Jan. 5, 1932. H. T. MOORE 1,839,328

ROAD GUARD

Original Filed July 3, 1930

Fig. 1.

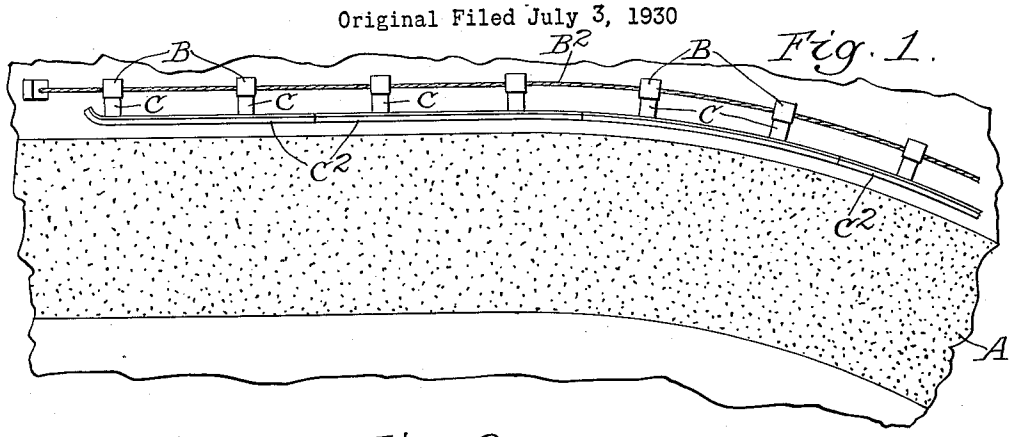


Fig. 2.

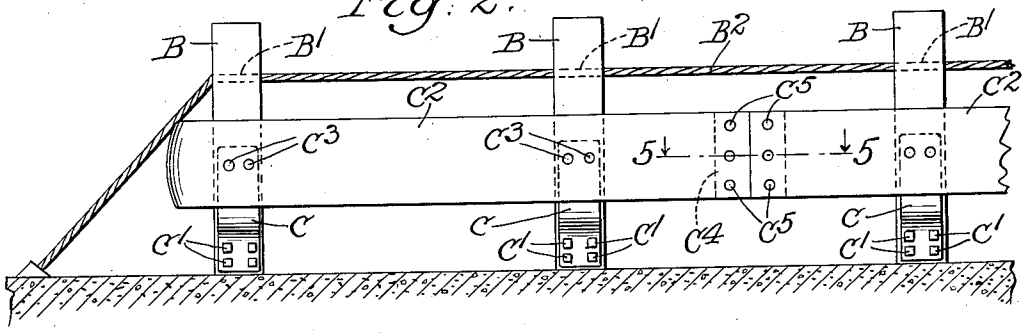


Fig. 3.

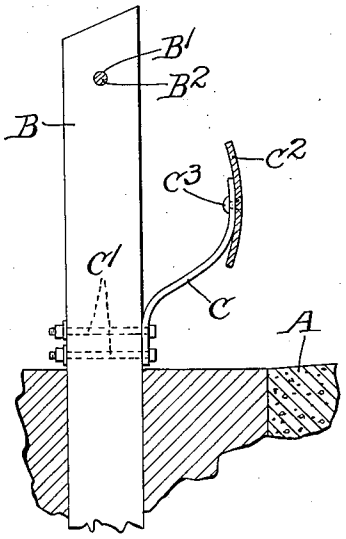


Fig. 4.

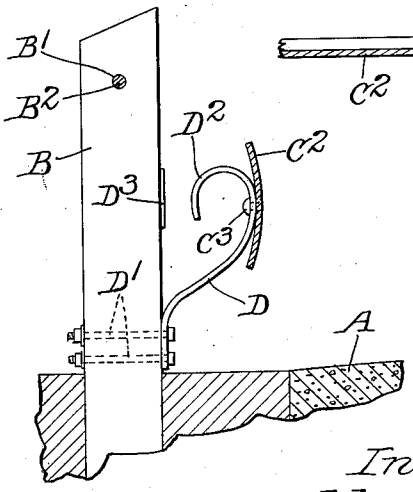
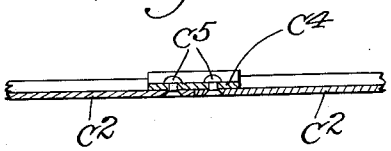


Fig. 5.



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UNITED STATES PATENT OFFICE

HAROLD T. MOORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO TUTHILL SPRING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

ROAD GUARD

REISSUED

Application filed July 3, 1930. Serial No. 465,589.

This invention relates to a road guard. It has for one object to provide a guard which may be applied along one or both edges of a road to prevent vehicles from running off. It has for another object to provide a guard of such construction that a vehicle running into it or grazing it will not be injured. Another object is to provide such a guard which is yielding and will tend to cushion the shock of the vehicle against it. Another object is to provide such a guard in which a continuous and smooth contacting surface is provided against which a vehicle may run and along which it may slide or scrape without damage to the vehicle or to the guard or fence.

Other objects will appear from time to time in the specification and claims.

My invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

Figure 1 is a plan view showing my guard in position along a road at a curve;

Figure 2 is a side elevation of a portion of the guard rail construction;

Figure 3 is a side elevation with parts in section, showing one form of the invention;

Figure 4 is a similar view showing my invention in modified form;

Figure 5 is a detailed longitudinal cross section showing a joint in the guard member.

Like parts are designated by like characters throughout the specification and drawings.

