WARNING BLINKER SIGNAL FOR AUTOMOBILES

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WARNING BLINDER SIGNAL FOR AUTOMOBILES

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This invention relates to highway signaling devices for use on highways to warn drivers of oncoming automotive vehicles of danger, and more particularly relates to a movable blinker type signal device. Heretofore it has been common practice to use road flares or stationary warning signs such as dormant signal plates to minimize accidents when a truck, car or other automotive vehicle is stalled or parked along a highway. Such devices are not as efficient as desired, particularly because of lack of proper visibility under various conditions, in both daytime and night time.

It is therefore the main object of the present invention to provide an improved highway signaling device that can be readily observed by the oncoming motorist. Another object of the invention is to provide a movable highway signaling device that is actuated by wind velocity. Yet another object is to provide a wind actuated highway signaling device having a vane with one surface colored red and its opposite surface colored yellow to produce a blinking effect, upon turning. Another object of the invention is to provide a highway signaling device that can readily be mounted on the soft shoulder of the highway.

A further object of the invention is to provide a movable highway signaling device that is simple in construction and that can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth. In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a movable highway signaling device embodying my invention.

Fig. 2 is an enlarged side elevational view of the device, the base and tubular housing being shown in dotted lines.

Fig. 3 is an enlarged horizontal sectional view taken on the plane of the line 3—3 of Fig. 2, the vane being shown turned ninety degrees.

Fig. 4 is a vertical sectional view taken on the plane of the line 4—4 of Fig. 2, the base and tubular housing being shown in full lines.

Fig. 5 is an exploded perspective view of the signaling device.

Fig. 6 is a plan view of the vane.

Fig. 7 is a plan view of the top disk.

Referring in detail to the drawings, in Fig. 1, a highway signaling device made in accordance with the present invention is shown and designated generally by the reference numeral 10. This signaling device comprises a base 12 which is preferably square in plan and may be made of wood, metal or any other suitable material. The base may be colored red or part red and part white in order to attract attention. A socket opening 14 is formed in the upper end surface of the base, which opening is preferably round in cross section and extends about half-way down the base.

An upright elongated cylindrical solid metal post 16 extends from the top of the base with its bottom end supported in the socket opening 14. The post extends through a tubular metal sleeve member 18 which seats loosely on the top surface of the base, and constitutes a housing. The outer surface of the housing may be colored with a color contrasting to the color or colors of the base.

A substantially square-shaped split frame 20 is supported on and fixed to the top end of the post 16 projecting upwardly from the top of the frame 22, 22, connected at the top by a horizontal top wall 24. At the bottom of each side wall 22, the bar extends inwardly to a point closely spaced from the center of the frame, providing a bottom wall portion 26. The bottom wall portions terminate in downward extensions 28. The extensions are spaced from each other and have their inner surfaces formed with grooves 32, extending from top to bottom thereof, the grooves being arcuate in cross section to conform to the curvature of the post 16. The frame is adapted to be placed over the top of the post 16 and is fixed thereto by means of screws 36 passing through aligned openings 38 and 40 in the extension 28 and post 16, respectively.

A circular metal disk 42 is fixed to the top of the frame adjacent the top wall 24 by screws 44 extending through openings 46 and 48 in the top wall 24 and disk 42, respectively, opposed notches 50 in the disk permitting assembly of the disk.

A similar disk 52 having opposed notches similar to notches 50 is assembled and secured to the bottom of the frame adjacent the bottom wall portion 26 by screws 56 extending through aligned openings in the bottom wall portion and disk 52. Disk 52 is formed with a central opening 58.

In accordance with the present invention, a signaling unit or device indicated generally at 60 is rotatably supported by the post 16 and is disposed in the frame between the disks 42 and 52 and side walls 22 thereof. This signaling unit or device comprises an elongated stepped bearing member comprising a solid cylindrical member 62 having an elongated cylindrical extension 64 at one end thereof, the top end as viewed in Figs. 4, the extension being smaller in diameter than the body providing an annular shoulder 66. The extension is split centrally as indicated at 70 forming two halves 72, 72. The halves 72 are formed with spaced aligned holes 73. Intermediate its ends, the body 64 is formed with an annular horizontally disposed flange 74 that terminates in a downward extending annular flange 76 spaced from the body as viewed in Fig. 4. The other bottom end of the body is formed with a socket opening 78 to receive the top end of a shaft 80 which is secured in the socket opening by a setscrew 82.

