Feb. 25, 1958 L. J. NUTTING 2,824,719

SAFETY APPARATUS OF THE BARRIER TYPE

Filed Nov. 29, 1956

Fig. 1.

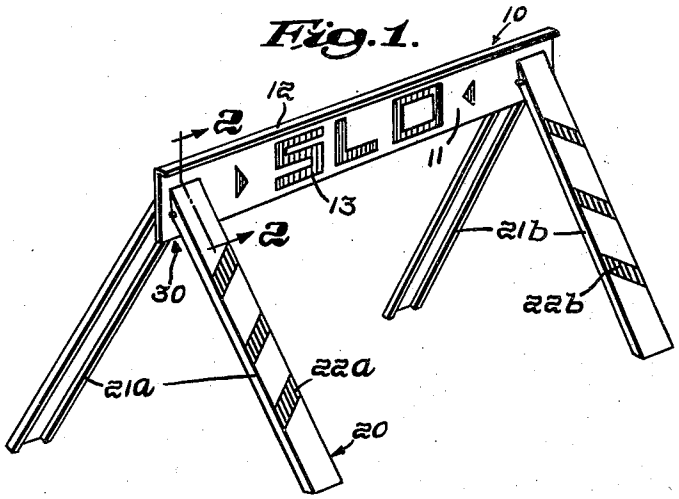


Fig. 2.

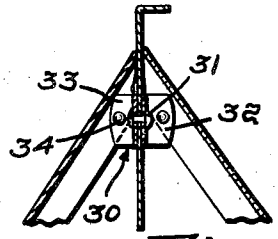


Fig. 4.

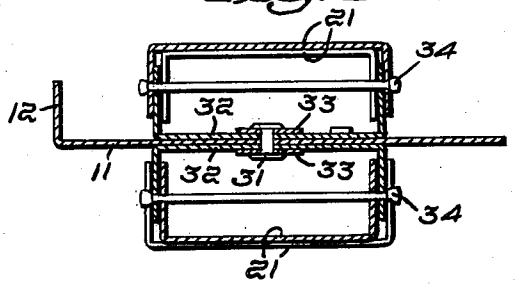


Fig. 5.

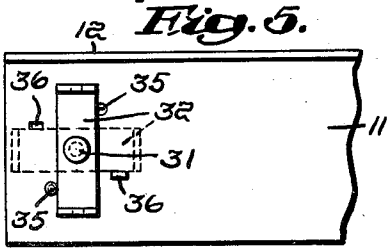
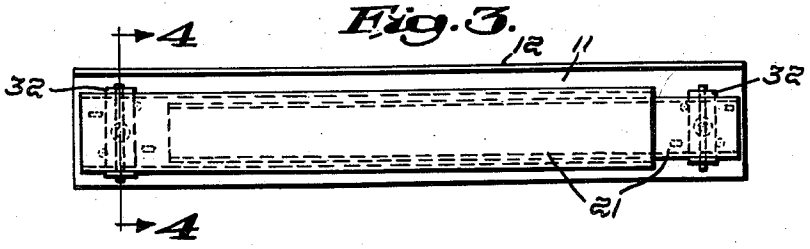


Fig. 3.



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SAFETY APPARATUS OF THE BARRIER TYPE

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Application November 29, 1956, Serial No. 625,036

2 Claims. (Cl. 256—64)

This invention relates to safety and signalling apparatus and more particularly to a device for marking and indicating a dangerous condition or obstruction, particularly on the road or highway. This invention provides a rigid but collapsible, durable but light weight barrier and warning means of simple and efficient design and construction. The barrier type safety and signalling apparatus of the invention is adapted for easy, compact portability and storage. It is distinguished also by capacity for reflective indicating.

The invention will be better understood from a consideration of the following specification taken in conjunction with the accompanying drawing in which:

Fig. 1 is a perspective view of my novel safety apparatus, as set up in use;

Fig. 2 is a section taken along the line 2—2 of Fig. 1, as seen looking from the left;

Fig. 3 shows the barrier and warning device in collapsed non-use condition;

Fig. 4 is a section taken along the line 4—4 of Fig. 3, as seen looking from the left; and

Fig. 5 is a fragmentary view of one end of the cross arm, as seen with the legs removed, and detailing the novel hinge fastening of the invention.

