

941,984.

G. J. FLEISSNER.
STREET CAR FENDER.
APPLICATION FILED JULY 7, 1909.

Patented Nov. 30, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

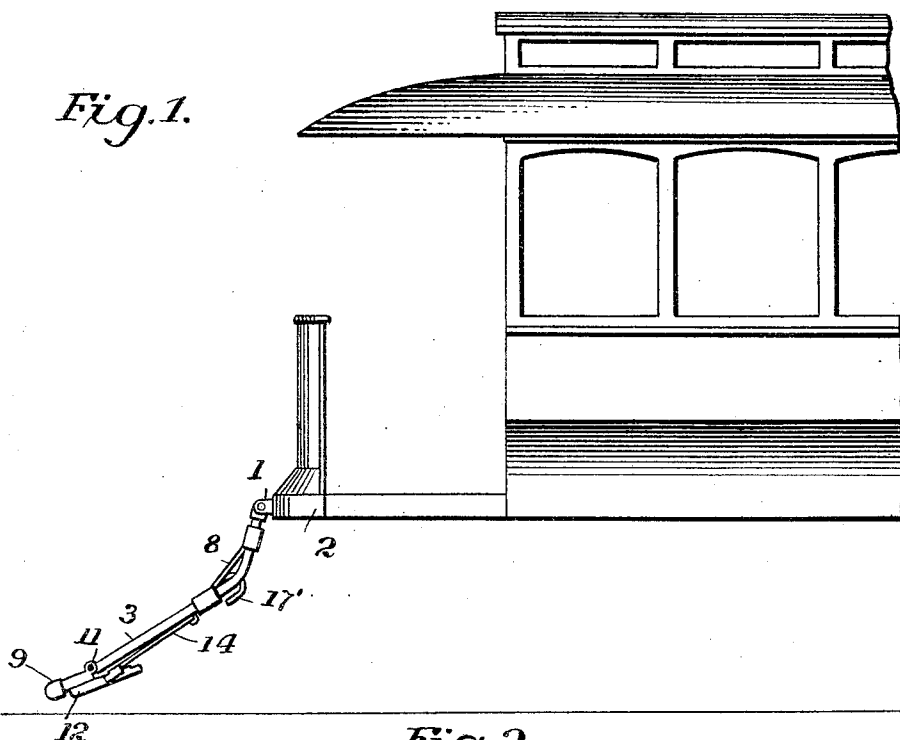
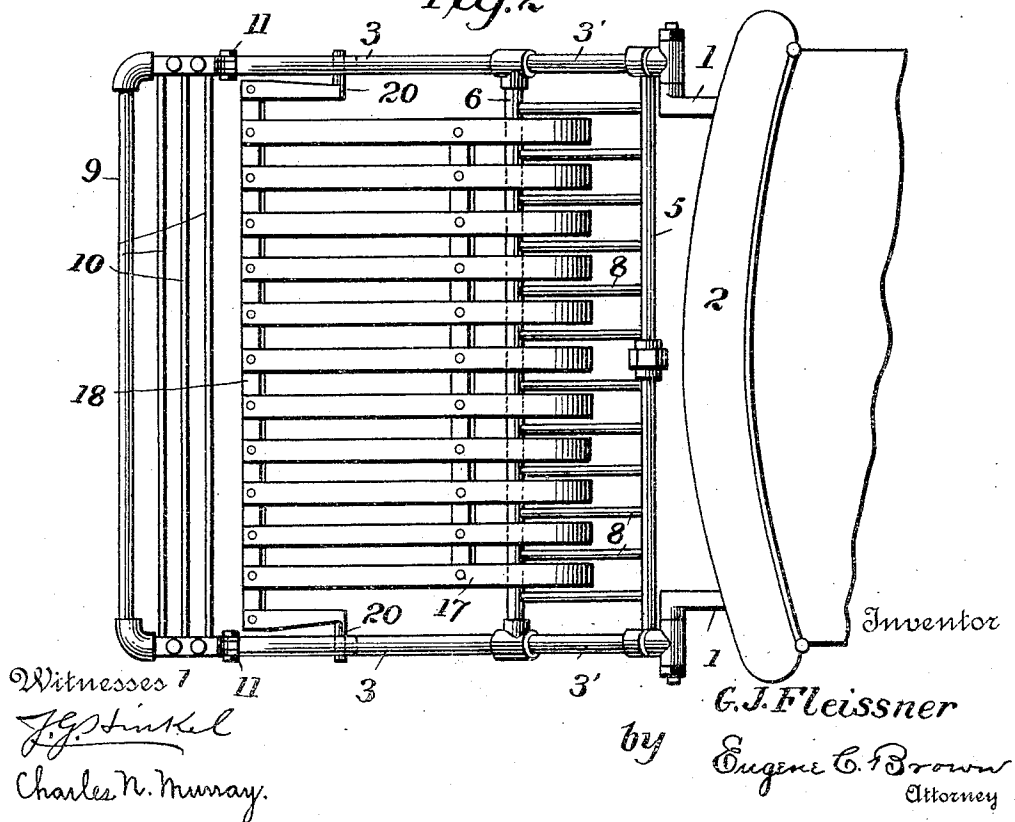


