March 18, 1941. H. N. CARVER 2,235,285

ROAD MARKER

Filed July 7, 1938

Fig. 1.

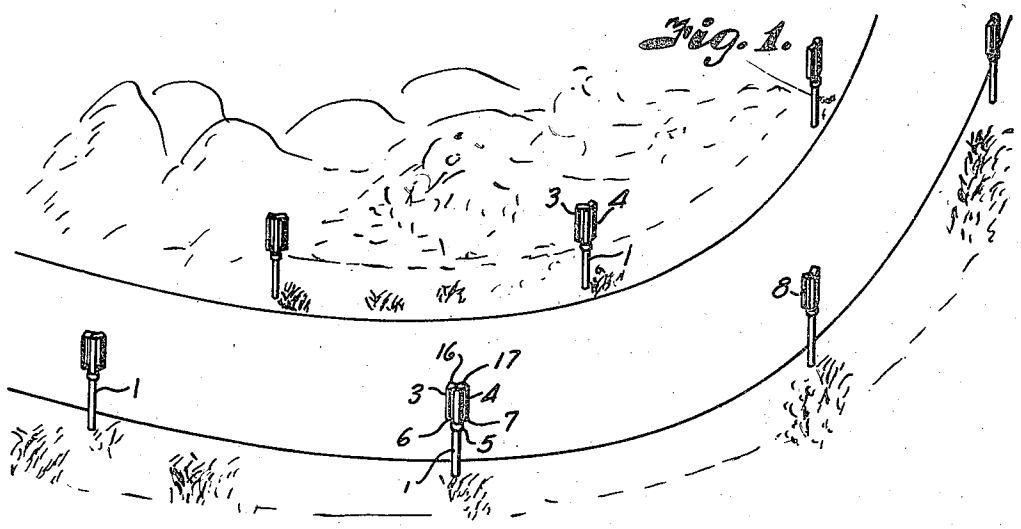


Fig. 2.

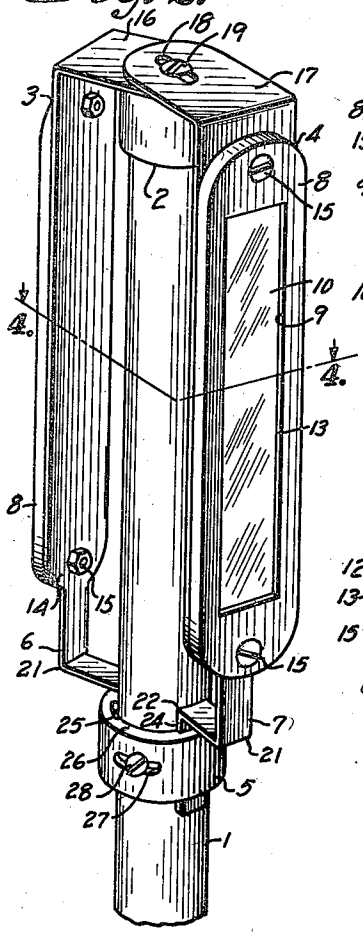


Fig. 3.

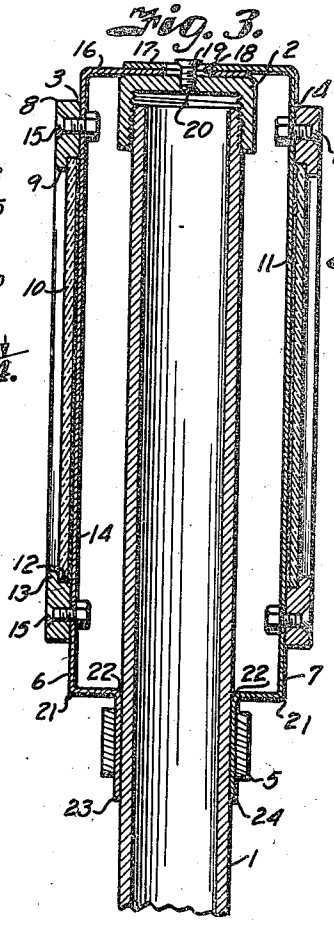


Fig. 4.

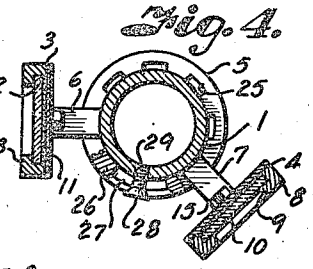


Fig. 5.

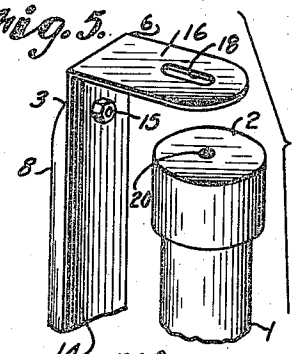
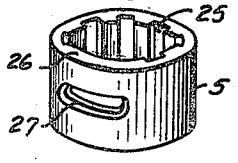


Fig. 6.



