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HIGHWAY MARKER

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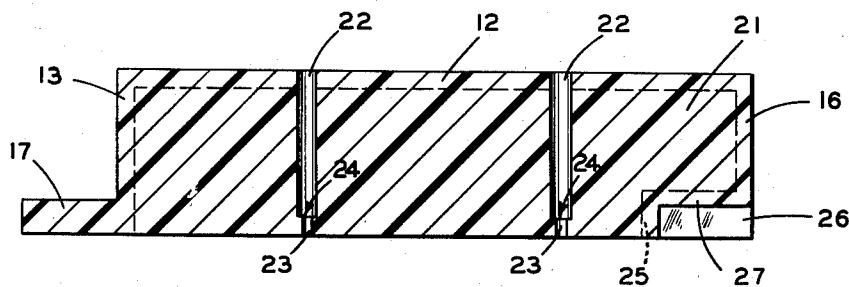


fig. 4

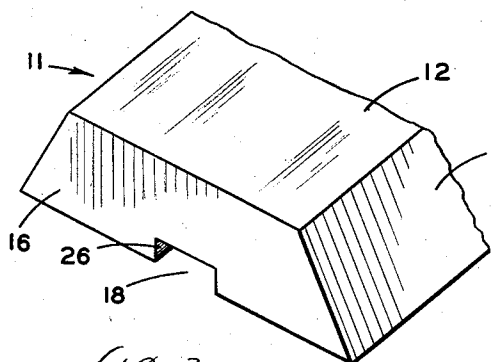


fig. 2

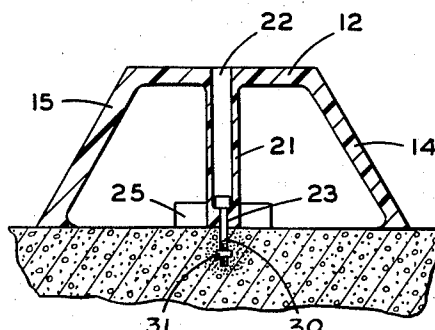


fig. 3

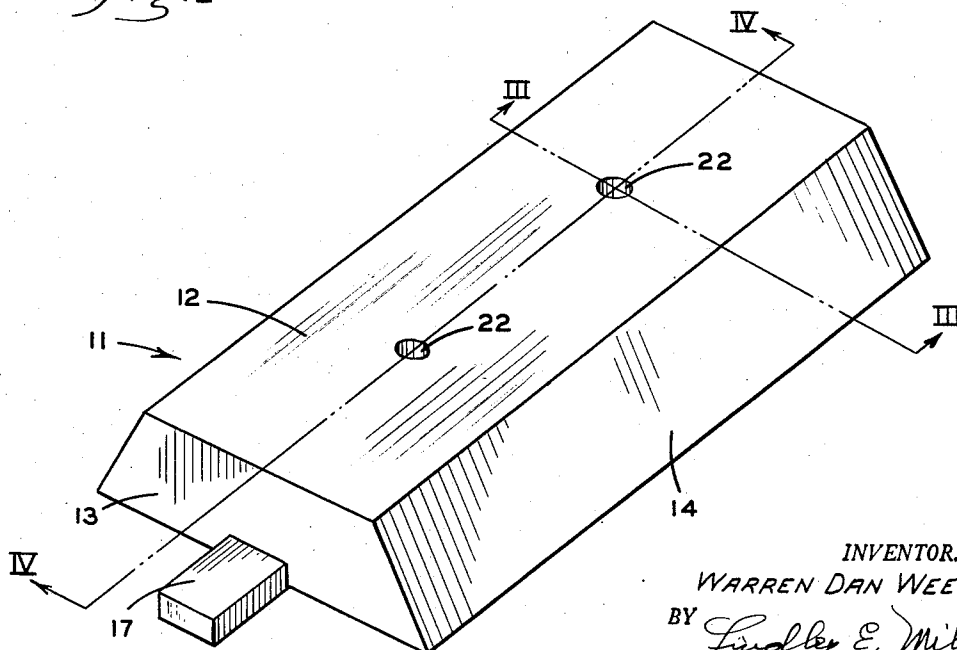


fig. 1

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HIGHWAY MARKER

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This invention relates to a highway marker, particularly to a highway marker of flexible material and of improved construction and effective design which can be run over by a vehicle without substantial damage thereto.

