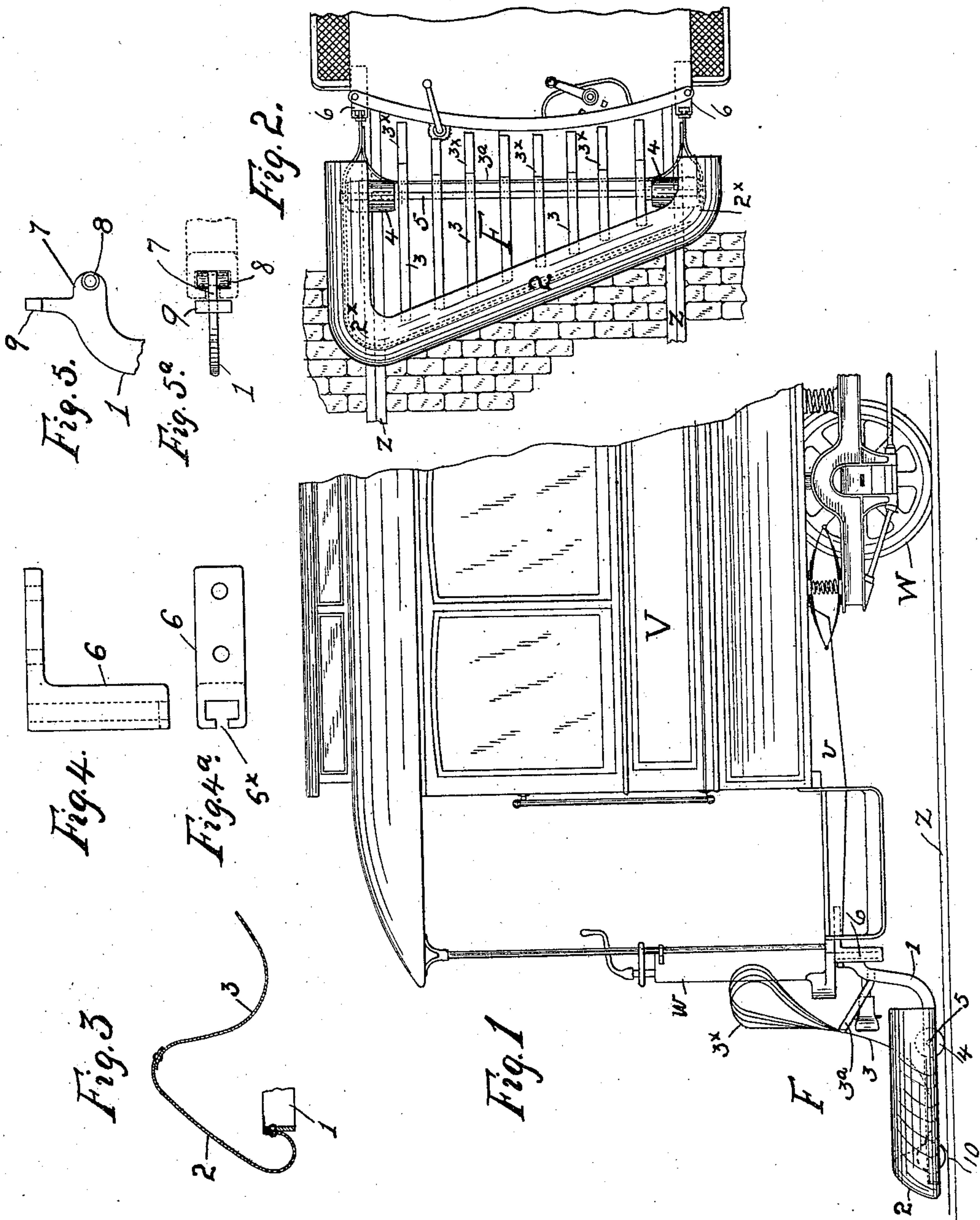


(No Model.)

W. H. RUSSELL & W. B. WIGG.  
CAR FENDER.

No. 575,010.

Patented Jan. 12, 1897.



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# UNITED STATES PATENT OFFICE.

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## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 575,010, dated January 12, 1897.

