

UNITED STATES PATENT OFFICE.

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CAR-FENDER.

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To all whom it may concern:

Be it known that I, WILLIS D. GOLD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Fenders, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of car-fender, in which provision is made for positively causing the object struck to be caught upon the fender by means of revolving mechanism of a novel construction.

It further consists in providing novel means for allowing the motorman to cause the instantaneous descent of the fender when an object is about to be struck.

It further consists in making certain parts of the fender so as to be readily disconnected or separable, whereby the same can be folded up when it is desired to economize space, the buffer of the fender not extending above the dashboard.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a side elevation of a car-fender embodying my invention and a portion of a car to which the same is applicable. Fig. 2 represents a front elevation of Fig. 1. Fig. 3 represents a front elevation of a portion of the mechanism seen in Fig. 2 for causing the descent of the fender when desired upon the operation of a suitable lever by the motorman. Fig. 4 represents a plan view of Fig. 3, to be hereinafter referred to.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the body of a car, the same having a platform B and a dashboard C, the above parts being of the usual construction.

D designates suitable brackets which are attached to either side of the car and which have pivotally mounted thereon the frames E, which curve downwardly in the present instance and have their forward ends joined by means of the cross-bar or buffer F.

G designates rollers mounted on either side of each of the frames E, which are adapted to contact with the track at the proper intervals when the fender is depressed, as will be hereinafter explained.

H designates a suitable netting or material which extends between said arms E and forms the bed of the fender.

J designates a normally upright frame which is pivotally mounted upon said frames E, said frame consisting of the uprights K, the cross-bars L and M and the netting P, the lower extremity of said frame J being pivoted to the arms E, while the upper extremity thereof has attached thereto on either side one end of the rods N, the other ends of the latter being pivotally mounted in the lugs N' on either side of the dashboard.

Q designates the axle of the car, upon which is mounted the pulley R, around which latter passes the belt S, the same passing also around the tight pulley T attached to the shaft U, which latter is mounted in suitable bearings.

V designates a pulley mounted on said shaft, around which passes the cross-belt W, the latter also extending around the pulley X, which is journaled on the rod Y, the latter having its bearings in the side arms E.

Z designates a rotary device which is composed of spheres mounted upon said rod Y, the manner of assembling said spheres being evident from Fig. 2, and it being apparent that so long as the rotation of the axle Q continues the rod Y, with the spheres Z mounted thereon, will also be rotated.

A' designates chains which have one of their ends attached to a suitable portion of the arms E, said chains extending upwardly and passing through the pulley-blocks B', which are mounted on the upper corners of the dashboard, and after leaving said pulley-blocks B' extending toward each other and meeting in the middle of the car and passing over or through the pulley-blocks C', which may be double or of convenient construction and have a loop depending inside the dashboard, as seen at A².

D' designates a ring which depends from said loop A² and is adapted to slip over the pin E', which is attached to an end of the lever H', which is pivotally mounted at H² upon the interior of the dashboard.

K' designates a second lever, which is pivoted at K² to the lever H', said lever K' having a forked end F' adjacent the pin E', it being understood that said ring D' is near the extremity of the pin E', as seen in Fig. 4, the

forked end F' being interposed between said ring and the end of the lever H'.

L designates a spring interposed between the extremity of the lever K' and the lever H', said lever K' having an enlarged head K³, against which the motorman can press his knee when it is desired to lower the fender.

J' designates the handle of the lever H', the latter being held in the desired position by means of the rack M', which may be of usual construction.

The operation is as follows: If we assume the car to be moving in a forward direction, it will be seen that the rotation of the axle Q will be imparted by means of the intermediate connections to the rod Y, upon which the spheres Z are mounted. The apparatus is normally held slightly above the track, as indicated in Fig. 1, and when the motorman sees that an object is about to be struck, by pressing against the portion K³ of the lever K' it will be evident that the ring D' will be disengaged from the pin E' and the frame of the fender, being unsupported, will fall until the wheels G contact with the track and the object struck will be picked up and lifted and carried into the netting by the spheres, and so prevented from serious injury or from falling out again.