Fig. 2.



941,984.

Patented Nov. 30, 1909.
2 SHEETS—SHEET 2.

Fig. 3.

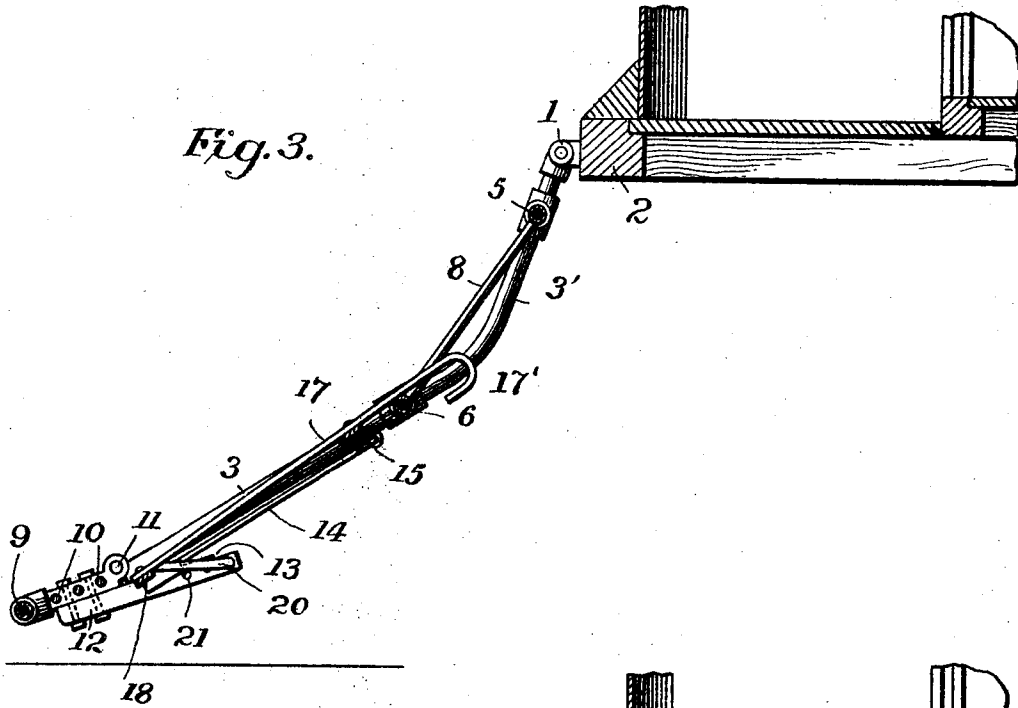


Fig. 4.