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UNITED STATES PATENT OFFICE

2,235,285

ROAD MARKER

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Application July 7, 1938, Serial No. 217,910

5 Claims. (Cl. 88—78)

This invention relates to road markers, and more particularly to road markers of reflector type, the principal object of the invention being to provide a reflecting road marker capable of reflecting light rays impinging thereagainst back approximate the source or sources of incidence of the light rays, and capable, further, of so reflecting the light rays, under varying conditions, for example, when the said sources project light rays in parallel relation, horizontally and/or vertically angularly disposed relation, and/or substantially oppositely disposed relation.

Other important objects of the present invention are to provide for adjusting one or more reflectors for a road marker, relative to the desired position of the marker for its intended purpose; to provide an improved mounting for a road marker of this character; to provide for positively fixing the reflectors in desired adjusted position relative to the marker mounting; to improve the elements of a road marker of this character; to provide improved arrangements of those elements; and to provide a relatively simple and economical, very durable and highly efficient reflecting road marker.

In accomplishing these and other objects of the present invention, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawing, wherein:

Fig. 1 is a perspective view of a curved section of a road marked by highway markers embodying the features of the present invention.

Fig. 2 is a detail perspective view of a standard provided with a highway marker embodying the features of the present invention.

Fig. 3 is a vertical cross-sectional view through the marker illustrated in Fig. 2.

Fig. 4 is a horizontal cross-sectional view through the marker on the line 4—4, Fig. 2.

Fig. 5 is a detail perspective view of the upper end of the standard and a portion of one bracket supported reflector, the standard and bracket being shown in disassembled spaced relation.

Fig. 6 is a detail perspective view of a collar embodying features of this invention.

Referring more in detail to the drawing:

1 designates a standard which is preferably formed of a length of pipe or the like and which is adapted to be driven into the ground at the side of a road as shown in Fig. 1, the standard being provided at its upper end with a cap or similar end closing member 2.

3 and 4 generally designate reflectors, which are adjustably mounted on the standard 1 preferably in horizontal angular relation to each other and in vertical angular relation to the standard.

5 designates a collar or like member adapted to engage the reflector supports 6 and 7 for aiding in fixing the reflectors to the standard and providing for minor adjustments of the reflectors relative to the standard and to each other.

The reflectors 3 and 4 with their supports 6 and 7 are preferably duplicates and each reflector preferably consists of a suitable casing 8 having an opening 9 therein for exposing the front face of a reflector plate 10, which plate is preferably of transparent or semi-transparent nature and which may, if desired, be provided with a lustrous element 11 on the rear face thereof for enhancing reflection of light rays impinging against the reflector plate back approximate the source of incidence of the light rays.

The casings 8 are each preferably provided with a seat 12 adjacent the opening 9 thereof for receiving the peripheral edges of the reflector plate 10, the flange 13 preferably engaging the outer face of the reflector plate to prevent outward displacement of the reflector plate from the seat 12.

The reflector supports 6 and 7 each preferably includes a bracket having a body member 14 provided with spaced apertures therein for receiving fastening devices 15 extending through alignable apertures in the reflector plate casing for fixing the reflector to the body member of the bracket. The upper end of each bracket is turned inwardly to provide bosses 16 and 17, provided with slots 18 arranged in overlapping relation, as particularly shown in Fig. 3. A fastening device 19 is extended through the aligned slots 18 and is suitably, preferably removably, mounted, as indicated at 20, in the cap member 2 of the standard. As shown, the fastening device 19 is preferably provided with a head to prevent upward displacement of the bosses 16 and 17 of the brackets from engagement with the standard.

With the construction thus far described, it is apparent that the reflectors 3 and 4 are swivelly mounted by the bracket bosses 16 and 17 on the upper end of the standard 1, and that they are also laterally adjustable relative to each other by means of the slots in the bracket bosses.

The lower ends of the brackets are turned inwardly as indicated at 21 and then downwardly as indicated at 22 to provide tongues 23 and 24 adapted for frictional engagement longitudinally of the standard 1, as particularly shown in Fig. 3.

The collar 5 has an inner diameter preferably substantially that of the outer diameter of the standard 1 in order that the collar may be slidably mounted on the standard. The inner surface of the collar is provided with a plurality of spaced grooves 25 arranged vertically in the collar, as particularly shown in Fig. 6, and the grooves are of such size as to receive therein and each of them the tongues 23 and 24, respectively, of the reflector supporting brackets. As indi-

cated at 26, Fig. 6, the grooves are spaced unequally at one portion of the collar. This is for the purpose of providing a portion of the collar with a preferably horizontally disposed transverse slot 27. A fastening device 28 is adapted for extension through the slot 27 and engagement with the standard 1, as shown at 29 in Fig. 4. As illustrated, the fastening device has a head for fixing the collar to the standard when the fastening device is tightened and when the fastening device is loosened, the collar may be adjusted annularly relative to the standard for effecting minor adjustments of the reflectors relative to probable sources of light rays which the reflectors are designed to act upon.

