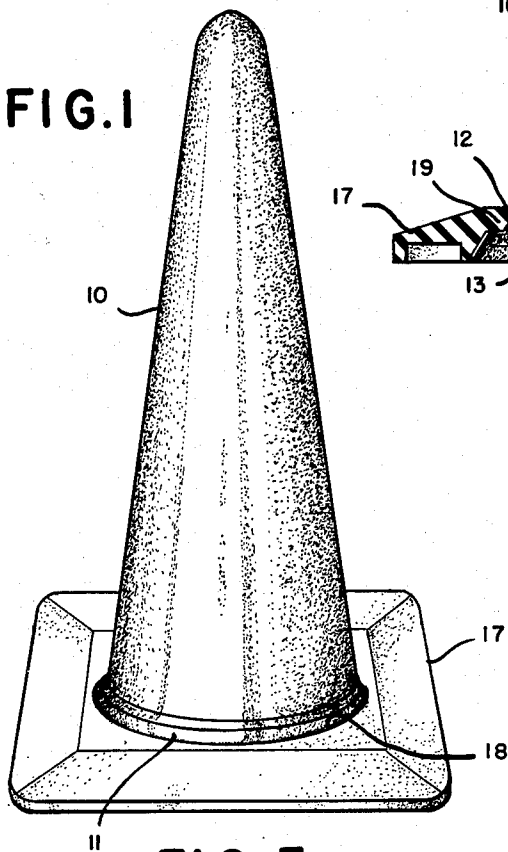


FIG. 3

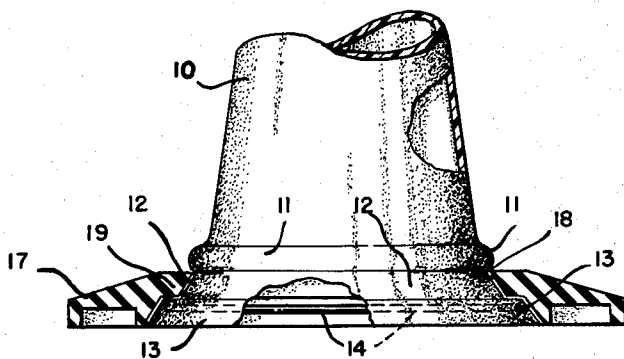
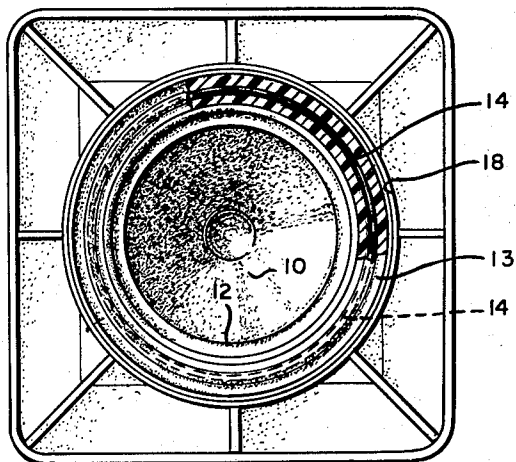


FIG. 2

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3,147,734 ROAD MARKERS

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1 Claim. (Cl. 116-63)

This invention relates to improvements in road markers, and more particularly to an upright cone-type marker of the type used to designate road repairs or other highway obstructions.

The road marker comprising the present invention is generally similar to that disclosed in my Patent No. 3,099,244, issued July 30, 1963, but is an improvement thereon in that the present marker is substantially less expensive to manufacture, and is otherwise superior to the marker disclosed in said prior patent.

A more specific object of the present invention is to provide a cone-type road marker of the type having separable base and cone portions, wherein the base member is substantially flatter than the bases utilized in conventional road markers, thereby permitting the compact telescopic mounting of a number of said markers for convenient storage or shipment, and which relatively flat base design results in a lowered center of gravity which makes the marker more stable, and minimizes the possibility of its being inadvertently knocked over.

A further specific object of the present invention is to provide a road marker of the type having a cone which can be temporarily flexed and snapped into mounting engagement with a base member, wherein said cone and base members are provided with a simplified interfit design which permits their easy joinder and separation, but wherein said members are securely locked together when the marker is in use.

A further specific object of the present invention is to provide a novel road marker of the type having a base and having a flexible plastic cone separably mounted therein, as described, wherein said cone has a metal ring imbedded in its lower, annular edge to provide increased rigidity and to minimize the possibility of said cone being inadvertently flexed and separated from its base when the marker is in its assembled condition.

A still further object is to provide a cone-type road marker including a base portion formed of hard, durable rubber, in lieu of the synthetic plastic bases utilized in prior markers, which improved base construction is better adapted to withstand adverse weather and temperature conditions.

With the above and other objects in view, the present invention comprises the improved road marker described in the following specification and claim, and all of its parts and combinations, and all modifications or equivalents thereof.

In the accompanying drawing, wherein the same reference numerals designate the same parts in all of the views:

FIG. 1 is a perspective view of the improved road marker;

FIG. 2 is an enlarged fragmentary side elevational and sectional view of the lower portion of the marker; and

FIG. 3 is a bottom plan view of the assembled marker, with a portion of the cone broken away and shown in section.

As is fully described in my Patent No. 3,099,244, two-piece road markers of the type herein concerned are preferred to conventional one-piece conical markers for several reasons. For one thing, with the type of marker wherein the base and cone are cast as an integral unit it is a needless expense to form the base of the same relatively-expensive fluorescent material required for the

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cone, since the base is intended merely as a support for said upright cone. Moreover, the separable nature of a two-piece marker permits the same to be more compactly and efficiently stored or shipped.

