

Sept. 10, 1935.

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2,013,716

HIGHWAY SAFETY GUARD

Filed Aug. 4, 1934

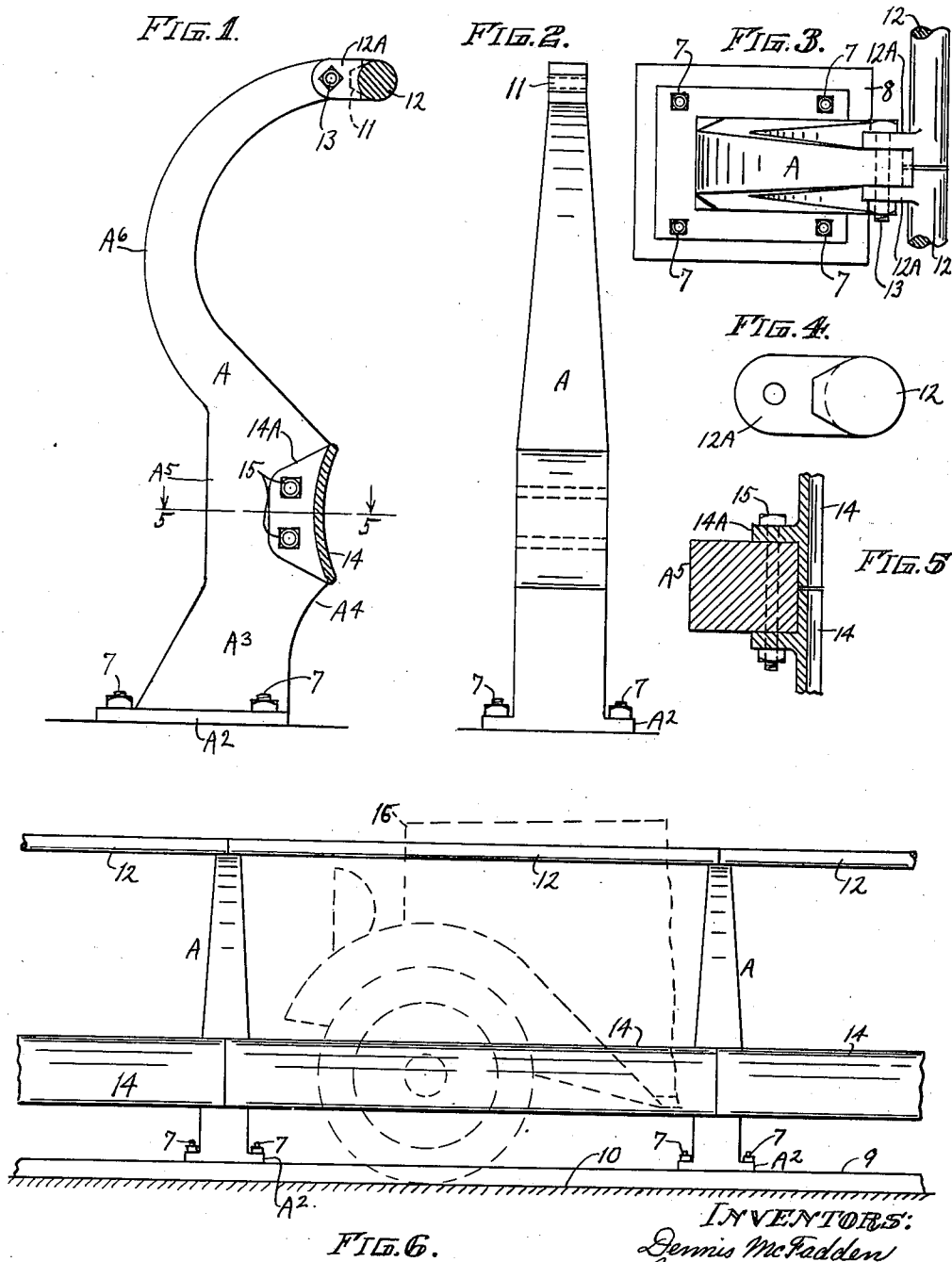


FIG. 6.

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2,013,716

HIGHWAY SAFETY GUARD

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Application August 4, 1934, Serial No. 738,436

3 Claims. (Cl. 256—13.1)

Our invention relates to guard rail and post means to be used laterally of highways, streets, boulevards etc., and involves the combination of a new and unique post construction and certain guard rails.

The main object is to prevent loss of life, reduce or eliminate damage to motor vehicles and other vehicles which may accidentally get off their right course on a highway. The device involves the use of rigidly mounted, but replaceable posts and two kinds of guard rails, all as hereinafter fully set forth, reference being had to the accompanying drawing, in which:—

Fig. 1 is a side elevation of our improved guard standard and showing in cross section a lower and an upper guard rail in operative position.

Fig. 2 is a front view of the standard alone.

Fig. 3 is a top view of Fig. 2 and upper guard rail added.

Fig. 4 is an end elevation of one of the upper guard rails.

Fig. 5 is a sectional detail view as on the horizontal plane designated by line 5—5 in Fig. 1, showing preferred fastening means and construction of the abutting ends of the lower guard rails.

Fig. 6 is a face view of our highway guard mounted on the curb and showing in dotted lines a portion of an automobile.

