

[54] **REFLECTOR FOR MARKING DRIVEWAYS AND THE LIKE**

[75] Inventor: **Arnold H. Kannenberg**, German-town, Wis.

[73] Assignee: **Lemco Plastics Inc.**, Milwaukee, Wis.

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[51] Int. Cl. **G02b 5/12**

[58] Field of Search **350/97-99, 102, 350/109, 288, 299, 304, 305, 309, 245; 40/19, 145**

[56] **References Cited**

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Primary Examiner—David Schonberg

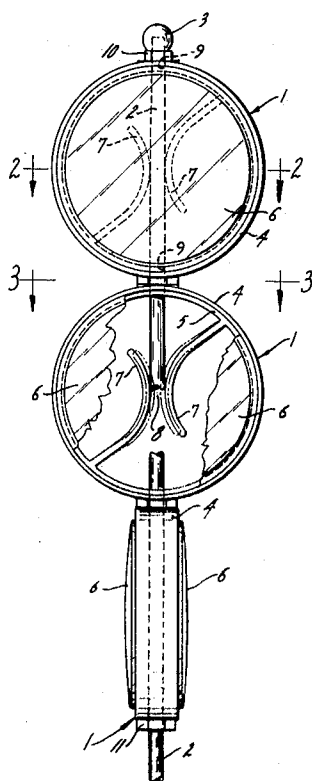
Assistant Examiner—Michael J. Tokar

Attorney—Andrus, Sceales, Starke and Sawall

[57] **ABSTRACT**

The reflector for marking driveways and the like is adapted to be resiliently clamped to a rod which can be inserted into the ground. One or more reflectors can be supported on the rod at various angles and reflect the lights of passing cars to mark, for example, the entrance to a driveway. Each reflector is constructed of a circular molded plastic frame to hold the reflecting plastic and has internal resilient members projecting inwardly from the frame which cooperate to securely clamp the reflector to the supporting rod which passes through aligned holes in the frame and a passage between the springlike internal members. Each reflector at one end has an octagonally shaped embossment on the frame around one of the holes in the frame, and a second embossment around the aligned hole at the opposite side of the frame which has an octagonally shaped inset. Thus, the embossment of one reflector can be seated in the inset embossment of an adjacent reflector to locate a respective reflector at four different angular positions on the supporting rod relative to an adjacent reflector.

