(No Model.) 2 Sheets—Sheet 1.

T. C. RICE.

STREET CAR FENDER.

No. 494,165. Patented Mar. 28, 1893.

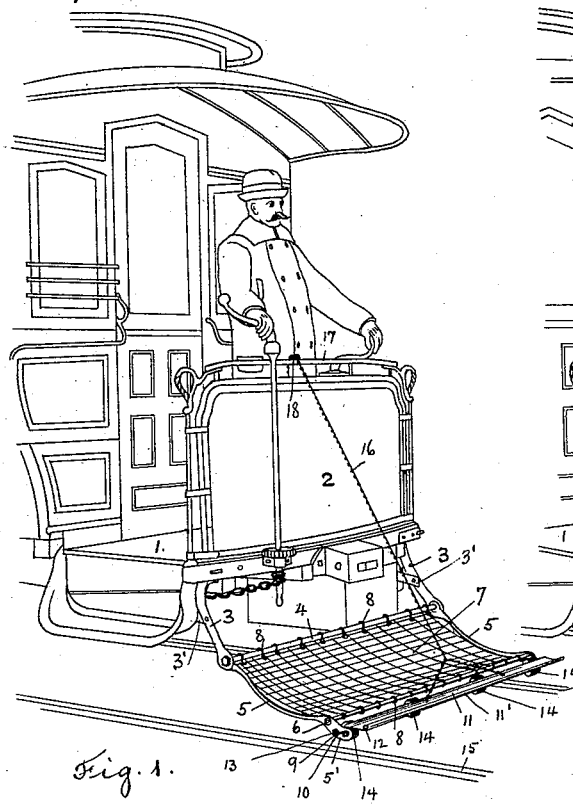

Fig. 1.

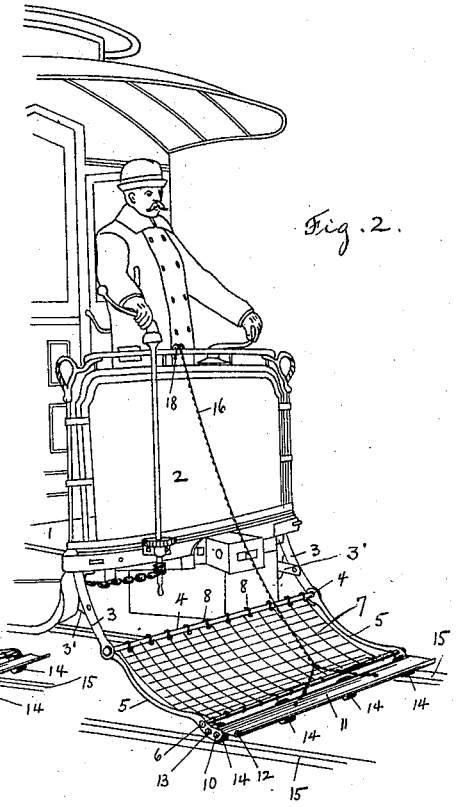

Fig. 2.

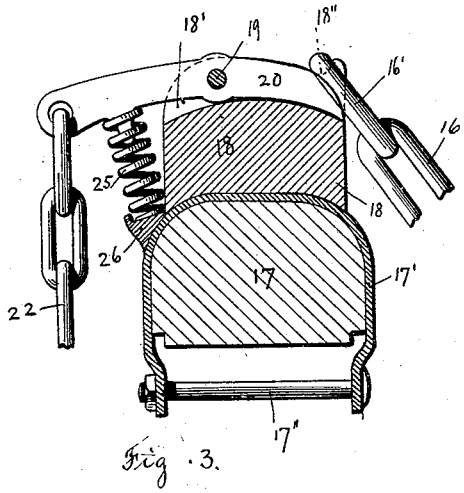

Fig. 3.