The practice of marking highways to provide lanes for the guidance of traffic is well known. This is sometimes accomplished by painting strips of white or other colored paint upon the highway to outline traffic lanes. Although this method of marking is used widely it has certain disadvantages, one of the chief ones being that a vehicle can be driven over the painted strip at will by a careless driver or inadvertently by a careful driver without his being aware that he is outside his proper lane. Such a system of marking highways can become extremely dangerous when the paint is allowed to become worn away or at night and in stormy weather when visibility is poor and the paint is not readily visible.

To overcome this situation various devices have been proposed and employed to some extent either to prevent a driver from driving out of his proper lane or to give him positive warning when his vehicle leaves his proper lane. Such devices include roughened sections of the highway surface between the lanes, raised sections between the lanes, and the like. These have generally been designed either to prevent positively the wheels of a vehicle leaving the lane in which it is proceeding or to at least warn the driver, e. g. by reason of the roughness of the dividing section, that he is out of his proper lane and thus to enable him to correct the situation immediately. It is apparent that any such device which presents a positive barrier to the passage of the wheels of a vehicle over it, or which is even unduly rough, can be extremely hazardous, especially when used in sections of highway where high-speed driving is permitted.

For these reasons, it is apparent that, for optimum utility and safety, highway markers should be plainly visible under substantially all driving conditions, that they should furnish a warning to a driver who allows his vehicle through inadvertence or carelessness to wander out of its proper lane of travel, but that they should at the same time not furnish a barrier which is sufficiently rigid or rough to cause damage to, or lack of control of, a vehicle when it becomes necessary through emergency or by deliberate choice for the driver to leave one lane and proceed in another. The marking device should, of course, itself be uninjured by vehicles crossing and should be sturdy, weather resistant and have an extended useful life.

It has now been found, and is herein first disclosed, that these and related objects can be accomplished readily and economically by providing a highway marker of soft, resilient material of the character and form herein-after described which is capable of being anchored firmly to a concrete or other hard highway surface.

The invention can be readily understood by reference to the accompanying drawing wherein, in the interest

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of clarity, certain features are shown on a somewhat exaggerated scale, and wherein:

Figure 1 is an oblique view of a highway marker of the invention showing details of one end thereof.

Figure 2 is an oblique partial view of a highway marker of the invention showing details of the opposite end from that shown in Figure 1.

Figure 3 is a sectional elevation taken along the line III—III of Figure 1 and showing one method for anchoring the highway marker to a highway surface.

Figure 4 is a sectional elevation taken along the line IV—IV of Figure 1.

Referring to Figure 1, there is shown a highway marker denoted generally by the numeral 11 consisting of an elongated body having a top panel 12, an end wall panel 13 and a side wall panel 14. The other end wall panel 16 and the other side wall panel 15, which are not visible in Figure 1, are shown in Figure 2 which is a view similar to Figure 1 except that it shows the other end of the highway marker of Figure 1 and certain particular details thereof which will be described.

The highway marker is generally constructed so that the end wall panels 13 and 16 are substantially vertical when the marker is positioned on a highway surface, the top panel 12 being substantially horizontal and the two side wall panels 14 and 15 being inclined downward away from one another from the edges of the top panel 12. The end wall panels 13 and 16 thus have approximately the shape of isosceles trapezoids with the longer of the parallel sides being the lower side, and the shorter of the parallel sides being the upper side and having a length the same as the width of the top panel 12. The highway marker is hollow except for the provision of a longitudinal web which will be described later. The marker is generally constructed without a bottom panel since this is not necessary.

