

(No Model.)

J. E. McBRIDE.
FENDER FOR RAILWAY CARS.

No. 520,857.

Patented June 5, 1894.

Fig. 1.

Fig. 3.

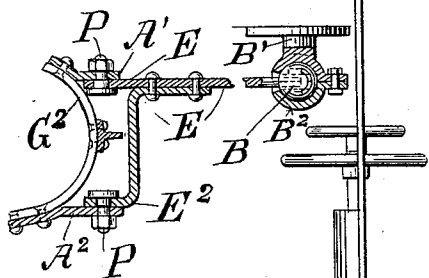


Fig. 4.

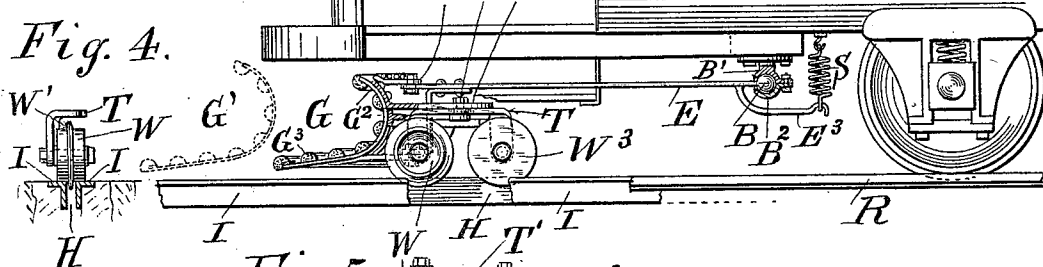


Fig. 5.

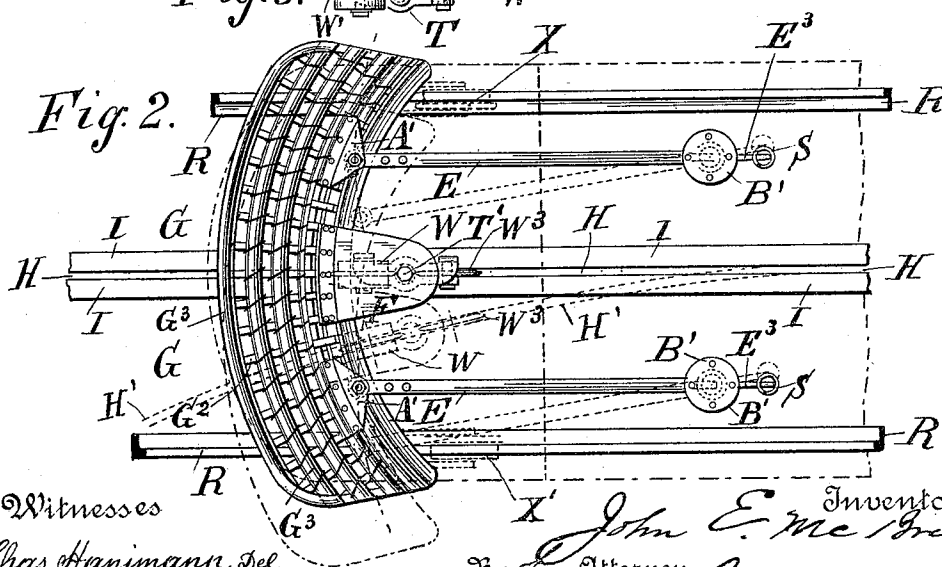


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN E. McBRIDE, OF NEW YORK, N. Y.

FENDER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 520,857, dated June 5, 1894.

Application filed February 24, 1894. Serial No. 501,326. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. McBRIDE, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Fenders for Railway-Cars, of which the following is a specification.

This invention relates to fenders for street-cars, which are designed to prevent injury to persons and animals that may be in the path of the car's movements, and the present improvements are a modification of the construction and arrangement shown in my application for Letters Patent, filed February 20, 1894, Serial No. 500,855.

The objects of the invention are to supply a fender which will cover the running rails of the track when the car rounds curves, as well as when it is moving in a straight line, and which will always retain the same vertical position with relation to the road-bed, regardless of the vertical tiltings of the car. These objects are secured by the construction and arrangements hereinafter described and claimed.

Referring to the accompanying drawings—Figure 1 represents in side elevation, a portion of a street railway-car provided with the improved fender, which is shown in vertical section. Fig. 2, shows a plan view of the road-bed of a cable-road, and of the fender, and its connections with the car to which it is to be attached. Fig. 3 represents a vertical section of the fender and one of the arms or rods by which it is pivotally attached to the car. Fig. 4 shows a vertical section of the central rails of a cable-road, and the surrounding road-bed, and a front view of a guide-wheel or roller in engagement with such rails. Fig. 5 shows an under view of two wheels, or means for guiding the fender by engagement with the central rails of a cable-road.