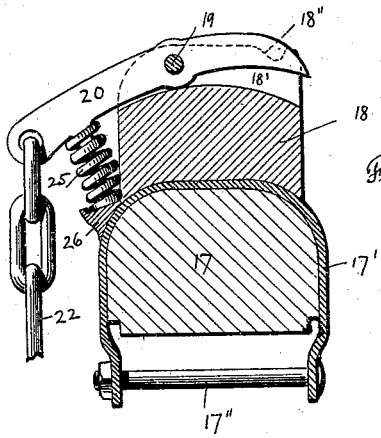

Fig. 4.

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(No Model.) 2 Sheets—Sheet 2.

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STREET CAR FENDER.

No. 494,165. Patented Mar. 28, 1893.

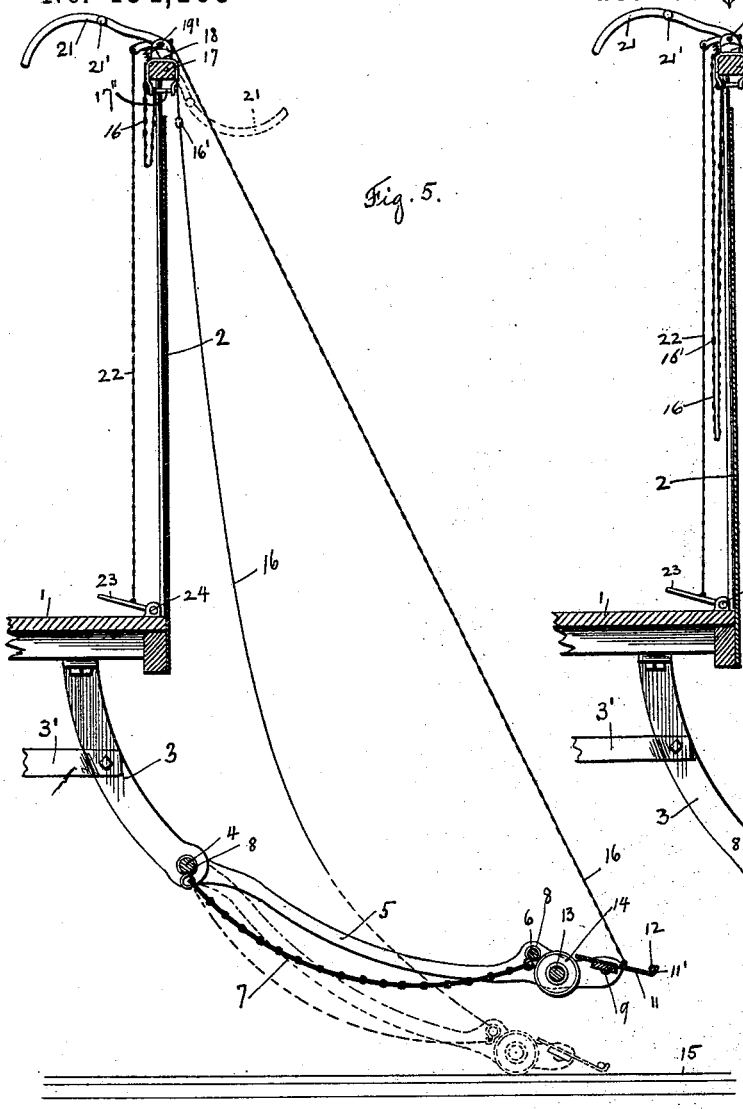

Fig. 5.

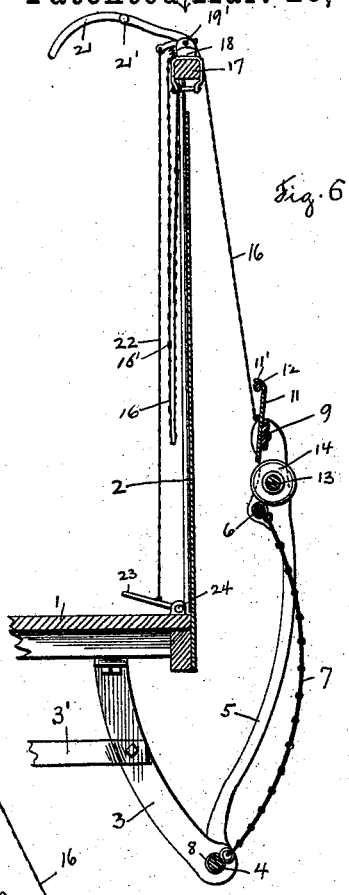

Fig. 6.

