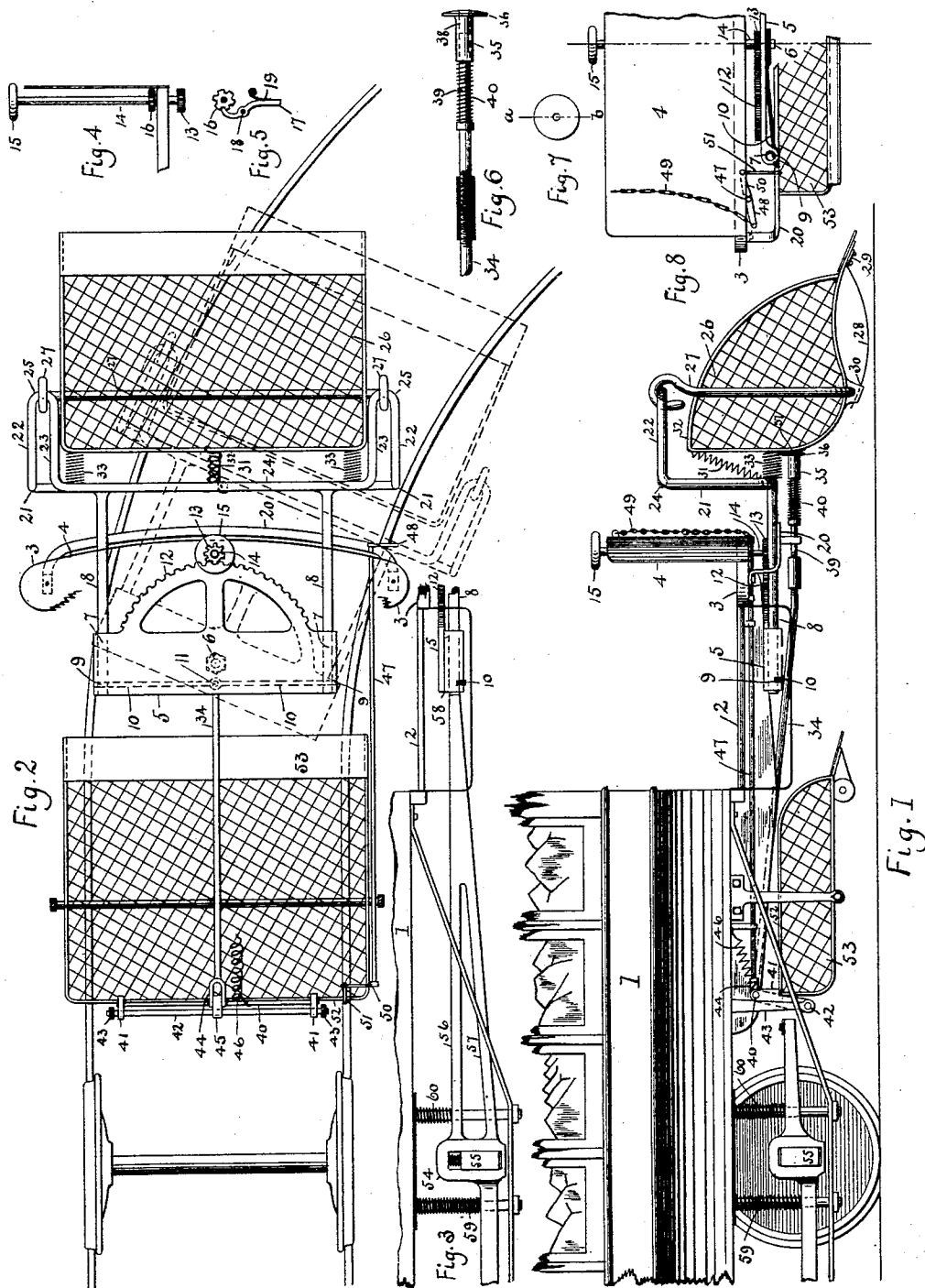


(No Model.)

H. WILSON.
STREET CAR FENDER.

No. 580,243.

Patented Apr. 6, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

HENRY WILSON, OF PHILADELPHIA, PENNSYLVANIA.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 580,243, dated April 6, 1897.

Application filed June 24, 1896. Serial No. 596,676. (No model.)