Referring to the drawing by reference numerals, our highway guard comprises a series of suitably spaced uprights or standards designated each A as a whole, and in all cases each such standard comprises a flat base A2 suitably secured as with bolts 7 to any solid foundation or anchorage, such as a concrete block 8 (Fig. 3), a concrete curb 9 (Fig. 6) or other means parallel to and adjacent or along the side of the road designated 10.

The entire standard is one-piece metal construction extending upwardly from base A2 as a comparatively heavy column A3.

Said column A3 is offset outwardly, toward the road, as A4, thence vertically as A5. Above the latter part the standard is arched in vertical plane, away from the road side, as A6 and terminates at a predetermined height, preferably about forty-three inches above the roadway surface, said upper terminus being located outwardly of the base, toward the road.

Said upper terminus of the standard is formed with a horizontal groove or keyway 11 to receive and retain the correspondingly shaped end part of the upper rail 12 connecting the posts. Said end parts of the rails 12 are also provided with integral lugs or ears 12A, each with an aperture

for a bolt 13 to secure said end part to the upper extremity of the standard which is apertured for the bolt also. Thus the ends of two aligned upper rails are rigidly secured to the standard A, and said rails are continuous, presenting no irregular or projecting parts to the road side of the fence thus made.

Parallel to the rail 12 we provide another guard rail 14, below the first described rail, and preferably at an elevation such that its center line is about fourteen inches above the road surface, for a purpose presently to be described.

The rail 14 is also sectional and each section provided with properly located perforate ears 14A for securing the adjoining end parts of two rails by means of bolts 15 passing through the part of the standard designated A5 (see Figs. 1 and 5). Said rails 14 hereinafter designated the main guard rail are preferably arcuate in cross section, or in other words of shallow channel shape longitudinally, being arched inwardly (away from the road) as shown.

It will now be readily understood that our highway guard comprises a series of upright, solidly mounted standards, preferably tapered from base to top, a main, lower, guard rail and a secondary round, upper guard rail, as described.

The latter rail, 12, is of course parallel to the main guard rail 14, but located outwardly of (toward the road side) the latter.

The main guard rail being offset slightly with relation to the base of the post and at a height of about fourteen inches above the road surface, it is readily understood that any motor vehicle contacting with the fence (as shown in dotted lines 16 in Fig. 6) the hubs of its wheels will first contact the channel like main guard rail or the running board of the vehicle may do so. Rail 14 is preferably about nine inches in width and therefore will be contacted first as stated because this height of the rail and its width have been calculated and will meet practically all emergency needs as the average height of a motor vehicle wheel-hub is about fourteen inches from the ground. Said parts of a motor vehicle are also at the widest part of such vehicle and therefore will contact the main guard rail first.

The upper guard rail 12 is, as stated, about forty-three inches above the ground. This height is arbitrary but found to be practical and is a height less than the usual height of door-knobs of motor vehicles. Therefore if a vehicle strikes this type of fence with such force, that after contact of the hubs with the main guard rail, the vehicle may tip away from the road, the side of the

car body will contact the upper rail 12. Thus a vehicle out of control is not only contacted by the fence where it does least damage to a car, but the car is prevented from tipping over.

5 Our device has now been fully disclosed and its usefulness is apparent. It is obvious that modifications may be made, for example in the size and proportions of the standards A, according to governing conditions. The arch A6
10 of each standard is to provide strength to resist impacts and also to provide clearance for fenders or protruding objects.

This guard device is of course particularly useful on grades and sharp curves of highways or
15 where highways must have guards for any other conditions such as steep embankments on one or both sides of the road. A feature, outside of the life saving feature, is the guarding and guiding contact with vehicles which cause little or
20 no damage to vehicles out of control or otherwise accidentally hitting such guard means. Another feature of its construction is that any part or parts of the fence are easily replaced.

The lower guard rail is preferably beveled or
25 rounded at its forward edges so that when an automobile comes in contact with it the hub and running board centers on the rail therefore keeping the weight of impact off the tires, thus preventing blow-outs and also preventing the front
30 part of the car from tipping over by holding the car in its natural position.

We claim:

1. A highway fence post for a dual rail fence including a lower sectional, horizontal rail at a
35 predetermined level and an upper sectional rail bar parallel to said lower rail and positioned in

offset relation inwardly toward the road relative to said lower rail; said post comprising a suitable base and an integral upward extension to a predetermined level for the lower guard rail and above said level arched in a vertical plane
5 away from the road and the upper terminus being at the predetermined height of the upper rail bar, said upper terminus formed with a horizontal keyway open toward the road.

2. The structure specified in claim 1, in which
10 said upper rail bars are abutted linearly one pair in each said upper terminus and provided at their adjacent ends each with spline alined and seated in said keyway and further means for
15 removably retaining the upper rail bar in said seated position.

3. In a highway guard an upright suitably fixed post extending upwardly from its base in vertical plane to a predetermined level for a lower main guard rail, thence extending further upwardly above said level and arched in vertical plane away from the road and transversely thereof to its upper terminus, said post of quadrangular form in cross section and provided with bores therethrough in direction longitudinal of
25 the road, suitable sectional lower rails adapted to be fixed removably in abutting relation at each post and provided with transverse ears near their respective ends and said ears having bores registering with said bores of the post for insertion
30 of bolts or corresponding means through said bores for mounting two adjoining rail end parts to a post, as shown and described.

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