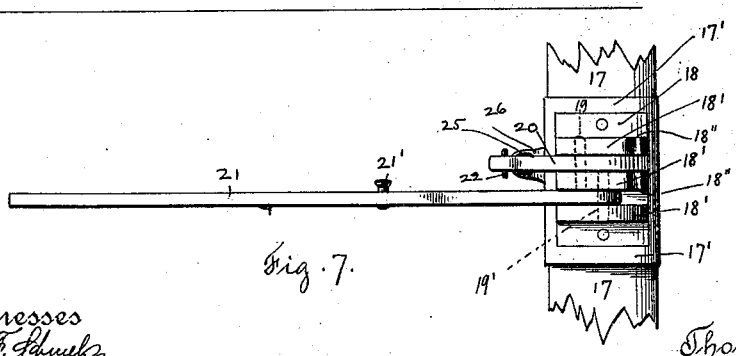

Fig. 7.

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UNITED STATES PATENT OFFICE.

THOMAS C. RICE, OF WORCESTER, MASSACHUSETTS.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 494,165, dated March 28, 1893.

Application filed November 1, 1892. Serial No. 450,686. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. RICE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Street-Car Fenders; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to street car fenders, and more particularly to fenders designed to be used on electric cars, and the objects of my invention are to improve upon the construction and operation of fenders as now ordinarily made, and to provide a fender which will extend out a short distance in front of the car, and be hinged at its rear edge, and provided with rollers at its forward edge which are adapted to travel on the rails, or on the road bed, when the fender is in its lowest position ready for use, and to provide means for supporting the fender above the track, at any desired angle, when not in use, and also means for releasing the fender, preferably operated by the foot of the motor man, to allow the fender to drop into operative position.

My invention consists in certain novel features of construction and operation of a street car fender, as will be hereinafter fully described, and the nature thereof indicated by the claims.

Heretofore street car fenders as ordinarily made, have been rigidly attached to the ends of the cars. In the ordinary electric car there is a vibratory or tilting motion at the end of the car, toward and away from the track, of at least six or eight inches, and therefore in the case of rigid fenders extending in substantially a horizontal plane, it has been necessary to support the fenders at such a height above the tracks that they will not strike the track or come in contact with the road-bed during the running of the car, by reason of the tilting motion above referred to. It has therefore been found necessary to have the outer edge of the fenders at least six or eight inches above the ground, and for this reason the operation of the fenders is not satisfactory.

I construct my improved fender and combine it with the end of the car in such a manner, that the front edge of the fender will extend close to the ground, and even rest on the rails or on the road-bed if desired, without reference to the tilting motion of the ends of the car. By this construction the fender, when in use, will be close to the track so that it must pick up anything which is in front of it, and it will be impossible for an object of any size to get under the projecting edge of the fender, and even to be rolled along any distance without being picked up, or thrown upon the fender.

In running an electric car the motor man has both hands constantly occupied, one by the brake, and the other by the motor governor, so that it is very important that he should not be called upon to use his hands for other purposes.

In my improved fender I have provided means for dropping the fender to bring it into operative position, which means are operated by the foot of the motor man without any necessity of his removing his hands from the brake or the motor governor.

In order not to interfere with the running of the car, and to save the wear of the fender, it is desirable to have the fender supported at some distance above the track, so as not to come in contact with the rails or the road-bed, by reason of the tilting motion of the car above referred to, and in my improved fender I have provided means for supporting the front edge of the fender at some distance above the track, when the car is running in little traveled thoroughfares, and where the fender is not liable to be called into use, and at the same time I have arranged for the instantaneous dropping of the front end of the fender, by gravity, if the occasion requires.