Application filed April 9, 1896. Serial No. 586,774. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM H. RUSSELL, residing at New City, Rockland county, and WILLIAM B. WIGG, residing at West New Brighton, Richmond county, New York, citizens of the United States, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

Our invention relates to removable fenders for cars; and the object is to provide an inexpensive, light, readily-removable fender adapted to push from the track at the left or curb side thereof a person who may have fallen on the track, and to trip and catch in a spring-cradle a person who may be standing on the track in front of the car.

An embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the front end of a car provided with our improved fender, the view showing the left-hand side of the car and fender. Fig. 2 is a plan of the front end of the car and the fender attached thereto. Fig. 3 is a cross-section, on a large scale, of the deflector or oblique front bar of the fender. Figs. 4 and 4<sup>a</sup> are respectively a side elevation and plan of the socketed coupling-bracket detached and on a large scale. Fig. 5 is a side elevation of the T-lug on the side bar of the fender-frame, which engages the socket in the coupling-bracket; and Fig. 5<sup>a</sup> is a plan of the same, the socket being indicated in dotted lines.

Let V represent the car-body; W, a wheel of the car; v, the frame of the car-floor, and w the dashboard. These may all be constructed and arranged as in an ordinary car.

F represents as a whole our removable fender, the details or parts of which we have designated by reference-numerals.

1 is the frame of the fender, which may be a flat bar of metal bent to the proper shape. Fixed to this frame at its lower edge is a front deflector or front bar 2, which may be of sheet metal, as galvanized iron, for example. Fig. 3 shows the preferred cross-section of this deflector, and Fig. 2 shows the deflector in plan. It will be seen from this plan view that the transverse portion of this deflector 2 extends obliquely over or across the track-rails z, and

that the end of the fender at the right-hand side projects out farthest in front of the car, whereby if the fender strikes a person who has fallen on the track in front of the car the person will be pushed off the track to the left or toward the curb and not onto the other track at the right, as in streets where there is a double track. Where there is a single track in the street or road, the direction in which the person is deflected will be less important. At its ends the plate 2 is curved backward toward the car, as seen at 2<sup>x</sup> in Fig. 2, so as to form rounded corners, which extend laterally beyond the respective tracks. It is desirable, however, that the part of the deflecting-plate which extends from one track-rail z to the other shall be straight and oblique to the line of the track, the obliquity being by preference about that shown in Fig. 2.

Within the U-shaped frame of the fender described is a spring-cradle formed of thin spring-strips 3, preferably of steel, placed side by side, these strips being secured at their front ends to the deflecting-plate 2, bent down to form the concave cradle and thence bent upward at their rear ends. These strips 3 have their rear ends bent to form loops 3<sup>x</sup>, and they are secured to a spring cross-strip 3<sup>a</sup>, the ends of which are curved and secured to the side bars of the frame 1. When the fender is in place on the car, the loops 3<sup>x</sup> stand just in front of the dashboard or buffer of the car and serve to cushion the body of a person, if thrown against them when the person is tripped and falls in the cradle.

It will be noted that the strips 3 and cross-strip 3<sup>a</sup> are secured only to the fender and not to the car-body or to any part thereof.

The fender is provided with wheels or rollers 4, which turn on a fixed tie-bar 5, extending across the frame 1, said rollers resting on the track-rails. These rollers support the fender and keep the deflecting-bar 2 at a constant distance above the track-rails, say about two inches, or even less.

The fender is connected detachably to the car-body, so that it can be readily removed and also shifted to the other end of the car. The coupling devices are shown in detail in Figs. 4 to 5<sup>a</sup>.

To the frame of the car-floor are secured, one at each side of the car, like slotted coup-



ling-brackets 6. This bracket has a socket open at its top and provided with a slot 6<sup>x</sup> at its front side or face. On the upwardly-turned rear end of the side bar of the frame 1 is formed a T-lug 7, which plays loosely and freely in the slot 6<sup>x</sup> in the bracket and bears two laterally-projecting roller-studs 8, which engage the socket. This coupling enables the car-body to vibrate up and down on its springs without raising and lowering the fender, and it permits the fender to be lifted off from the car by the raising of the T-lug 7 out of the socket. A shoulder 9 on the lug 7 prevents the front end of the fender from being lifted up by turning about the stud-rollers 8 as a hinge, as in that case the shoulder 9 will impinge on the face of the slotted bracket. Normally, however, the shoulder 9 will not touch the face of the bracket.