To all whom it may concern:

Be it known that I, HENRY WILSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Street-Car Fenders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in fenders as applied to railway-cars to protect life and limb from the increasing dangers incident to the introduction of self-propelled cars on crowded thoroughfares, and is an improvement in a general sense of my double-fender system for which I was granted Letters Patent No. 548,339, dated October 22, 1895. As heretofore made fenders are found ineffective around curves; but by my present invention I have overcome this defect, enabling the motorman to quickly adjust the front fender to follow curves either to the right or left, thereby avoiding the annoyance of striking passing vehicles or pedestrians who approach too near the outside of a curve and thereby become damaged. Owing to the long overhang of the car and its fender from the wheel-base, which carries the car end and fender outside of the track on curves, it is not a guard against any destruction, but is in itself an actual menace and cause of much trouble, expense, and loss of property and time. I have also provided means to lock the fender on straight track or on curves, so the motorman need give it no attention after its being set. I have also provided means by which the back fender may be quickly and easily lifted to its normal position by the motorman from his place on the platform after it has been dropped by the front fender and done its work. I have greatly improved the means whereby the front fender approaches the track or road-bed without a shock, as well as provided means to hold the front fender secure from approaching the track except when necessary and then gradually, and have

also provided means to carry the front fender from the truck-frame, if desired, where it will not be subjected to rise and fall of the car-body. I attain these objects by the mechanism illustrated in the following drawings, in which—

Figure 1 is an elevation. Fig. 2 is a plan with the car-body removed to more effectually show the parts it would hide. Fig. 3 is a part of a truck-frame in elevation, showing the means of attaching the front fender. Fig. 4 is an elevation of the locking mechanism, and Fig. 5 is a plan of the same. Fig. 6 is an elevation and section of my present unlatching-buffer for the back fender, taken on line *a b*, Fig. 7; Fig. 7 is a front view of the buffer-head, and Fig. 8 is a partial front view of the dasher and means for lifting the back fender.

Similar reference-figures are used for similar parts in each figure.

Fenders of other styles and makes different from mine, but which project beyond the front of the platform, may be readily attached pivotally to follow curves by using my invention.

Attached to the car-body 1 are the usual platform 2, bumper 3, and dasher 4, and under the platform is pivotally secured a fender-guide 5 by a pivot 6 on the longitudinal central line of the car. Into each end of the fender-guide 5 is a pocket 7, into which are inserted the frame ends 8. These frame ends 8 and the fender-guide 5 have recesses 9, into which spring-locks 10 pass, thus securing the frame ends from coming out when placed in position. The spring-lock 10 is secured to the fender-guide 5 at 11, and if it is desired to remove the frame ends it is readily done by forcing the spring-locks 10 out of the recesses 9, which are formed both in the fender-guide 5 and frame ends 8. The fender-guide 5 has a gear-segment 12 upon its front part, and engages with a pinion 13, secured upon a shaft 14, the shaft reaching through the platform and extending upward to within easy reach of the motorman, where it is provided with a hand-wheel 15. A crank might as readily be used, if deemed preferable. By turning the hand-wheel 15 the motorman sets the fender. Above the platform 2, attached

to the shaft 14, is a pawl-wheel 16 with teeth formed to work in each direction. A pawl 17, secured to the platform at 18, engages and holds 16, and is kept in engagement by a
 5 spring 19, also secured to the platform. When the motorman requires to change the fender, he presses his foot against the outer end of 17, which disengages it from 16, but as soon as the pressure is removed it reengages 16
 10 and locks the fender. A radial support 20 is secured under the bumper 3, and on it rest the frame ends 8 and the fender which they carry. The fender-supporting frame extends also across from frame end 8 on one side to frame
 15 end 8 on the other side and outwardly from each, upwardly, as 21, then outwardly, as 22, then bends and returns parallel, as 23, with the first outward extension, then bends and goes across to the other side, as 24, thus forming a double frame and two loops 25, in which
 20 the fender 26 is swingingly and pendulously carried by hanger 27, which is carried under the fender, and having means at each upper end for easily attaching and detaching to the
 25 loops 25. The springs 28 under the fender I now attach firmly at 29, and at 30 I pass them freely through a guide, thus enabling them to readily adjust themselves to the load they receive, as only one end is rigidly held. I
 30 have also provided a spring 31, which is attached to the fender-frame 32 and suspension-frame. This spring holds the fender 26 in correct normal position and permits it to drop down in front as soon as loaded without
 35 shock or jerk and automatically returns it to its normal position when the load is off. I use the side springs 33, as heretofore in my previous invention.

Heretofore I attached a cone spiral spring
 40 to the fender in connection with the rod 34, which drops the back fender, but I have now improved over that method and employ a buffer 35, having a head 36, of quite large diameter, and a rounding face which abuts a
 45 plate 37, secured to the fender. A hole 38 is bored in 35 and a plunger 39 entered therein. A spring 40 is attached to 34 and to 39, permitting very easy action. The plunger 39 is attached to the rod 34, so as to be readily detached by a screw, as shown in the drawings.
 50 At 40½ is a straight shaft which I now employ in operating the back fender. This fender is held in normal position by two hooked arms 41 from a shaft 42, supported by hangers 43. This construction is similar to what
 55 I heretofore used except the straight shaft 40, the jaw 44, embracing arm 45, and spring 46, which replaces the two springs I formerly used.