A indicates a road surface. The road may, of course, be of any suitable construction. My invention is not limited to association with any particular road surface or construction. Along the road surface or adjacent it there are positioned a number of posts B. The posts may be perforated as at B^1 and through these perforations a cable or bar B^2 may be positioned. While I have shown only a single cable, obviously additional cables might be used.

C is a spring element curved as shown. It is preferably attached to the post B adjacent the ground level. Thus any strain or shock transmitted through the spring element C to the post B comes upon the post close to the ground and the danger of breaking or dislodging the post is reduced. The spring elements C may be fastened to the posts in any suitable manner as, for example, by bolts C^1, C^1. A concave striking or contacting piece is formed preferably of a number of members C^2 which are fastened to the springs C by bolt C^3 or otherwise. As shown in detail in Figure 5, if the striking member is made up of a number of pieces, they are preferably joined butt to butt and at the joint a plate C^4 is fastened by rivets C^5 or otherwise.

As illustrated in Figure 4, a modified form of spring member is used. This is a spring member D which, throughout the major portion of its length, may be similar to the member C. It is fastened to or mounted upon the fence post, for example by bolts D^1, D^1 and it is provided with a downwardly and rearwardly curved extension D^2. A striking or wearing plate D^3 may be added to the post opposite the portion D^2 of the spring.

It will be understood that while I have herewith shown and described a practical, operative device, nevertheless many changes might be made in the size, shape, number and disposition of parts without departing materially from the spirit of my invention and I wish, therefore, that my showing be taken as in a sense diagrammatic.

The use and operation of my invention are as follows:

In either form of the spring shown in Figure 3 or Figure 4, the contacting plate or guard rail presents a continuous and smooth surface toward the road so that a vehicle running off the road sufficiently to strike this guard plate will not contact anything which will directly stop it but will merely run against and slide or scrape along the rail until the operator has stopped the vehicle or has again brought it back onto the road surface. In either form, since the rail is spring held by means either of the springs C or D, a certain amount of yielding is possible. This, of course, tends to cushion the effect of the shock due to the vehicle contact and thus to protect the vehicle and the guard rail structure.

In the form illustrated in Figure 4, after

sufficient yielding of the spring D has occurred, the curved portion D^2 will contact the fence post B or the striking plate D^3 in case one is used. If pressure continues thereafter, the spring part D^2 may be further compressed and bent and thus a further yielding of the guard rail is permitted but the resistance to yielding is greater after the spring D has been sufficiently bent to bring the spring portion D^2 in contact with either the fence post or with the striking plate D^3 upon it.

The cable or bar B^2, being situated above the vehicle contacting member C^2, tends to strengthen the fence structure and also in case a vehicle might strike with such force as to tip over, it tends to prevent the vehicle from tipping completely over. Thus there is provided in addition to the guard rail, a further safety device which in the case of extremely violent contact tends to prevent complete tipping over of the vehicle.

The main vehicle contacting portion or guard rail C^2 is preferably situated at about the height from the ground of a hub. It is sufficiently wide so that it will be contacted by the hub of almost any standard vehicle. Its width is such as to accommodate vehicles of a good many different axle or hub heights.

Thus in my invention I provide, upon one side or on both sides of a road, a continuous, smooth and preferably concave ribbon of metal which is preferably of spring steel. This ribbon is set out from the fence posts or the supporting structure for it. It is spring held so that it may yield outwardly. It is of a height to be contacted by the hubs of almost all standard vehicles and there is associated with it a cable or upper safety structure designed to be contacted only by vehicles which are partially tipped over and to prevent their further tipping.

I claim:

1. In a guard rail construction for roads, a vehicle guard member, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface, said spring supports formed with a plurality of spring portions, one adapted to come into operation when the other has yielded a predetermined degree and thereby to increase resistance to further movement of the guard member.

2. In a guard rail construction for roads, a vehicle guard member, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface said last mentioned supports constituting the sole connection between the guard member and the fixed supports, and a second vehicle guard member carried by said supporting structure and positioned outwardly and upwardly from the road with respect to the position of said first mentioned guard member.

3. In a guard rail construction for roads, a vehicle guard member, formed of spring material, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface said last mentioned supports constituting the sole connection between the guard member and the fixed supports, and a second vehicle guard member carried by said supporting structure and positioned outwardly and upwardly from the road with respect to the position of said first mentioned guard member.

4. In a guard rail construction for roads, a continuous, smooth surfaced, concave vehicle guard member, formed of spring material, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface, said spring supports formed with a plurality of spring portions, one adapted to come into operation when the other has yielded a predetermined degree and thereby to increase resistance to further movement of the guard member.

5. In a guard rail construction for roads, a continuous, smooth surfaced, concave vehicle guard member, formed of spring material, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface, said spring supports formed with a plurality of spring portions, one adapted to come into operation when the other has yielded a predetermined degree and thereby to increase resistance to further movement of the guard member, and a second vehicle guard member carried by said supporting structure.

6. In a guard rail construction for roads, a continuous, smooth surfaced, concave vehicle guard member, formed of spring material, a supporting structure therefor, comprising fixed supports, spring supports on said fixed supports and attached thereto at a point adjacent the ground surface, said spring supports formed with a plurality of spring portions, one adapted to come into operation when the other has yielded a predetermined degree and thereby to increase resistance to further movement of the guard member, and a second vehicle guard member carried by said supporting structure, and positioned outwardly and upwardly from the road with respect to the position of said first mentioned guard member.

Signed at Chicago, county of Cook and State of Illinois, this 25th day of June, 1930.

HAROLD T. MOORE.