

Feb. 15, 1966

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3,234,903

SAFETY MARKER FOR HIGHWAYS AND THE LIKE

Filed Oct. 12, 1964

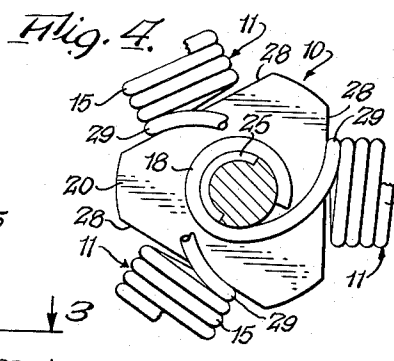
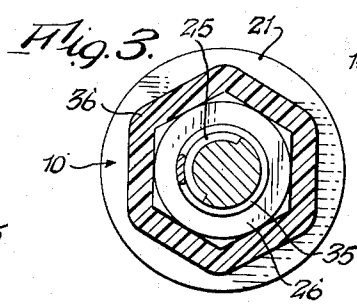
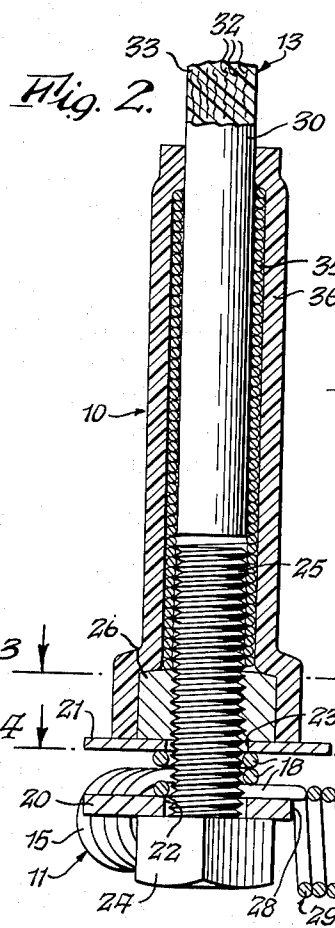
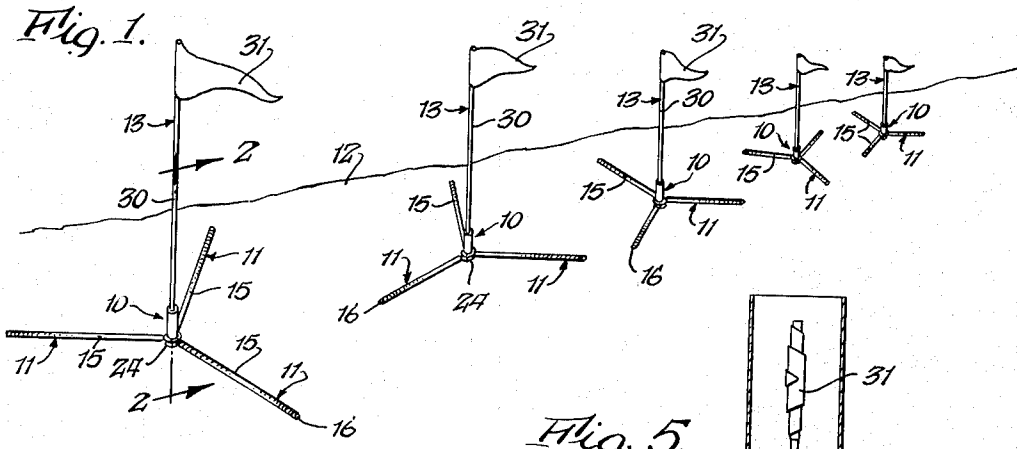


Fig. 5.