Referring now more particularly to the improved road marker comprising the present invention, the numeral 10 designates the cone-shaped upper portion, which is molded of a flexible but durable plastic, or similar material, and which cone is preferably of a bright, fluorescent color so that it will be clearly visible to approaching motorists. The rigid base 17 in the present structure is relatively flat, as shown, and is preferably square or rectangular in shape, although the particular geometric form thereof is not critical, and in accordance with the present invention said base is formed of a relatively hard rubber composition which is adapted to withstand both intense heat and sub-zero temperatures without cracking or deteriorating. Heretofore, the base members employed with road markers of the type herein concerned have been formed of plastic, but it has been found that a composition rubber base has far better durability and weather resistance.

Another important distinction between the base 17 in the present invention and those employed in prior road markers is that the present base is of substantially less height. The relatively flat form of said base 17 is permitted by the novel, simplified cone and base interfit, which will be hereinafter described, and said reduced base design is not only less expensive to manufacture, but results in a lowered center of gravity of the assembled marker. This is an important feature of the present invention as it increases the stability of the marker and minimizes the possibility of its being overturned by wind currents and the like.

With more particular respect now to the interfitting portions of the cone and base members, it will be seen in FIG. 2 that the flexible cone 10 is provided with a protruding annular rib 11 spaced above its lower edge, and the extreme lower end of said cone is provided with an enlarged, annular flange or shoulder 13, the area between said projecting rib and shoulder forming an annular groove 12, as illustrated. In accordance with the invention, a rigid wire ring 14 is molded into the lower, shoulder portion 13 of said cone, the purpose of which wire will be hereinafter seen. The rubber base member 17 is provided with an enlarged central opening 18, and the marginal portion therearound provides a radially-inwardly projecting flange 19 which conforms in size and taper to the cone annular groove portion 12, and immediately below said flange 19 is an annular recess 21 which is of a size and shape to closely receive the lower shoulder flange 13 on said cone.

To assemble the novel marker comprising the present invention, the base 17 is dropped downwardly over the top of the cone 10 until said base rests against the protruding rib 11 on the lower portion of said cone. The flexible cone is then pulled forcibly upwardly to snap said annular rib 11 past the relatively rigid, inwardly-projecting base flange 19, thus providing a yieldable locking engagement which prevents the tapered cone from passing downwardly through the base opening. As will be seen in FIG. 2, with the cone and base members thus joined, the bottom flange 13 on said cone abuts the underside of the base shoulder 19 and prevents the cone from being pulled upwardly through said base opening.

With the marker assembly disclosed in my aforementioned Patent No. 3,099,244 it has been found that when the cone upper end is grasped and lifted by a workman it sometimes happens that the lower portion of said flexible cone pulls free of the base. To eliminate this undesirable situation, the bottom flange 13 in the present cone is provided with a reinforcing wire 14, as hereinabove

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mentioned. The purpose of said wire is to add rigidity to the lower, flanged portion of said flexible cone, and it has been found that this innovation effectively prevents the cone flange 13 from being snapped past the base shoulder 19, and ensures against the inadvertent separation of said cone and base members. In the manufacture of the present cone, said wire ring 14 may be positioned in the cone mold and when the thermoplastic material is poured therein said plastic forms around said steel wire and causes the same to be completely imbedded in the finished cone.

When it is desired to disassemble the marker, as when it is to be stored away, it is merely necessary to push the cone downwardly and snap the annular rib 11 past the base shoulder 19. The base 17 may then be drawn upwardly and off the cone upper end to complete the separation of said members.

For efficient storage or shipment the present marker can be disassembled as described, or, and as is the usual practice, said markers can be left in their assembled condition and a number mounted on each other in telescoping relation. Due to the relatively flat nature of the base member 17 characterizing the present invention, a substantially greater number of said markers can be compactly mounted on each other in this manner than is possible with conventional markers wherein the base portions are relatively bulky.

From the foregoing description it will be seen that the improved road marker comprising the present invention provides a simplified cone and base assembly which is not only inexpensive in design, but which has several important functional advantages over the prior art. With the present marker the relatively flat design of the base member permits the compact telescopic mounting of a large number of said units for convenient storage or shipment, and also provides a lowered center of gravity which minimizes the possibility of the markers being overturned by the wind or by the air currents created by passing vehicles. Moreover, due to the novel, rigid reinforcing element imbedded in the lower portion of the flexible

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cone, the possibility of the cone and base being inadvertently separated during use has been eliminated.

It is to be understood, of course, that various changes and modifications may be made in the novel road marker hereinabove described without departing from the spirit of the invention, and all of such changes or modifications are contemplated as may come within the scope of the following claim.

What I claim is:

- 10 A separable road marker assembly, comprising: a base formed of relatively rigid material, said base having an upper surface and a lower surface adapted to rest on the ground, and said base having a relatively large central opening therethrough; an integral flange formed on the marginal portion of said base upper surface projecting radially-inwardly relative to said opening; a separable cone member formed of relatively flexible material, said cone having an enlarged lower end and being tapered upwardly; an annular protruding rib formed on said cone above its lower end, said rib being adapted to be temporarily deflected and snapped upwardly past said base flange to a position abutting against the upper surface thereof when said tapered cone member is projected upwardly through said base opening to assemble the marker; a protruding annular shoulder formed on and around the bottom of said cone, said shoulder being designed to abut against the underside of said base flange when said marker is in its assembled condition, said co-
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3,099,244	Knapp _____	July 30, 1963