My present invention relates to safety and signalling apparatus such as employed primarily on and for controlling traffic over vehicular roads and ways. Apparatus of the type here concerned has many and widespread uses, as for signifying unexpected or unsafe conditions or circumstances of automotive travel. More recently its ready availability and certain effectiveness has become vitally necessary, in view of the speed and volume of vehicular traffic, to the safeguarding of life and property on the highway. Such safety apparatus may be employed for advising or warning motorists of road construction or repair, or detours, or slides or washouts, etc., or for the protection of fire hose and other equipment such as required to be placed on streets and roads. Or it may be utilized as herein for signalling vehicular and the like more temporary obstructions. It will be understood that the type of safety apparatus here concerned is intended, not physically or forcibly to bar the motorist's contact with, but rather to induce his timely avoidance of the particular unsafe condition or obstruction.

The apparatus of this invention is intended mainly to be carried and used by individual motorists, and primarily for warning the oncoming traffic of the presence of vehicles stalled, or broken down, or for any time and whatever reason halted on or proximate the travelled way. To this end my novel safety device is uniquely fashioned for collapsing and stowing in small compass, and for quick and easy setting up by hand. It is capable also of self support in and ready shift between positions of use. Still further, it is specially designed for easy detection and recognition, particularly under maximum hazard or low visibility conditions.

Considering now more particularly Figs. 1 and 2, my

novel barrier and signalling means is seen to comprise generally a lateral main or cross member 10 and vertical supports or legs 20 positioning said cross member 10. The apparatus comprises also double action hinge assemblies 30 joining said cross member and legs in and for ready shift between different sliding and storage positions.

The main or cross member 10 comprises a rigid straight bar or plate 11 turned over along its upper edge to present thereat a longitudinal strengthening flange 12.

In accordance with the invention the main plate 11, together with the associated barrier parts is of economical thin gauge metal construction, and of such proportions, compatible with its light weight and compact storage, as afford it desired stability and also area, as for applying the indicia to be mentioned, and in addition for remote detection. Importantly also the barrier device is given a preservative covering or coat of paint or the like for the most conspicuous and distinctive appearance. Such coat may be of yellow or the like color selected not only for brightness and contrast, but also for its association with cautionary or warning symbols or signals.

Further in accordance with the invention I apply to the thus coated cross member 10 and legs 20 means for conveying a particular intelligence, and also for promoting motorist detection and recognition of the barrier, especially at night. Such means comprise reflective paint or other indicia 13, herein indicated mainly as taking one form of a usual warning legend or message, i. e. "SLO."

The support means 20 of my novel apparatus are seen from the several views to comprise leg pairs 21*a*, 21*b* hinged at their upper ends to the opposite ends of the cross member 10, and formed from channels such as best combining high strength with low weight.

In accordance with the invention the leg pairs 21*a*, 21*b* are of differing width whereby when pivoted to parallelism with the arm 10 they may be nested one pair within the other, Fig. 4. As hereinbefore mentioned the legs 21 are given the same distinctive yellow or other coating as the cross arm 10, and carry also reflective markings of usual form, as herein the bars or stripes 22*a*, 22*b*, Fig. 1.

The manipulation of the legs 20 for both setting up and stowage of the barrier is permitted by the double action hinge assemblies 30, each arranged back-to-back with the opposite hinge of the same leg pair, and comprising therewith a short, double headed bearing pin 31 received through the plate 11. Rotatably supported on the pins 31 are hinge or channel brackets 32, arranged with their backs to said plate 11. The brackets 32 are securely fastened by means of the washers 33 intermediate them and the heads of the pins 31, and promoting relative rotation therebetween.

The hinge assemblies 30 comprise further long pivot pins 34 spanning the brackets 32 and received also through the channels 21*a*, 21*b* which latter are seen to be interfitted at their upper ends with the swivelling hinge brackets 32.