On one end wall panel 13 of the highway marker there is secured a projecting tongue, 17 of Figure 1, which is generally formed integral with the end panel. The tongue 17 is generally formed near the center of the bottom edge of the end panel so that when the marker is placed flat on a highway surface the tongue lies flat on the highway surface. In the opposite end wall panel 16 of the highway marker there is formed a recess, 18 of Figure 8, of a size to accommodate the tongue 17 of an adjacent highway marker when the two highway markers are placed in end to end contact. Thus, when several of the markers are positioned along a highway surface, the combination of the projecting tongues 17 and the recesses 18 into which the tongues project serves effectively to keep the several markers in line with one another and to insure smooth fitting joints between them. The recess 18 is generally formed with a top member, 27 of Figure 4, two side members 26 and one end member 25 and is open at the bottom and at the end through which the projecting tongue enters. These members are conveniently formed integral with the end wall panel 16. Alternatively the recess 18 can consist simply of a properly shaped aperture in the end wall 16, the provision of end wall, side wall and top members 25, 26 and 27 being omitted.

The highway marker is, as mentioned previously, provided with a web, 21 of Figure 3, positioned longitudinally and vertically therein and located approximately centrally between the side wall panels 14 and 15. The web 21 can conveniently be formed integral along its top with the top panel 12 and along its ends with the end wall panels 13 and 16, respectively. The web 21 is unsecured along its bottom edge. The web 21, the end wall panels 13 and 16 and the side wall panels 14 and 15 are formed with their lower edges co-planar so that when the marker is placed on a level

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surface the lower edges of all of these members contact the level surface. In the preferred modification, the tongue 17 and the side and end members 26 and 25 defining the recess 18 are also located so that their lower edges are co-planar with the web 21 and the end wall and side wall panels 13, 16, 14 and 15.

The web 21 serves to brace and strengthen the highway marker somewhat and also furnishes a ready means for securing the highway marker to a highway surface. To accomplish the latter purpose, the web 21 can be provided at suitable intervals with suitable bores 22 extending vertically through it and through the top wall panel 12. Each bore is of substantially uniform diameter for the major portion of its depth but is constricted at its lower end to form a smaller bore 23 and to provide at the point of constriction a circular shoulder 24, shown clearly in Figure 4. The diameters of the two sections of the bore are such that, when an anchoring pin or bolt of suitable size, 30 of Figure 3, having an enlarged head is dropped into the bore, its shank projects through the smaller section 23 of the bore while its head is retained by the shoulder 24. In use a suitable hole can be drilled in the highway surface, a nut 31 can, if desired, be run part way up on the protruding threaded shank of the pin 30 to assist in anchoring the pin to the highway, and the marker then placed on the highway surface in such a position that the pin projects into the hole in the highway which has meanwhile been filled with freshly mixed cement. Upon tapping the head of the anchor pin, e. g. with a rod, inserted through the enlarged section 22 of the bore, the head of the pin is seated on the shoulder 24, the pin is driven into the soft cement and the latter caused to settle around the lower end of the pin and the nut 31. Upon allowing the cement to harden, the highway marker is anchored firmly and securely to the highway surface by the pin head bearing on the shoulder 24.

Alternatively, the anchor pin 30 can first be set in concrete at the proper location with its threaded end projecting from the highway surface and the highway marker then positioned over it so that the threaded end projects through the narrow section 23 of the bore into the wider section 22. By means of a proper wrench a nut can then be lowered into the bore 22 to engage the threaded shank of the pin and turned down tightly against the shoulder 24. It is apparent that other means can also be employed for anchoring the web 21 along its bottom edge to the highway surface. In the case of bituminous highway surfaces it is often suitable to employ spikes which are simply inserted from the top into the bore 22 and driven into the highway.

The highway marker described can be constructed in sections of any suitable length and of any suitable cross-sectional dimensions. A convenient size comprises a marker having a top width of approximately one foot, a bottom width of approximately 1.5 to 2 feet, a height of about 10 inches and wall and top sections about one inch thick. In one suitable model the sloping side wall panels are inclined at an angle of about 30 degrees from the vertical position. Sections 8 to 12 feet long, or longer, can be made and handled readily. For use along straight sections of highway provision for an anchor pin every 3 to 6 feet is generally found sufficient although for use on sharp curves a closer spacing of anchor pins may sometimes be desirable. Each entire section of the highway marker can be molded from rubber or a suitable synthetic resin in one operation and with great dimensional accuracy. Colored or phosphorescent pigments can be included in the material from which the sections are made to give the highway marker a distinctive appearance or to make it easily visible at night and during stormy weather.