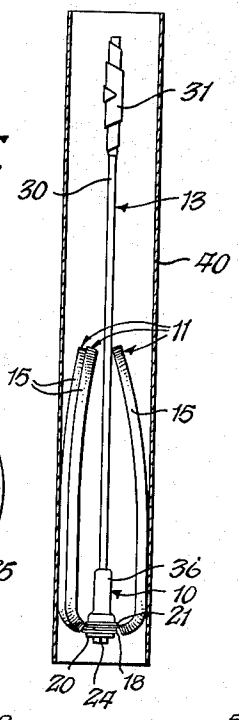
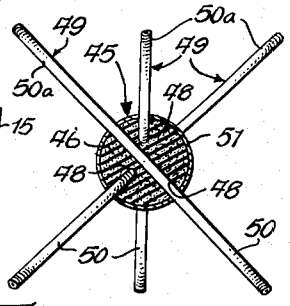


Fig. 6.



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1

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**SAFETY MARKER FOR HIGHWAYS  
 AND THE LIKE**

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 Filed Oct. 12, 1964, Ser. No. 402,996  
 5 Claims. (Cl. 116-63)

This invention relates to a safety marker for highways and the like and more particularly to safety markers used by police and fire departments to block off or detour traffic from hazardous areas, by truckers to meet the legal requirements of carrying two safety signal devices for use in front and rear of the truck when the trucks are stalled on shoulders of roads, by passenger car or taxi drivers to provide a warning signal to oncoming traffic of their vehicle being stalled on or alongside the road, and in road construction work to direct traffic into detours or single lines and also when striping a road to keep traffic from crossing the stripes until they are dry.

One of the principal objects of the present invention is to provide such a marker which is capable of being run over by traffic vehicles without injury to the marker, the marker springing back into its original warning condition and position.

Another object is to provide such a marker which is wind resistant and will not blow away, and to provide one form of the invention which waves with the wind to provide an even more effective warning signal.

Another important object of the invention is to provide such a marker which has a very high safety factor, one form of the invention carrying a fluorescent pennant or the like to be visible from long distances day or night, and another form of the invention having an elevated body coated with fluorescent paint and having the formidable appearance of a miniature tank trap which has been found to have been particularly effective in preventing vehicles from crossing freshly painted lines on the roadway.

Another object is to provide such a marker in which the materials are strong and rust resistant and will stand up under conditions of severe and constant use without deterioration and without getting out of order or requiring repairs.

Another important object of the invention is to provide such a marker which is made of yielding materials and of such form that it is incapable of serious injury to highway vehicles even when run over.

Another object is to provide such a marker which is so formed that there is little danger of its being thrown violently to one side, on being struck by a vehicle, with possible injury to nearby workmen.

Another aim is to provide such markers which are lightweight and will not tangle with one another when massed together so that large numbers of them can be easily stored and transported as a large mass.

Another object is to provide such markers which can be manually thrown from a moving truck to land right side up in proper position.

Another object is to provide such a marker which can be compacted and placed in a cylinder from which it can be slung by centrifugal force to land right side up on the roadway.

Another object is to provide such a marker which complies with Federal and State regulations concerning the same.

2

Other objects and advantages of the invention will be apparent from the following description and drawings in which:

FIG. 1 is a perspective view of a roadway surface having a line of markers embodying the present invention.

FIG. 2 is an enlarged fragmentary vertical section taken generally on line 2-2, FIG. 1.

FIGS. 3 and 4 are fragmentary horizontal sections taken generally on the correspondingly numbered lines of FIG. 2.

FIG. 5 is a side elevational view of the form of marker shown in FIGS. 1-4 with its pennant furled and its supporting feet manually brought into parallel relation and forced into a tubular container, such containers forming a simple means for storing individual markers and also forming a means for quickly placing the markers, it being merely necessary to sling the marker out centrifugally from one end of the container.

FIG. 6 is a vertical central sectional view through the holder of a modified form of the invention the feet and arms of the holder being in elevation.