It will be clear from the foregoing that the legs 20 of my improved barrier are supported by the hinges 30 thereof for a double or vertically rotating and laterally swinging movement. More particularly, the legs are swingable on the pins 34 between the straight upright position and a maximum spread position in which the upper ends of the channels 21, extending beyond the pins 34, engage or abut the cross member 10. The channel sides may be cut back as shown, Fig. 1, to promote the desired full pivot stopping or conjoint channel side and back engagement with the cross member in the assembled position.

The double action hinges 30 comprise still further

means for controlling the vertical pivoting or rotation of the legs **21***a*, **21***b* between the erected and collapsed positions, Figs. 1 and 3. Referring now more particularly to Fig. 3, integral projections or dimples **35** are seen to be pressed out of the plate **11** either above and inwardly or below and outwardly of the pins **31**, and tangential to the brackets **32**, in the collapsed or vertical position of the latter. The height of the dimples **35** and the play in the hinge **30** is predeterminedly such that the brackets **32** are permitted a frictional riding over the dimples **35**. In other words, by the described interrelation of the parts the support legs **20** are restrained against free or inadvertent fall from the nested or storage and carrying position, Fig. 3, but may be readily enough swung down, to the set up or operating position, Fig. 1, the same requiring only moderate thrust.

The hinge assemblies **30** are completed by the stop lugs **36** which may also be pressed out of the plate **11**, and again either above and outwardly or below and inwardly of the pins **31**. The stops **36** are seen as arranged to engage against the brackets **32** when the same are swung to the set up position as shown in dotted line, Fig. 5. It will be apparent from this that the stop lugs **36** not only promote the desired rapid erecting of the barrier but also afford it appropriate rigidity in the set up position.

From the foregoing it should be appreciated that I have provided a compact light weight warning and signalling device of simple and efficient design and also economical construction. My novel barrier has been shown to be stowable in small compass, as in the trunk or tool compartment of an automobile. The barrier device is capable also of quick withdrawal from storage and erection on the roadway, as necessarily when the car, truck, or other vehicle is stopped in or proximate the travelled way by the unanticipated exhaustion of the fuel, or blowing out of a tire.

By the apparatus of the invention, then, and at least if the barrier is spaced somewhat from the vehicle in the direction of the oncoming traffic, motorists are warned by the detection of the barrier when at a safe distance from the disabled vehicle, and cautioned to slow or otherwise control their vehicles as necessary to avoid accident or injury. It should be noted also that my improved barrier device may serve additionally and by its suitable positioning to prevent the inadvertent or negligent movement of the halted motorist, as in the course of effecting repairs on his vehicle, out into the stream of traffic.

It will be understood that my invention is not limited to the particular embodiments thereof illustrated and described herein, and I set forth its scope in my following claims.

I claim:

1. A safety barrier and warning device comprising a lateral bar, right angle flange on the bar, juxtaposed pivot bracket pairs rotatably supported at the ends of said bar, double headed bearing pins received through said bar and bracket pairs and retaining the bracket pairs in common axial back-to-back engagement against the opposite faces of the bar, pivot pins spanning the arms of said bracket pairs, channel legs interfitting with the brackets and swingable on said pins, said legs of differing widths and nested one within the other in the bar-paralleling storage position, beveled inner ends on said legs projecting upwardly of said pins to engage said bar in the outwardly swung in-use position of said legs, means on said barrier for resisting the rotation of said bracket pairs from the storage position, and means on said barrier for stopping the rotation of the bracket pairs past the in-use position.

2. A safety barrier and warning device comprising a lateral bar, juxtaposed pivot bracket pairs rotatably supported at the ends of said bar, double headed bearing pins received through said bar and bracket pairs and retaining the bracket pairs in common axial back-to-back engagement against the opposite faces of the bar, pivot pins spanning the arms of said bracket pairs, channel legs interfitting with the bracket pairs and swingable on said pins, said legs of differing widths and nested one within the other in the bar-paralleling storage position, dimples pressed out of said bar and engaging said bracket pairs in and so as to resist their rotation from said storage position, beveled inner ends on said legs projecting upwardly of said pins to engage said bar when the legs are swung outwardly to the bar-supporting use position, and stop lugs projecting from said bar and engaging said brackets when rotated for said use positioning of said legs.

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