The highway marker with which the invention is concerned is constructed of a resilient, flexible material, such as rubber or a synthetic resin having rubber-like proper-

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ties. When constructed of such material, the highway marker can be run over on the highway, e. g. in case of an emergency or in case a driver finds it desirable to cross over into another lane, without injury to the marker itself which simply flattens out under the impact of the vehicle wheel and then resumes its normal position when the wheel has passed. At the same time, it offers sufficient resistance to the passage of the wheel to warn the driver that he is out of his proper lane but does not offer so much resistance as to cause difficulty in steering the vehicle or to in any way cause the driver to lose control of his vehicle even at high speeds. The highway marker described presents a bulky appearance on the highway and this is of great psychological value in influencing a driver to stay clear of the marker except in cases of emergency or at low speeds.

The highway marker is also useful in locations where high speed is not generally a factor to be considered. Such locations include the approaches to intersections, "safety islands" for pedestrians and the like.

I claim:

1. A highway marker adapted to be anchored to a highway surface including an elongated shell of flexible, resilient material having vertical end wall panels, a horizontal top panel and side wall panels inclined downwardly away from one another from along the edges of the top panel; a web of flexible material extending centrally of the shell between the end wall panels secured to the end wall panels and to the top panel, the lower edges of the web, the end wall panels and the side wall panels being substantially co-planar; a projecting tongue integral with one of the end wall panels having its lower surface coplanar with the lower edge of the end wall panel and an open bottom socket integral with the other end wall panel adapted to receive the projecting tongue of an adjoining marker when two of the markers are in end to end contact with one another; and a hole in the web adapted to cooperate with means for anchoring the lower edge of the web to a highway surface.

2. A highway marker including: an elongated hollow shell of flexible, resilient material open at the bottom having top, end wall and side wall panels, each end wall panel being in substantially the form of an isosceles trapezoid with its upper shorter parallel side joining an end of the top panel; a longitudinal web extending centrally through the body integral along its top with the top panel and along each of its ends with an end wall panel, the lower edges of the web and of the end and side wall panels being substantially co-planar; a bore extending perpendicularly through the top panel and the web to accommodate an anchoring pin, the bore being constricted near its lower end to provide a shoulder adapted to bear against the head of an anchor pin inserted shank first into the top end of the bore; a projecting tongue integral with one end wall panel having its lower surface coplanar with the lower edge of the panel and a recess with an open bottom formed in the other end wall panel to receive the projecting tongue of an adjoining marker when the two markers are placed in end to end contact the entire marker being of lightweight construction whereby, when it is secured to a flat rigid road surface and run over by a vehicle wheel, it flattens easily and presents a nondangerous obstruction to the wheel and being sufficiently resilient to cause it to resume its original unflattened form upon disengagement of the wheel from it.

3. A laned highway including: a highway having a hard surface and at least a pair of adjoining traffic lanes; and a multi-section highway marker extending along the highway surface between the pair of adjoining lanes, each section of the highway marker comprising an elongated hollow shell of flexible, resilient material open at the bottom having a substantially horizontal top panel, a pair of substantially vertical end wall panels, a pair of side wall panels sloping downwardly away from one another from along the edges of the top panel, a tongue

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projecting longitudinally of the section from one end wall panel having its lower surface coplanar with the lower edge of the panel and a recess with an open bottom in the other end wall panel adapted to receive the projecting tongue of an adjoining section, a longitudinal substantially vertical web centrally located between the two side wall panels secured along its upper edge to the top panel and along each of its ends to an end wall panel, the lower edges of the side wall and end wall panels and of the web being substantially co-planar, and means anchoring the lower edge of the web to the highway surface.

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