7 Claims, 5 Drawing Figures



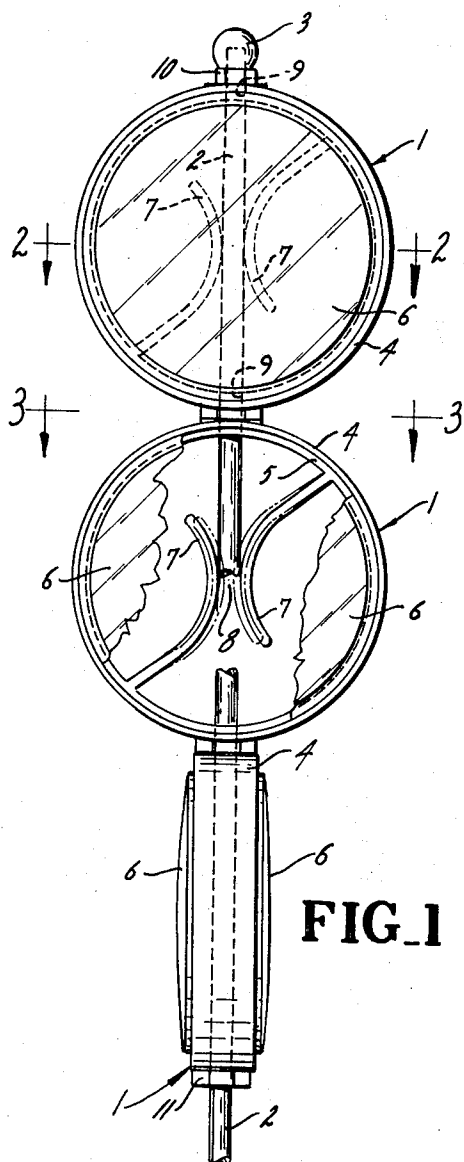


FIG. 1

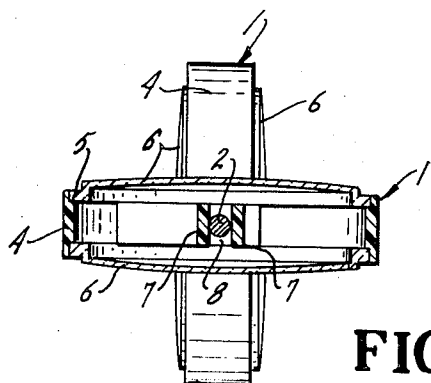


FIG. 2

FIG. 3

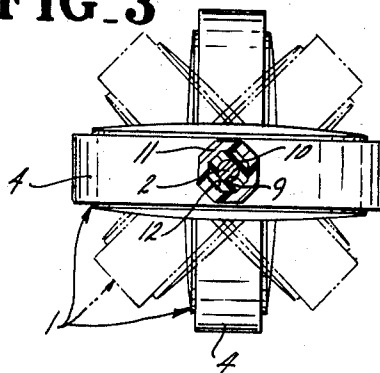


FIG. 4

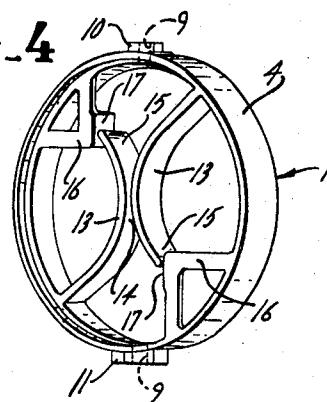
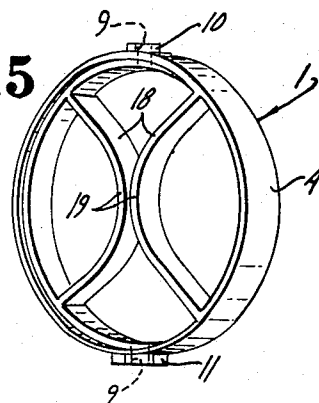


FIG. 5



INVENTOR.
ARNOLD H. KANNENBERG

BY
Andrew, Scoble, Starks, & Small
Attorneys

REFLECTOR FOR MARKING DRIVEWAYS AND THE LIKE

BACKGROUND OF THE INVENTION

Reflectors supported on standards or rods which may be inserted into the ground to mark the entrance or edges of the driveway are well known. However, heretofore the reflectors have been held onto the standard or rod by fasteners, such as external clamps, which had to be released before the reflectors could be moved up or down on the rod. Furthermore, the reflectors needed to be completely removed from the rod before they could be changed to different angular positions. The constructions described are expensive and do not have the desired versatility for use under varying circumstances.

SUMMARY OF THE INVENTION

The present invention overcomes the deficiencies of the prior reflector markers by supplying a reflector which is easily assembled on the rod and requires no removable fastening members to hold it in the position described on the standard or supporting rod.

The reflectors of the invention preferably are assembled on a round standard or rod for ease of rotation of the reflectors held by the rod to the angular position desired without removal of the reflectors from the rod.

The reflectors may be made in several different ways. Each reflector normally has a circular frame which is preferably molded from plastic and provided internally with annular seats on opposite sides to receive and retain colored reflecting members on both sides of the frame. Under one embodiment of the invention, a pair of resilient armlike members are secured at one end to the inside of the circular frame and then curve inwardly toward each other with the inner end of one of the armlike members being free and located opposite the free end of the other armlike member. The armlike clamping members extend for a short distance in a parallel plane in cooperation with each other to provide a passage therebetween which is aligned with apparatus or holes provided on opposite sides of the frame. The passage between the armlike members is slightly less in cross section than the supporting rod to which the reflector is adapted to be applied by passing the rod through the aligned holes in the frame and the passage between the armlike members. Due to their resilience, the armlike members are compressed outwardly toward the frame by the insertion of the rod in the passage between them and consequently securely clamp the rod to the frame at the position desired. Although the reflectors are securely held in place, they are easily moved up and down on the rod or rotated to different positions and readily stacked one upon the other.

Under another embodiment of the invention, an additional clamping of the rod by the armlike members is accomplished by permitting the free ends to move slightly before engaging an abutment molded to the inside of the frame which changes the rotational movement of the arms to a straight line movement whereby further compression of the armlike members occurs.

Even a greater clamping of the armlike members of the reflector can be accomplished by securing both ends of the armlike members to the frame so that they extend toward each other in a semi-circular comple-

mentary manner. In this case, since neither end is free to move, the body or central portions of the armlike members are compressed upon insertion of the rod between them to securely clamp each reflector to the rod.

In all of the described embodiments, an octagonal shaped embossment is provided around one of the rod-receiving holes in the frame. A second embossment having an octagonal shaped insert is secured to the frame around the opposite rod-receiving hole in the frame. With this construction, when the reflectors are stacked on a rod, the octagonal shaped embossment of one reflector rests in the octagonal insert embossment of the next adjacent reflector. The construction permits one reflector to be securely held at four different angular positions with respect to an adjacent reflector.

DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a side elevational view with parts broken away and illustrating one embodiment of reflectors stacked on top of the other on a supporting standard;

FIG. 2 is a section taken on line 21-2 of FIG. 1;

FIG. 3 is a section taken on line 3-3 of FIG. 1 and illustrating in phantom the various angular positions in which a reflector may be located on a standard;

FIG. 4 is a perspective view illustrating a second embodiment of the invention; and

FIG. 5 is a perspective view of another embodiment of the invention.

Referring to FIGS. 1-3 of the drawings, there is illustrated three reflectors 1 assembled on the standard 2 which is shown as a rod which at one end is adapted to be inserted in the ground for marking a driveway or the like and which at the other end is provided with cap 3. The reflectors 1 are shown as stacked one on top of the other with the upper two reflectors facing in the same direction but with the lowermost reflector turned at an angle of 90° with respect to the upper two reflectors.

The reflectors 1 shown in FIGS. 1-3 have a circular frame 4 which may be molded from plastic and the frame 4 internally on both sides is inset to provide the annular seats 5 for receipt of the colored reflecting members 6 which reflect light the color of the reflecting members. Reflecting members 6 are preferably of a specially designed plastic material and are force fitted onto seats 5 and may be cemented or otherwise secured into place.

In the embodiment of the invention in FIGS. 1-3, frame 4 is provided with the resilient, springlike, compressible arms 7 which extend inwardly of frame 4 toward each other. The arms 7 are secured to the inside of frame 4 at one end at opposite sides of the frame and extend inwardly toward each other in a semi-circular manner to a position relative to each other whereby they extend in a parallel plane for a short distance and cooperate to provide a passage 8 between them of a lesser cross section than rod 2. The inner ends of the complementary extending arms 7 are free and located opposite each other and curve outwardly toward the frame 4. The rod 2 is assembled with each reflector 1 by insertion through the aligned apertures or holes 9 in opposite sides of the frame 4 and the passage 8. The insertion of rod 2 between the arms 7 compresses arms 7 outwardly toward the frame 4 due to the greater cross

section of the rod to effect a secure clamping by arms 7 of reflector 1 to rod 2.

However, reflectors 1 are readily moved up and down rod 2 to different positions and can be readily applied to or removed from standard 2. When standard 2 is a round rod, the reflectors 1 are also readily rotated to different positions.

In order to locate one reflector 1 in a fixed location with respect to an adjacent reflector 1, each reflector is provided with an embossment 10 around one of the holes 9 and preferably, the embossment 10 on the outside, is of octagonal shape. A second embossment 11 is provided around the opposite hole 9 and this embossment is of larger size and has an inset 12 preferably of octagonal shape and of a size to receive an embossment 10 of an adjacent reflector 1. Once the embossment 10 is seated in inset 12 of embossment 11, the reflectors 1 are fixed relative to each other at the angle selected. If the embossments 10 and 11 have the octagonal shaped described, a reflector 1 may be set in four different angular positions relative to an adjacent reflector 1. The securing of the reflectors together, as described, permits easy separation to change the angle of one with respect to the other and permits simultaneous rotation of several reflectors which are secured together. FIG. 3 illustrates in full lines the angular position of the lowermost reflector 1 with respect to the middle reflector 1, and in phantom lines there is shown the various angular positions to which the lowermost reflector 1 in FIG. 1 may be moved.

A second embodiment of the invention is illustrated in FIG. 4. In that embodiment, the frame 4 of the reflector 1 is provided with the aligned apertures or holes 9 at opposite sides of the frame 4 and with the embossments 10 and 11, previously described, around the holes 9 on the outside of the frame to stack one reflector on top of the other and secure them together. The semi-circular arms 13 are secured internally of frame 4 on opposite sides of the frame and extend toward each other and in a parallel plane for a short distance to provide the passage 14 therebetween and aligned with holes 9 for receipt of the standard 2 when it is inserted through the aligned holes 9. Arms 13 have free ends 15 which curve outwardly toward the frame 4. In addition, the L-shaped abutments 16 are secured to the inside of frame 4 with the bottom of the L of each abutment terminating a short distance from the free end of each arm 13. The free end 15 of each arm 13 is free to move in a semi-circular path or a short distance under compression upon insertion of standard 2 but upon engagement with a respective abutment 16, the free end 15 of each arm 13 tends to move in a straight line. Consequently, the body portion of each arm 13 engaging standard 12 is compressed toward frame 4 by standard 2 and clamps the reflector 1 to standard 2 with even greater pressure than do the arms 7 of the first embodiment.