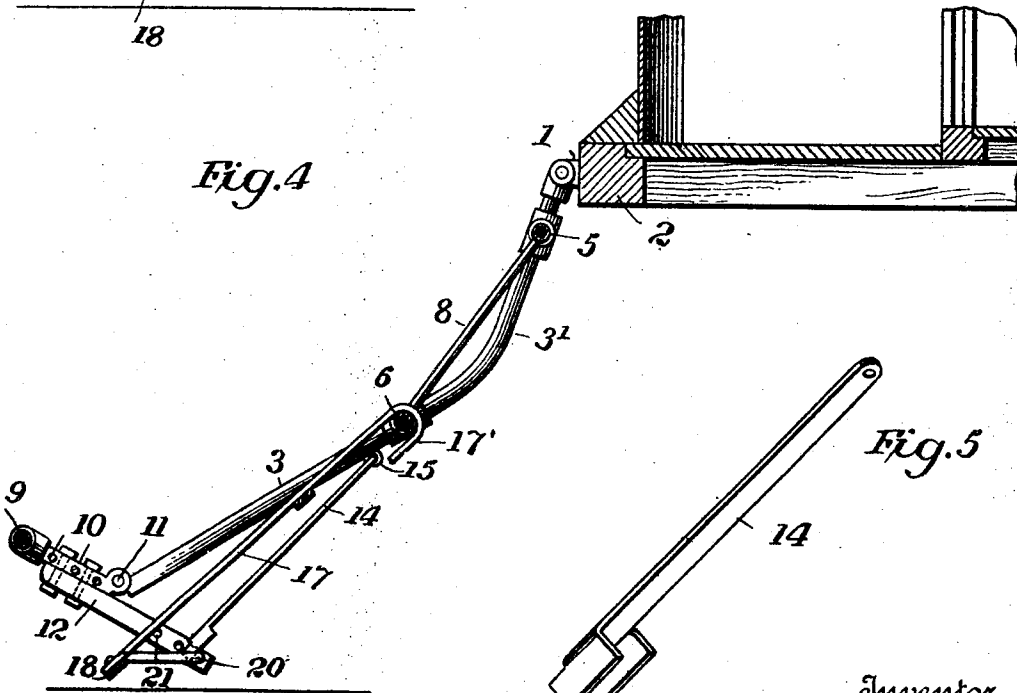
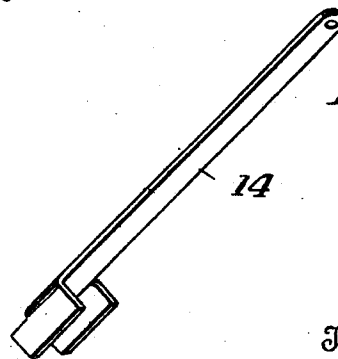


Fig. 5.



Witnesses
J. E. Stuekel
Charles H. Murray

Inventor
G. J. Fleissner
by *Eugen C. Brown*
Attorney

UNITED STATES PATENT OFFICE.

GEORGE J. FLEISSNER, OF WASHINGTON, PENNSYLVANIA.

STREET-CAR FENDER.

941,984.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed July 7, 1909. Serial No. 506,313.

To all whom it may concern:

Be it known that I, GEORGE J. FLEISSNER, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Street-Car Fenders, of which the following is a specification.

My invention relates to fenders for street-cars which are adapted to catch and hold a person struck thereby, and the object of my invention is to construct a fender that will automatically assume such a position that the person will be prevented from rolling or slipping off.

In the prior devices in this art with which I am familiar in which the parts change their relation when a person is struck, it has been necessary to rely upon springs to hold the parts of the fender in normal position, the springs yielding to the weight of the body falling thereon. There are great objections to the use of spring-controlled parts in a street-car fender, not only by reason of the deterioration of the springs but more especially because the parts so held are caused to vibrate more or less violently due to the motion of the car caused by any slight unevenness in the track. Moreover, it is important that the fender should be maintained in positive fixed relation to the car and not be subject to variations in elevation from the track, in order that it may be reliable in action.

My present invention provides a structure in which the parts are firmly held with relation to each other when placed in normal position, unaffected by the vibration of the car, and which can only be changed by a weight or pressure upon the central or main portion of the fender, being automatically shifted into a retaining position by the weight of the person caught therein.