The operation of a road marker constructed and arranged as described is as follows:

Assuming a plurality of the road markers to be positioned along a road, as shown for example in Fig. 1 of the drawing, the probable source points and angles of incidence of light rays projected from approaching motor vehicle headlights are determined.

The collar 5 is loosened and removed from engagement with the lower ends of the reflector supporting brackets and the brackets are then pivoted on the fastening device 19 to present the reflectors at substantially right angles to the determined probable sources of light rays from vehicles approaching the marker. If the approach to the marker is on a grade, the brackets may be spaced from each other at their upper ends a suitable distance, by means of the overlapping slots and pin connection with the cap member of the standard, and thus maintain the reflector plates at substantially right angles to the impinging light rays for enhancing the reflection thereof by the reflectors.

The collar is then slid upwardly on the standard in such a manner as to cause engagement of each of the bracket tongues 23 and 24 in one of the collar grooves, after which the fastening device 28 is secured to the standard to fix the collar and reflectors in position. Minor adjustments of the reflectors may be had by manipulating the collar through its slot and pin connection with the standard.

It is thus apparent that road markers embodying the features of this invention are admirably fitted for the purpose for which they are intended and for carrying out the objects of the invention and that in case of damage to the reflectors they may be easily repaired or replaced with a minimum of inconvenience.

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

1. A road marker of the character described including a standard, a reflector, a bracket supporting the reflector, said bracket having one end thereof swivelly mounted on the standard, and a collar on the standard engaged with the other end of the bracket, said collar having a horizontally disposed adjusting slot therein, and a fastening device mounted in said slot and engaged with the standard for mounting the collar on the standard, said fastening device being adapted to be loosened relative to the collar whereby the bracket is adjusted upon movement of the collar.

2. In a road marker of the character described, a standard, a plurality of reflectors, a plurality of brackets each supporting a reflector, said brackets having upper overlapping ends, said ends having slots, portions of which are alignable, and having lower downwardly extending flexible ends, a fastening device mounted in the aligned portions of said slots and engaged with the standard, said fastening device being adapted to be loosened relative to the brackets for allowing vertical angular adjustments of the brackets relative to each other and to be tightened for holding the same in their adjusted positions, and a collar mounted on the standard engaged with said flexible ends of the brackets for aiding in mounting said brackets on the standard.

3. In a road marker of the character described, a standard having a closed upper end, a plurality of reflectors, a plurality of brackets each supporting a reflector, said brackets having inturned overlapping upper ends provided with aligned slots and having downwardly extending flexible lower ends, a fastening device mounted in aligned portions of the slots at the upper ends of the brackets and engaged with the closed upper end of the standard and adapted to be loosened for allowing vertical angular adjustments of the reflectors relative to the standard and to be tightened for holding the same in their adjusted positions, and a collar mounted on the standard having spaced vertically disposed grooves therein of a size sufficient to seat said lower ends of the brackets therein for holding the brackets in adjusted angular relation to each other depending upon the grooves in which the lower ends of the brackets are seated.

4. In a road marker of the character described, a standard having a closed upper end, a plurality of reflectors, a plurality of brackets each supporting a reflector, said brackets having inturned overlapping upper ends provided with aligned slots and having downwardly extending flexible lower ends, a fastening device mounted in aligned portions of the slots at the upper ends of the brackets and engaged with the closed upper end of the standard and adapted to be loosened for allowing vertical angular adjustments of the reflectors relative to the standard and to be tightened for holding the same in their adjusted positions, a collar mounted on the standard having spaced vertically disposed grooves therein of a size sufficient to seat said lower ends of the brackets therein for holding the brackets in adjusted angular relation to each other depending upon the grooves in which the lower ends of the brackets are seated, said collar having a horizontally disposed slot therein, and a fastening device mounted in said slot and engaged with said standard adapted to be loosened for adjustably mounting the collar on the standard to effect minor adjustments of the brackets relative to the standards.

5. A road marker of the character described including a standard, a reflector, a bracket supporting the reflector, said bracket having the upper end thereof swivelly mounted on the standard and its lower end projecting downwardly adjacent said standard, and a collar annularly adjustably mounted on the standard having a vertically disposed groove therein of a width sufficient for seating said lower end of the bracket to secure the bracket to the standard and allow adjustment of the bracket in response to adjustment of the collar.

HORACE N. CARVER.