In the form of the invention shown in FIGS. 1-5 the numeral 10 designates a holder or body to which the inner or adjacent ends of a plurality of ground engaging flexible helical metal spring members or feet, indicated generally at 11, are secured in fixed relation to the body to project in different horizontal directions and are adapted to engage the ground 12 at least at their outer extremities and jointly support the holder or body 10 in a predetermined position with reference to the ground 12, the holder or body 10 having at least one upwardly opening socket adapted to receive and anchor the lower end of the staff of at least one visual warning member, indicated generally at 13, projecting upwardly therefrom and the helical metal spring members or feet 11 being capable of flexing relative to the holder or body 10 and relative to each other and thereafter returning to such normally horizontally projecting positions.

The flexible spring members 11 are preferably each in the form of a manually flexible helical metal spring 15 one end of which is weighted by the provision of a weight 16 and the opposite end of which is preferably formed to provide an eye or circle 18 arranged parallel with the axis of the flexible spring member. These weights are important in providing the necessary balance for the upright warning member, particularly from being toppled over by the wind or passing vehicles.

The holder 11 comprises a bottom disk or washer 20 and a top disk or washer 21 having central holes 22 and 23, respectively. The eyes 18 of three or more flexible spring members 11 are sandwiched between these disks or washers, 20, 21 in coaxial relation to their holes 22, 23 and a bolt 24 has a threaded shank 25 projecting upwardly through the hole 22, registering eyes 18 and hole 23 to project upwardly from the top disk or washer 21. A nut 26 on the threaded shank 25 engages the top of the top plate or washer 21 and holds the eyes 18 compressed between the disks or washers 20, 21.

The spring members or legs 11 are shown as being three in number and secured to the holder 10 to be at 120° angular relation to one another. However a greater number of evenly spaced spring members or legs can be provided, such as five at 72° spacing. To secure the legs to the holder 10 the margin of the lower washer or disk 20 is provided with a plurality of straight edges 28 arranged

at 120° angular relation to one another thereby to be each capable of engaging opposite sides of the adjacent endmost coil 29 of the companion helical metal spring 15, as best shown in FIG. 4, and hold the spring members or feet 11 in the predetermined 120° radial relation with reference to one another.

The upwardly projecting part of the threaded bolt shank 25 is used to support the upwardly projecting warning or signal member 13 which preferably is in the form of a flag staff or shaft 30 carrying a pennant 31 at its upper end, the shaft or staff 30 preferably being made of glass fibers 32 embedded in a flexible organic plastic 33 so as to have a high degree of flexibility and strength. The shaft or staff 30 is preferably arranged coaxial with the shank 25 of the bolt 24 to project upwardly therefrom with its butt end arranged in closely spaced relation to the upper end of the threaded shank 25, and these two parts are preferably resiliently connected together by means of a flexible helical metal spring 35. The lower end of this helical spring is screwed onto and compressively embraces the threads at the upper end of the shank 25 of the bolt 24. The upper end of the helical metal spring compressively embraces the butt end of the flag staff or shaft 30. This spring is preferably enclosed in a flexible plastic sleeve 36 which also preferably compressively engages the flag staff 30 at its upper end and expanded to compressively engage the nut 26 at its lower end, thereby to resist any tendency of the nut 26 or helical compression spring 35 to loosen from the threaded shank 25 of the bolt 24.

A feature of the invention resides in the manual flexibility of the flexible spring members 11 which permits them to be brought into generally parallel relation with one another as illustrated in FIG. 5.

In this position the marker can be shoved endwise into an open ended tubular container 40 and a pair of these containers can easily be stored in a truck or pleasure car to be available for instant use. Thus upon becoming stalled along the side of a roadway, the driver need only to grab two of the containers 40, go to the required distance in front of the car, and sling one of the markers centrifugally out from one of the containers, and walk the sufficient distance to the rear of the car and sling the other marker out of its container 40.

A particular feature of the invention is that when so slung, or thrown in any manner upon the ground, the marker will almost always assume a right side up position with its pennant 31 waving in the breeze. Another feature is that even when the markers are stored indiscriminately and in mixed relation as a mass in a truck there is very little tendency for them to become tangled up with one another. Accordingly the markers can be properly placed along a roadway, by one having little dexterity, from a moving truck. He need only seize one marker after the other from a pile of the markers and throw them from a moving truck to the positions which they are to occupy. The markers land right side up in such positions to be highly effective as warning signals.