In Fig. 1 the car-body is represented as depressed to nearly its full extent and the T-lug near the top of the bracket, but normally the T-lug will occupy a lower position in the bracket, which will of course be made of such length as to permit the car-body to vibrate without disengagement.

The supporting-rollers 4 might be one roller extending the entire width of the fender. We employ two for the sake of lightness. There may be a third roller 10 under the projecting right-hand side of the fender, as shown, to provide a better support for the latter.

With our fender it is practically impossible for the person struck by the car to get under the wheels of the car or to be pushed along the track by the fender, as is liable to occur where the fender-bar which strikes the body extends at right angles to the rails or is V-shaped.

The front face of the front bar or deflector 2 is inclined, as seen in Fig. 3, so that its projecting lower edge will strike a person on the track low down and topple him over into the cradle. The car may, of course, have socket-brackets 6 at both ends.

As the front bar 2 is fixed at its lower edge, Fig. 3, to the frame 1 and is of sheet metal its upper rearwardly-sloping part, to which the strips 3 are secured, is yielding and spring like and does not offer a rigid resistance to a body struck by the fender. The curved ends 2<sup>x</sup> serve to fend off a person standing on or just outside of the track-rail.

We have shown suitable accommodation couplings for connecting the fender to the car-body, so as to permit the latter to play up and down without carrying the fender up and down with it; but we do not limit ourselves to the specific construction of this coupling, as shown. We have also shown but one pair of rollers under the fender, but there may be more pairs of rollers. This is a matter within the skill of any good workman. For example, there may be a roller 10, as seen in Fig. 1, under the projecting part at the right-hand side of the fender.

Having thus described our invention, we claim—

1. The combination with a car of a fender provided with rollers or wheels to rest on the track and support the fender, accommodation couplings connecting the fender removably to the car-body and adapted to permit the body to move up and down on its springs without disturbing the fender, and means substantially as described at said coupling for preventing the front end of the fender from being lifted or tilted up by the turning of the fender about its rear edge, substantially as set forth.

2. A fender for a car having a frame, a front bar 2, secured to the said frame at its lower edge, inclined back at its upper edge, rounded at its ends 2<sup>x</sup>, which extend laterally beyond the track-rails and having straight end portions which extend back substantially parallel as shown, said front bar being oblique to the track-rails, and a concave spring-cradle mounted on said frame and front bar, as set forth.

3. The combination with a car, and a fender therefor, of the open-topped, slotted coupling-brackets, 6, mounted on the car-body, one at each side, and the T-lugs 7, on the respective side frames of the fender, said lugs having each two studs 8, engaging the respective sockets of the brackets 6, and a shoulder 9, adapted to take against the face of the bracket and prevent the fender from being tilted up at its front edge, as set forth.

4. A fender for a car having a frame 1, and front bar 2, formed of thin sheet metal secured to the frame at its lower edge, inclined back at its upper edge, and rounded at its ends 2<sup>x</sup> which project beyond the track-rails, said front bar being oblique to the track-rails, substantially as set forth.

5. A removable fender for a car having an obliquely-arranged front bar 2 and a cradle formed of spring-strips 3, attached at their front ends to said bar and bent to substantially the form shown, the ends of said strips extending upward at the rear and connected by a spring-cushion strip 3<sup>a</sup>, substantially as set forth.

6. A removable fender comprising a frame, a front bar 2, and a cradle formed of the spring-strips 3 and spring-cushion strip 3<sup>a</sup>, said strips 3 being secured to the front bar at one end, curved downwardly back of said bar, curved upwardly at their rear ends, connected by the strip 3<sup>a</sup>, and having spring-loops 3<sup>x</sup>, formed in their upright rear ends, substantially as set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

WILLIAM H. RUSSELL.  
WILLIAM B. WIGG.

Witnesses:

HENRY CONNETT,  
JAS. KING DUFFY.