The device can be readily reset and adjusted to the desired height by manipulation of the handle J of the lever H, and when economy of space is desired the arms E of the frame J can be folded up by disconnecting the ends of the arms N from the hooks N', especial attention being called to the fact that the buffer F will in all cases come below the top of the dasher C.

The fender is simple and effective in its action and cannot easily get out of order, and by the novel construction and arrangement of the parts in the manner described the object or thing struck will be positively picked up and carried in the netting by the rubber spheres, and in every instance without serious injury.

I desire to call especial attention to the function of the rubber buffer, it being apparent that when the motorman presses the lever with his knee the fender is released and the forward portion drops on the rails, and since the rollers G hold the buffer normally about one inch above said rails and paving the fender cannot move lower or to the right or left. It will be seen that if a person lies in a fallen position on the track the buffer F would strike the same about an inch from the ground and far below the center of the body, and the latter being round the shape of the supporting-buffer will tend to conform to the body and so carry the same up to the rubber spheres, which would lift, carry, or pull said body into the netting and prevent its falling out again, since said spheres are always rotating toward the car. The fender can be carried one, two, three or more inches above the rails, and, if desired,

the motorman can lift the same with the lever J' one foot or more above the rails.

In the preferred embodiment of my invention I mount upon the shaft U the loose pulleys A³, adjacent to the tight pulleys T, which are immovable on said shaft U, whereupon it will be seen that the belt S, which may be either a wire cable or other suitable connection, can be readily shifted from the tight to the loose pulleys when it is desired to stop the rotation of the rubber spheres Z, the means for shifting the same being the lever B³, which is fulcrumed at C³, and held in desired position by means of the rack D³. The lower end of said lever has a fork E³, which is adapted to engage the adjacent belt, while from said fork extends transversely the rod or bar F³, which is mounted in the bearings G³, the left-hand extremity of said rod being provided with the fork H³, which engages the adjacent belt.

When the parts are in the position seen in Fig. 2, the belts are on the loose pulley, so that no rotation of the shaft U and the spheres Z takes place; but if the said belts are shifted onto the tight pulleys E³ the same will be caused to rotate, as is evident, and so rotate the spheres, the latter rotating under normal conditions, but their rotation being stopped when it is desired to fold up the fender.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-fender having a frame with a buffer at its front end and provided with a rotatable cross-rod in rear of said buffer, having spheres mounted thereon, substantially as and for the purpose set forth.

2. A car-fender consisting of a forwardly-projecting frame, rollers thereunder, a buffer for said frame, an upright frame pivotally mounted, and a revolving device located adjacent said buffer, said revolving device being composed of rubber spheres mounted upon suitable bearings, substantially as described.

3. In a car-fender, the projecting frames, the chains A' extending therefrom, and passing through pulley-blocks mounted in the upper corners of the dashboard, a ring D' attached to said chains, a forked lever K' a lever H' pivotally mounted, upon which said forked lever is mounted and the pin E' secured to said lever H' substantially as described.

4. In a car-fender, the arms E pivotally attached to the car, the spheres Z mounted upon a rotatable rod, the rollers G, a buffer F, the frame J, the bars N, detachably connected with the dashboard, the chains A', pulleys therefor, a ring D', a lever H' having a pin E', projecting therefrom, and adapted to be engaged by said ring D', the lever K' having a forked end F', and an enlarged portion K³, and a spring L', intermediate said portion K³ and said lever H', substantially as described.

5. A car-fender having a frame with a buf-

fer, a rotatable cross-rod journaled in said frame, spheres mounted on said cross-rod, and means for rotating the said rod, substantially as described.

5 6. A car-fender having a frame with a buffer, a rotatable cross-rod mounted in suitable bearings, spheres on said cross-rods, and gearing intermediate of and connected with said cross-rods, and with an axle on the wheels of
10 the car for operating said cross-rods, said parts being combined, substantially as described.

7. In a car-fender, a rotatable device adjacent the buffer thereof, said device consisting of spheres attached to a rod mounted in suitable bearings, and means for rotating said rod, in combination with a belt-shifting device, whereby the rotation of said rod and spheres can be stopped when desired, substantially as described. 15

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Witnesses:

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