Referring to the drawings:—Figure 1 is an end view of an electric car, of any ordinary construction, with my car fender applied thereto, showing the fender in its raised position. Fig. 2 corresponds to Fig. 1, but shows the fender in its lowered position, ready for use. Fig. 3 is a sectional detail, on an enlarged scale, of the mechanism for holding

the supporting chain of the fender. Fig. 4 corresponds to Fig. 3, but shows the position of the mechanism when the chain is released. Fig. 5 is a vertical cross section through the end of the car platform and through the fender, the dotted lines showing the fender in its lowered position. Fig. 6 corresponds to Fig. 5, but shows the fender raised against the rear end of the car. Fig. 7 is a detail plan view of the chain operating mechanism, looking in the direction of arrow *a*, Fig. 6.

In the accompanying drawings, 1 is the platform of the car and 2 the dasher with which my improved fender is combined. Two hangers 3, are rigidly secured at their upper ends, preferably under the front edge or sill of the platform 1, and a brace 3′, one for each hanger, is attached at one end to the hangers 3, and bears at its other end against the step or other rigid portion of the car. In the lower ends of the two arms or hangers 3 is supported a rod or cross bar 4, and on said cross bar 4, preferably within the hangers 3, are pivoted the inner ends of two arms 5, which form the sides of the fender. The forward portion of said arms are connected by a cross bar or rod 6 which is rigidly secured to said arms. The apron 7, in this instance made of wire netting, is suspended between the arms 5 and cross bars 4 and 6, by hooks 8, or otherwise, and may be made slack so as to hang down in the middle and form a concave surface or cradle, see Fig. 5. The apron 7 may be made of sheet-metal, or canvas, or other suitable material.

In the extreme ends 5′ of the arms 5 is supported a cross bar or rod 9, the ends of which are preferably rounded, to extend through holes in the arms 5, and adjustably secured in said holes by nuts 10. Upon said bar 9 is secured a strip of sheet metal 11, or other rigid material, preferably about six inches wide, and of a length corresponding to the distance between the two arms 5. The strip of metal 11 has its front edge 11′ preferably turned up, as shown in the drawings, and may be stiffened by a small rod 12 secured upon the inner surface thereof, as shown in Figs. 5 and 6.

The apron 11, secured to the bar 9, may be adjusted to any desired angle, relatively to the track, so as to extend above the rails, as shown in Fig. 2, or rest on the rails, as shown by dotted lines, Fig. 5, by loosening the nuts 10 on the ends of the bar 9, and tightening said nuts after the strip 11 is adjusted. The rounded or turned up edge 11′ of the strip 11 enables the strip and also the fender to ride over any slight inequality in the road bed, or small object as a stone, when the fender is down. Between the rod 6 and bar 9 extends a rod 13, the ends of which are secured in the ends of the arms 5; upon said rod 13 are supported rollers 14, in this instance four in number, the outer two adapted to travel on the rails 15, as shown in Figs. 2 and 5, and the inner ones to travel on the road bed.

To the outer edge of the fender, and preferably to the metal strip 11 forming the projecting edge of the fender, is secured one end of a cord or chain 16. The chain 16 extends up to and over the guard rail 17 of the dasher 2, and has its end in this instance attached to the bolt 17″ of the strap 17′ under the guard rail. The chain 16 is of sufficient length so that when the fender is dropped into operative position the chain will hang loose, as shown in Fig. 5, and when the fender is drawn up the surplus chain will hang down from the guard rail, inside the dasher 2, as shown in Figs. 5 and 6.