My invention will be more readily understood from the following description, in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of the fender shown in connection with the forward end of a street-car; Fig. 2 is a top plan view of the same; Fig. 3 is a side elevation, partly in section, to show the manner in which the parts of the fender are maintained in normal position; Fig. 4 is a side elevation, showing the position which it automatically

assumes after a person has been caught thereon; and Fig. 5 is an enlarged perspective view of one of the locking bars.

The fender is supported upon the forward end of the car and may be bolted to brackets 1, secured to the sill or floor frame 2, of the car platform. The side-bars or stays 3 of the fender frame are preferably curved in the upper portion as at 3', and are connected by cross-bars 5, 6, united by longitudinal brace-rods 8, forming a very strong and rigid framework.

A guard- or fending-frame 9, having cross-rods 10, constituting the striking member, is pivotally secured at 11, 11, to the lower ends of the side-bars 3, and is provided with extension rods 12, bolted thereto so as to form a part of the frame, and notched at 13, to receive the ends of the locking bars 14, which are pivoted at 15 to the side-bars.

The central part of the fender is occupied by a tripping carrier-frame 17, forming the fender-back, and comprising longitudinal strips or plates riveted or otherwise secured at their lower ends to a tie-rod 18, having at either end angular pivot bars or pintles 20, which have bearings in a pair of holes 21 in the opposite bars 12. The lower end of the carrier-frame 17 is thus adapted to move or rock inwardly, swinging the guard-frame 9 upwardly into the position shown in Fig. 4, as hereinafter described.

Normally, the weight of the guard- or fending-frame tends to swing downwardly about the pivots 11, and maintains the parts of the fender in the position shown in Figs. 1 and 3, the upper part of the carrier-frame 17 being slidably supported upon the cross-bar 6, with the hooked ends 17' of the plates or strips projecting above several inches. When, however, a pressure is brought upon the lower part of the carrier-frame, it is transmitted through the pintles 20 to the inner ends of the rods 12 of the guard-frame, overbalancing the weight of the guard-frame upon the other side of the pivots 11, and swinging the parts of the fender into the position shown in Fig. 4, with the guard-frame turned upwardly at an angle and the lower end of the carrier-frame swung inwardly, the upper end sliding downwardly until the hooked ends 17' of the strips engage the cross-bar 6. In this position, the

guard-frame and carrier-frame thus, in effect, form a cradle or receptacle, and the weight of any body therein would maintain the parts in this position. I have, however, 5 provided a locking-bar 14, pivoted at 15, which slides upon the bar 12 and when the parts have been moved into the position shown in Fig. 4, engages a notch 13 in said bar, and positively holds the parts and prevents a return to the normal position, thus 10 acting as a safety lock.

The operation of my fender will be understood from the foregoing description. Normally the parts are brought to the position 15 shown in Figs. 1 and 3, and are maintained therein by the greater weight of the overhanging guard-frame forward of its pivots. When a person is struck, the parts will remain in this position until the body of the 20 person encountered has been thrown or rolled back by the momentum of the car upon the inclined frame 17, the lower part of which immediately yields rearwardly, the upper end sliding upon the cross-bar 6 until the 25 hooks are engaged therewith, the guard-frame 9 being rotated upon its pivots 11, until it inclines upwardly as shown. The guard-frame thus prevents the body from sliding down upon the track or being thrown 30 thereon by the rebound, while the side-bars 3, now occupy the position of arms or guard-rails upon either side.

The operation above described is of great importance and insures reliability of action 35 and safety to the person encountered. A downward pressure upon the guard-frame 9, cannot displace or alter the position of the parts from the normal arrangement, which can only be changed and shifted into the retaining or rescue position shown in Fig. 4 by 40 the weight of the person bearing against the fender-back or carrier-frame. The simultaneous movement of the carrier-frame rearwardly and the guard-frame upwardly renders the fender self-convertible into a 45 receptacle or cradle to receive and hold a person who may be struck by the fender and cast thereon, the idea being to mechanically confine the person on the fender and prevent him from being thrown forward by a 50 rebound or by slipping, with the attendant danger of being then crushed and ground under the car.