D represents the car, beneath the platform of which the fender G is preferably located, although it may have any other proper position, as the more advanced one indicated by dotted lines, at G', Fig. 1. The fender may be of any desired shape, but it is shown as having the form of an arc of a circle longitudinally, and as curvilinear transversely. It is composed of a suitable frame, G², which

may be wholly or partially covered with sheet-metal, or other suitable material, but is represented as provided with a series of longitudinal slats, or strips, or tubes of elastic material, G³. The fender is connected to the car-body by two rods or bars E, which at their rear ends are universally-jointed to the car in any preferred manner, so as to allow of lateral and vertical swingings of the bars, and consequently of the fender. As shown in Figs. 1 and 3, the pivotal-joint is of the ball-and-socket variety, the balls B, being upon the inner ends of the bars E, and the sockets B², which surround the balls, being a part of the studs or standards B', which are rigidly secured to the car-body. At their forward ends, the bars E are respectively pivoted, by bolts P, to tangs or plates A', which project rearwardly from the upper part of the fender-frame, and a downwardly-projecting arm, E², secured to each bar E, is pivoted, by a bolt P, to a tang or plate, A², extending rearwardly from the lower part of the fender-frame, the bolts P being in the same vertical line on each arm, as particularly shown in Fig. 3. From this it will be understood that the fender can swing from side to side, the bars E having a parallel movement, and that any vertical tiltings of the car will not disturb the vertical relation of the fender to the track.

When applied to a cable-car, the fender is preferably supported by a wheel or roller, W, which rests upon the central rails, I I, which wheel has a peripheral flange, W', that enters the slot, H, or space between said rails. The wheel, W, is mounted to turn on a frame T, which is pivoted, at T', to a plate, F, attached to the fender-frame and extending rearwardly therefrom. A follower-wheel, W², is also mounted to turn on the frame T, and to enter the slot, H, the office of said wheel being to keep the pivot T', vertically above the slot, H, at all times. These wheels constitute the rail-engaging means which guide the fender in the direction of the track, at all times, and keep it overlying the running-rails, R, not only when the car is moving in a straight line, but when it is rounding curves. The laterally-swinging movement of the fender when a curve is rounded in one direction, is illustrated by dotted lines in Fig. 1, where

the curved parallel lines, H', indicate the curved walls of the slot between the central rails.

In place of the means above described for guiding the fender, or in addition thereto, flanged wheels, X X', shown by dotted lines in Fig. 2, may be mounted on the fender, near its ends, to engage the running-rails, R, and thereby guide the fender in the direction of said rails at all times. On a car other than of the cable variety, the wheels, W W', would be omitted, and the wheels X X', would be used to support and guide the fender, as will be readily understood.

The weight of the fender may be made sufficient to keep it in the desired relation to the road-bed—that is, slightly raised above the same, but I prefer to assist gravity in this respect by employing springs, S, respectively attached to the car-body at one end, and at the other to arms, E', projecting rearwardly from the bars, E.

Although I prefer to use the two parallel bars, E, to connect the fender with the car-body, yet it will be seen that a single bar universally-jointed at its rear end to the car in the central line thereof, and pivoted at its front end to the fender midway of its length, may be employed for the purpose. In this arrangement, but one spring, S, would be needed.

The car may be, and preferably is furnished with a fender at each end, the particular shape and location of which may be any that is suitable—without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a car, of a fender mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end, whereby the fender may have vertically and laterally-swinging movements with relation to the car, substantially as set forth.

2. The combination with a car, of a fender

mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end, and a spring or springs for pressing the fender toward the road-bed, substantially as set forth.

3. The combination with a car, of a fender mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end, and rail-engaging means mounted on the fender, which guide the fender in the direction of the track, substantially as set forth.

4. The combination with a car, of a fender mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end, and rail-engaging means pivotally-mounted on the fender, which guide the car in the direction of the track, substantially as set forth.

5. The combination with a car, of a fender mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end; rail-engaging means mounted on the fender, which guide the fender in the direction of the track; and a spring or springs for pressing the fender toward the road-bed, substantially as set forth.

6. The combination with a car, of a fender mounted thereon and connected thereto by a bar or bars pivoted at one end to the fender and universally-jointed to the car at the other end; and a frame pivoted upon the fender and carrying a flanged wheel and a follower-wheel, for engaging the slotted, central rail of a cable-road, and thereby guiding the fender in the direction of the track, substantially as set forth.

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