The chain 16 is provided with an enlarged link or yoke 16′, which is adapted to be attached to the guard rail, to hold the fender in its raised position, and to be released from said rail to allow the fender to drop into operative position, in this instance by means of the mechanism shown in the drawings; said mechanism consists of a casting 18, secured upon the top of the guard rail 17 by the strap 17′ and bolt 17″, and provided with upwardly extending projections or ears 18′, between which are pivoted on pins 19, and 19′ the releasing lever 20, and the raising lever 21, respectively. The front pertions of two of the ears 18′ are notched as shown at 18″, Figs. 3, 4, and 7, and over said notches the link or yoke 16′ on the chain 16 is adapted to catch, as shown in Fig. 3. The front end of the releasing lever 20 extends with its free end under the link 16′ on the chain 16. The rear end of the lever 20 is connected to the upper end of a rod or chain 22, and the lower end of said chain 22 is attached to a foot lever 23, pivoted at 24 at the front end of the platform 1, in a position to be readily engaged by the foot of the motor man. A coiled spring 25 is interposed between the lever 20 and a projection 26 on the casting 18, to return the lever 20 to its normal position, after it has been operated by depressing the treadle 23 to raise the free end thereof and release the link 16′ of the chain 16, as shown in Fig. 4, to cause the fender to drop by gravity into operative position, as shown by dotted lines Fig. 5. The lever 21 is also pivoted on the casting 18, at its inner end, and is provided with a stud or pin 21′, extending out from one side thereof, which is adapted to engage the link 16′ of the chain 16 after the chain has been released, as indicated in Fig. 5, to tighten the chain and draw up the fender, and cause the link 16′ to catch in the notches 18″ of the ears 18′. By means of the lever 21, for operating the chain to raise the fender after it has been dropped into its operative position, I enable the motor man by moving the lever 21 to raise the fender by exerting but little power, and to cause the link 16′ of the supporting chain to catch and hold the fender in its raised position.

The advantages of my improved street car fender will be readily appreciated by those skilled in the art. By means of the hinged connection of the rear edge of the fender, and

the rollers at the front edge of the fender, I provide for any end vibration of the car, and arrange for the fender traveling very close to the track or road-bed. By means of the rod 6 secured between the front ends of the side arms of the fender, I provide a shoulder or striking surface to receive the force of the blow, and throw the object on to the receiving apron of the fender. By means of the adjustable plate or strip 11, I provide for a rigid extension of the fender proper, which extension is adapted to travel very close to the track or road-bed, and to ride over any slight inequality in the road-bed, or small object, and raise the fender on its hinged joint so as not to interfere with the free running of the car. By means of the chain connected with the forward part of the fender, and the mechanism for releasing said chain, I am enabled to drop the fender into operative position instantaneously in case of necessity, by a simple movement of the foot of the motor man.

It will be understood that the details of construction of my improved street car fender may be varied somewhat, if desired.

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

1. The improved fender for street cars, hinged at its rear edge, and provided with a receiving apron, and a metal strip or plate extending in front of the receiving apron, and a rod carrying rollers adapted to travel on the track or road-bed, substantially as set forth.

2. The combination with the fender hinged at its rear edge, and provided with a receiving apron, and adapted to be raised and lowered on its hinge joint, of means for lowering the fender, consisting of a lever, and a foot treadle, and intermediate connection for operating said lever to disengage and release the holding link of the supporting chain or cord attached to the fender, substantially as set forth.

3. The combination with a street car fender, hinged at its inner edge, and adapted to be raised and lowered on its hinge joint, and provided with a supporting chain or cord, of means for releasing said chain to lower the fender, consisting of a spring actuated lever, with its free end extending under the attaching link of the chain, so that the raising of said lever will release the attaching link to free the chain, and drop the fender, substantially as set forth.

4. The combination with a street car fender, hinged at its inner edge, and adapted to be raised and lowered on its hinge joint, and a supporting chain or cord attached at its lower end to the fender, with its upper end extending over the guard rail of the car, of means for tightening the supporting chain to raise the fender, consisting of a lever adapted to engage the supporting chain and place the holding link over the notched holding device, substantially as set forth.

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Witnesses:
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KATIE FARRELL.