The leverage of the carrier-frame upon 55 the arms or rods 12, and the inclination which the guard-frame will assume when moved upwardly into the "retaining" position, may be varied by placing the pivots 20 into a different pair of holes 21 in the rods.

60 The advantages of the construction of my safety fender above described will be appreciated by those skilled in the art, to whom it will be apparent that changes may be made therein without departing from the 65 spirit of my invention.

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

1. A car fender comprising a main frame adapted to be secured to the front of a car, 70 a guard-frame pivotally secured thereto, and a rocking carrier-frame pivoted to said guard-frame by means of angular pivot-bars and maintained in normal position by the weight of the guard-frame. 75

2. A car fender comprising a main frame adapted to be secured to the front of a car, a guard-frame pivotally secured thereto, a 80 rocking carrier-frame having at its lower end rearwardly projecting bars pivotally connected with said guard-frame and being yieldingly maintained in normal position by the weight of the guard-frame, and means 85 upon the upper end of the carrier-frame for engaging a portion of the main frame when the parts have been moved into the "retaining" position.

3. A car fender comprising a main frame adapted to be secured to the front of a car, a guard-frame pivoted thereto, a carrier- 90 frame having at its lower end angular bars pivotally connected to said guard-frame, and means for maintaining the parts of the fender in normal position when pressure is exerted upon the guard-frame but permit- 95 ting the parts to assume the "retaining" position when pressure is exerted upon the carrier-frame.

4. A car fender comprising a main frame adapted to be secured to the front of a car, 100 a guard-frame pivoted thereto, a carrier-frame having connected at its lower end rearwardly projecting bars pivotally connected with the guard-frame and supported at its upper end upon the main frame, means 105 for maintaining the parts of the fender normally in fixed relation and upon pressure exerted upon the guard-frame, but permitting the lower end of the carrier-frame to move downwardly and rearwardly when 110 pressure is exerted thereon.

5. A car fender comprising a main frame, a guard- or fending-frame, a carrier-frame, rearwardly projecting pintle bars connect- 115 ing said fending-frame and said carrier-frame to cause the upward movement of the former upon the downward movement of the latter, and a locking device to retain the parts in the latter position.

6. A car fender comprising a main frame, 120 a guard- or fending-frame, a carrier-frame, means connecting said fending-frame and said carrier-frame to cause the upward movement of the former upon the downward movement of the latter, and means for 125 adjusting the relative amount of said movements.

7. A car fender comprising a main frame adapted to be secured to the front of a car, 130 a guard- or fending-frame pivoted to the

lower end thereof and having extension bars projecting in the rear of the pivots, and a rocking carrier-frame pivoted to said extension bars and arranged when pressure is exerted thereon to swing the guard-frame upwardly upon its pivots.

8. A car fender comprising a main frame adapted to be secured to the front of a car, a guard- or fending-frame pivoted to the lower end thereof and having extension bars projecting in the rear of the pivots, a rocking carrier-frame pivoted to said extension bars and arranged when pressure is exerted thereon to swing the guard-frame upwardly upon its pivots, and locking bars adapted to engage said extension bars.

9. A car fender comprising a main frame adapted to be secured to the front of a car and having side-bars and a cross-bar, a

guard-frame pivoted to the lower ends of the side-bars, a carrier-frame pivotally connected at its lower end to the guard-frame at the rear of its pivots and having a hooked upper end slidably supported upon and projecting beyond said cross-bar, whereby when pressure is exerted upon the carrier-frame the lower end will rock inwardly, causing the guard-frame to incline upwardly, and the upper hooked end of the carrier-frame to slide into engagement with said cross-bar.

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

GEORGE J. FLEISSNER.

Witnesses:

MINNIE A. LEONARD,
B. M. PAXTON.