In the event the frame 4 is molded, the L-shaped abutments 16 are offset to the outside of the frame under the molding procedure. In such event, the enlarged ledge 17 is provided on the inner leg of each abutment and extends inwardly so that it will be engaged by the free end 15 of a respective arm 13 when the arm 13 is compressed by insertion of standard 2 in the reflector.

Another embodiment of the invention illustrated in FIG. 5 effects even a greater clamping force by the arms of the reflector 1 on the standard 2.

This embodiment, the same as the embodiments described, has the aligned apertures or holes 9 at opposite sides of the frame 4 and the embossments 10 and 11 which are provided on the outside of frame 4 around holes 9 in order to secure one reflector 1 to another in stacked relation on standard 2. In this embodiment, the semi-circular internally extending arms 18 have both ends secured to the inside of frame 4. The arms 18 are formed complementary to each other and the body portions of the arms 18 extend in parallel planes for a short distance and provide a passage 19 therebetween of lesser cross section than standard 2 which is aligned with holes 9 for receipt of standard 2. Because the ends of arms 18 are not free to move, when standard 2 is inserted in passage 19 the body portions of arms 18 are compressed by standard 2 to tightly clamp the reflector 1 to the standard and yet leaving it free for movement up and down standard 2 or rotation on standard 2 to different angular positions.

The invention provides reflectors for ready assembly on a standard or rod to provide a driveway guide or marker in that the reflectors are secured to a standard by resilient arms which permit ready up and down movement and rotation of the reflectors to the positions desired. Simplified securing of reflectors together on a standard are provided by mating embossments of octagonal shape on the frame of each reflector to hold the reflectors in angular relationship to each other.

The reflectors are preferably circular and made of molded plastic but may be of other shapes and of other material. Likewise, although the embossments described for securing the reflectors together are of octagonal shaping to obtain maximum versatility, they may be of other shapes. The driveway guide may be used as a marker in many different locations.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A reflector adapted to be secured to a standard for use in marking driveways and the like, which comprises a frame for receipt of reflecting means, a pair of internal resilient clamping members extending inwardly from the frame toward each other in cooperating relationship to a position directly opposed with respect to each other to provide a passage therebetween, aligned apertures at opposite ends of the frame and in line with said passage to adapt the reflector for receipt of a standard passing through the aligned apertures and passage, and with the resilient clamping members disposed to securely clamp the reflector to the standard with which it is assembled but permitting ready manual movement of the reflector to varying positions on said standard.

2. The reflector of claim 1, in which the frame is circular in shape and the resilient clamping members are free at the inner end and secured to the frame at the outer end.

3. The reflector of claim 1, in which the frame is circular and both ends of each resilient clamping member is secured to the frame.

4. The reflector of claim 1, wherein the resilient clamping members are secured to the frame at the outer end and are free at the inner end, and an internal abutment secured to the frame in line with the free end of each resilient clamping member but spaced a slight distance therefrom so that when a standard is inserted through the apertures in the frame and the passage between the resilient clamping members each resilient clamping member is forced into engagement with its respective abutment and is compressed outwardly by engagement with the standard to tightly grip the same.

5. The reflector of claim 1, wherein an embossment of irregular shape is provided on the outside of the frame around one aperture and a second embossment with a shape on the inside corresponding to the shape of the first-named embossment surrounds the other aperture to adapt the reflector for assembly on a standard with another reflector with the first-named embossment seating within the second-named embossment of an adjacent reflector to secure the reflectors together in varying positions relative to each other.

6. The reflector of claim 1, wherein the reflector is adapted to be assembled with a round standard for easy rotation of the reflector to different angular positions on the standard.

7. Reflectors adapted to be secured to a standard for use in marking driveways and the like, each said reflector

tor having a circular frame for receipt of a pair of reflecting members on each side thereof, a pair of resilient clamping members curving inwardly from the frame of each reflector toward and directly opposite each other to form a passage therebetween for insertion of a standard between the resilient clamping members and through aligned apertures provided at opposite ends of the frame and in line with said passage, the said resilient clamping members being adapted to securely clamp each reflector to a standard when the standard is inserted through the aligned apertures and passage but permitting ready movement of the reflector to varying positions on said standard, an octagonally shaped embossment provided on the outside of the frame of each reflector around one of said apertures and a second embossment having an octagonally shaped inset of slightly greater size than the size of the first-named embossment disposed on the frame of each reflector around the other aperture, with the first-named embossment being disposed to seat in the inset embossment of an adjacent reflector when a pair of reflectors are assembled together on a standard, and the octagonal shaped embossments permitting location of a reflector on a standard in four different angular fixed positions relative to an adjacent reflector.

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