To enable the motorman to place the back fender in normal position—to lift its front end—I place a longitudinal shaft 47 under one side of the bottom of the car-body 1, platform 2, and bumper 3. The front end of
 60 the shaft extends in front of the dasher 4, where an arm 48 is attached, reaching out-

ward, to the outer end of which a chain 49 is attached, the other end of the chain being secured to the dasher, where it can readily be reached by the motorman. At the back
 70 end of the shaft 47 is an arm 50, reaching inwardly and having an attachment 51 coupled to it and to frame 52 of back fender 53. When an object strikes the front fender, the buffer 35 and all its connections back to
 75 and including shaft 40 move backward. This causes hooked arms 41 to release fender 53 and its front end drops, but the spring 46 brings the hooked arms 41 forward in position to hold the fender as soon as its front
 80 end is lifted up. This the motorman does by simply pulling up on the chain 49, moving 47 48 50 51, which presses down the back end of 53 and lifts the front end, when it is automatically locked and held. I have provided
 85 a means to carry the front fender upon the truck-frame to make it ride more steadily than when supported by the car-body and its attachments. The truck-frame 54 is extended beyond the axle-boxes 55, as seen at 56 57, and the fender-guide 5 is attached at 58. There
 90 it is not subjected to the up-and-down movement of the car-body 1 or its attachments, as affected by the riding-springs 59 60.

Reserving the right to such equivalent
 95 mechanism as will accomplish the results I have set forth, I claim—

1. In a street-car fender, a car-body and a platform, a single central pivot thereon, a
 100 fender-guide attached to the pivot, receiving and supporting a removable framework extending beyond the platform and upwardly in front of the dasher having a fender pendulously and tiltingly suspended therefrom, and locking mechanism on the fender-guide
 105 to secure the suspension-frame to the guide, or permit its removal, as desired, substantially as described.

2. In a street-car fender, a car-body and a platform, a central pivot thereon carrying a
 110 fender-guide whereto is removably locked a framework extending beyond the platform and upwardly in front of the dasher, from which is suspended a fender pendulously and tiltingly, means upon the fender-guide where-
 115 with it may be revolved upon the central pivot, and means to actuate the revolving mechanism and cause the fender-guide together with its attached suspension-frame and the fender to be radially moved from the central pivot
 120 to conform to the curvatures of the railway upon which the car is run, substantially as described.

3. In a street-car fender, a car-body and a platform, a central pivot thereon carrying a
 125 fender-guide whereto is removably secured a framework extending beyond the platform and upwardly in front of the dasher, from which is suspended a fender, pendulously and tiltingly, means upon the fender-guide where-
 130 with it may be revolved upon the central pivot, means to actuate the revolving mech-

anism, means to lock the actuating mechanism and a transverse support secured under the platform, to carry the supporting-frame additional to the central pivot and in either direct or oblique position, substantially as described.

4. In a street-car fender, a guide therefor centrally pivoted to the car or its platform, a suspension-frame removably attached thereto, extending in front of the platform, reaching upwardly in front of the dasher and pendulously suspending a tilting fender, mechanism whereby the fender may be moved radially from its central pivot, and so locked, a fender-frame and covering therefor, a plate thereon, a back fender tiltingly supported under the car, yielding means to secure it in normal position, and means therefrom to a yielding buffer-head abutting the plate upon the front fender, but not attached thereto, to enable the operation of the back fender from the front fender, substantially as described.

5. In a street-car fender, a guide therefor centrally pivoted to the car or platform, a suspension-frame removably attached thereto extending in front of the platform, reaching upwardly in front of the dasher and pendulously supporting a tilting fender, mechanism whereby the fender may be moved radially from its central pivot, and locked when so moved, a fender-frame and a cover therefor,

a plate thereon, a back fender tiltingly supported under the car, yielding mechanism to secure it in normal position, means therefrom to a yielding buffer-head abutting the front-fender plate, and a shaft and arms arranged under the car and platform, secured to the back fender and having means at its front end whereby the back fender may be elevated to its normal position and locked after it has been automatically dropped to operative position by the front fender, substantially as described.

6. In a street-car fender, a car-body, a supporting-truck, a guide for the fender secured to the truck-frame or an extension thereon and having a central pivot, a suspension-frame removably attached thereto extending in front of the platform, reaching upwardly in front of the dasher and pendulously supporting a tilting fender, mechanism whereby the fender may be moved radially from its central pivot, means to lock it when moved, and a carrier under the platform to assist the guide in carrying the frame and fender, substantially as described and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY WILSON.

Witnesses:

GEO. W. REED,
R. C. WRIGHT.