The markers can be as easily removed from the roadway and stored in a moving truck, it being merely necessary for the operator to reach out from the moving truck and grab the flag staffs 30 as they are passed and throw the markers into a pile in the truck.

The markers, particularly by reason of the helical springs 15 and 35 are highly unlikely to be injured when run over by a truck. In actual experience the flag staffs 30 can be forced to the ground on being run over only to immediately spring back into upright operative position. Moreover, any part can be easily replaced at low cost with little effort or skill.

In the form of the invention shown in FIG. 6, the holder or body 45 of the marker is in the form of a ball or solid body 46, preferably of pure gum sponge rubber or other resilient plastic material, and having three bores 48 extending therethrough in slightly offset relation to each other at the center of the ball as illustrated in FIG.

6. The outer ends of these bores, in the flexible sphere-shaped body 46, are preferably substantially equidistant from one another. Flexible helical metal members 49 extend through these three bores 48 and have three downwardly projecting ground engaging feet projections 50 and three upwardly projecting warning member or staff projections 50a, the ends 50 and 50a of each flexible helical metal spring member 49 being integral with and forming continuations of each other. These spring members 49 are manually flexible and capable of being brought into parallel relation to one another for storage in a tube 40 in the same manner as with the first form of the invention as illustrated in FIG. 5. Desirably the ball 46 can be coated with a coating 51 of fluorescent paint and the projections 50, 50a are preferably of equal length and with their outer ends generally equidistant from one another to resemble a jack used in the game of jacks.

The form of the invention shown in FIG. 6 has been found to be particularly effective in keeping autoists off of wet stripes on a roadway since they have the vicious appearance of miniature tank traps, the upwardly protruding ends 50a giving the appearance to the body or holder 45 of bristling with radially projecting rods which could do serious damage to the tires, body and understructure of the car. Accordingly drivers instinctively give this form of the invention wide berth and stay off the wet paint. At the same time, being composed exclusively of helical spring members projecting from a soft, flexible body, the markers shown in FIG. 6 will not cause injury when run over, either to the vehicle itself, or by being thrown violently to one side with possible injury to a workman or a pedestrian.

From the foregoing it will be seen that the present invention provides a low cost, simple and effective marker, particularly for roads, having the advantages and achieving the many objectives set forth.

What is claimed is:

1. A marker for highways and the like, comprising a body having at least one upwardly opening socket adapted to receive and anchor the lower end of the staff of a visual warning means, a plurality of ground engaging flexible helical metal springs extending from said body in different directions, means securing the adjacent ends of said flexible helical metal springs in fixed relation to said body to support said body on the ground with its said socket opening upwardly, and a staff of a warning means having its lower end contained and anchored in each socket to project upwardly from said body, said ground engaging helical metal springs flexible relative to said body and relative to each other to avoid damage to the marker when run over and to facilitate placing the marker on the highway.

2. A marker as set forth in claim 1 wherein said visual warning means comprises a plurality of said staffs projecting upwardly in different directions with reference to one another thereby to give the appearance of the marker bristling with dangerous appearing upward projections.

3. A marker as set forth in claim 2 wherein said staffs are integral continuations of the corresponding ground engaging flexible helical metal springs.

4. A marker as set forth in claim 1 wherein said ground engaging helical metal springs are provided at their adjacent ends with eyes each forming a ring arranged in a plane substantially parallel with its axis of its helical metal spring and wherein said means securing said adjacent ends of said flexible helical metal springs in fixed relation to said body comprises a bottom disk and a top disk, said rings being arranged between said disks and in vertical alinement with one another, and means attached to said body and fastening said disks together in compressive relation with said eyes.

5. A marker as set forth in claim 1 additionally including a weight attached to the outboard end of each ground engaging helical metal spring.

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5

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