Shaft 80 extends centrally through a central bore 84 formed in the top end of the post 16 and is supported by upper and lower ball bearing units 86 and 88, respectively, disposed at the top and bottom of a metal sleeve 90 lining the bore 84 and secured therein by the screws 36. The bottom end of the bore 84 is narrower than the remainder thereof providing a shoulder 92 on which the outer race of the bottom ball bearing unit 88 seats, and the bottom end of the shaft is narrower than the remainder of the shaft as indicated at 94. Forming a shoulder 96 seated on the inner face of the bottom ball bearing unit 88. The top end of the post 16 is formed with an annular recess 98 to receive the depending flange 76 of the bearing member, the bottom edge of the flange being spaced from the base of the recess.
A vane or flag 100 of rectangular shape is supported in a vertical plane by the extension 66 of the bearing member. The vane has a rectangular-shaped body of sheet metal curved in opposite directions at its ends as indicated at 102. Midway its ends, along one long edge thereof, the vane is formed with a slot 104 intersecting said edge, the slot being formed with a central notch 106. A pair of spaced vertically aligned holes 108 are formed in the vane in line with the slot and notch. The vane may be made of any suitable metal such as sheet aluminum or sheet metal and then coated with suitable substance to increase its noticeability. One surface of the vane is preferably coated with a red paint or an orange-red fluorescent paint so as to attract the attention of the oncoming motorist in the daytime. This paint can be seen at a great distance. The opposite surface of the vane is preferably painted with a paint of lighter hue such as yellow. The anti-friction mounting of the vane permits ready turning thereof by the slightest gust of wind.

In assembling the signaling device, the signaling unit including the bearing member 66, shaft 80 and mounting for the shaft is installed in the bore 84 of the post 16. The frame 20, with disks 42 and 52 in place, is then slipped over the installed unit and top of the post and secured to the post 16 by means of the screws 36. The vane 100 is then installed in position on the extension 66 by slipping the notch 106 thereof over the top of the extension into the slit 70 and forcing the vane inwardly of the extension, the slot and notch permitting this operation. The vane is then secured in position by means of screws 110 extending through the aligned holes 73 and 108 in the halves 72 of the extension and in the vane, respectively. A pin 112 extends through a transverse opening in the bottom end of the shaft 80 and outwardly thereof on both sides whereby upon withdrawal of the bearing member and shaft 80, the anti-friction devices and sleeve 90 will be withdrawn.

In use, when an accident has occurred on the highway or an automobile has stalled, the signaling device is placed in position on the highway by placing the base on the soft shoulder of the highway. The post 16 is of sufficient height so that the frame and signaling unit can be seen by the driver of an approaching automotive vehicle. With the least wind, the vane will spin around and the alternating appearance of the red and yellow colors will produce a blinking effect that will be effective in warning oncoming motorists of impending danger in sufficient time so they can bring their automobile to stop even if they are traveling at a high rate of speed.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. In a highway signaling device, a flat base, having a central socket, a solid cylindrical post supported in said socket, said post having a central bore in the top end thereof, an open frame mounted on the top end of said post and protruding thereabove, said frame constituted by a flat metal bar having side walls, a top wall connecting the side walls, bottom wall portions spaced from each other and extensions depending from the ends of said bottom wall portions, said extensions disposed on opposite sides of the top end of the post and fixed thereto, a circular disk at the top of said frame, another circular disk at the bottom of the frame, a signaling assembly rotatably mounted on the top of said post, said assembly including a bearing member having a solid cylindrical body with an extension at one end thereof, said extension being slit centrally for its length, the other end of said body having a central socket, a shaft having one end fixed in the socket of said body and extending into the bore in said post, anti-friction units sleeved around said shaft at its top and bottom ends and a sheet metal vane disposed vertically in the slit in said extension and secured to said extension, said vane confined within the walls and disks of said frame and adapted to be engaged by the wind, said surface having one surface colored red and its other surface colored yellow, the body of said vane being curved at its ends in opposite directions.

2. A highway signaling device as defined in claim 1, wherein a sleeve lines the bore in the post between the anti-friction units, the post has an annular recess at its top end, and the body of the bearing member has a depending flange extending into the recess in the post.

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