(No Model.) 2 Sheets—Sheet 1.

R. F. PREUSSER.

CAR FENDER.

No. 534,617. Patented Feb. 19, 1895.

Fig. 1

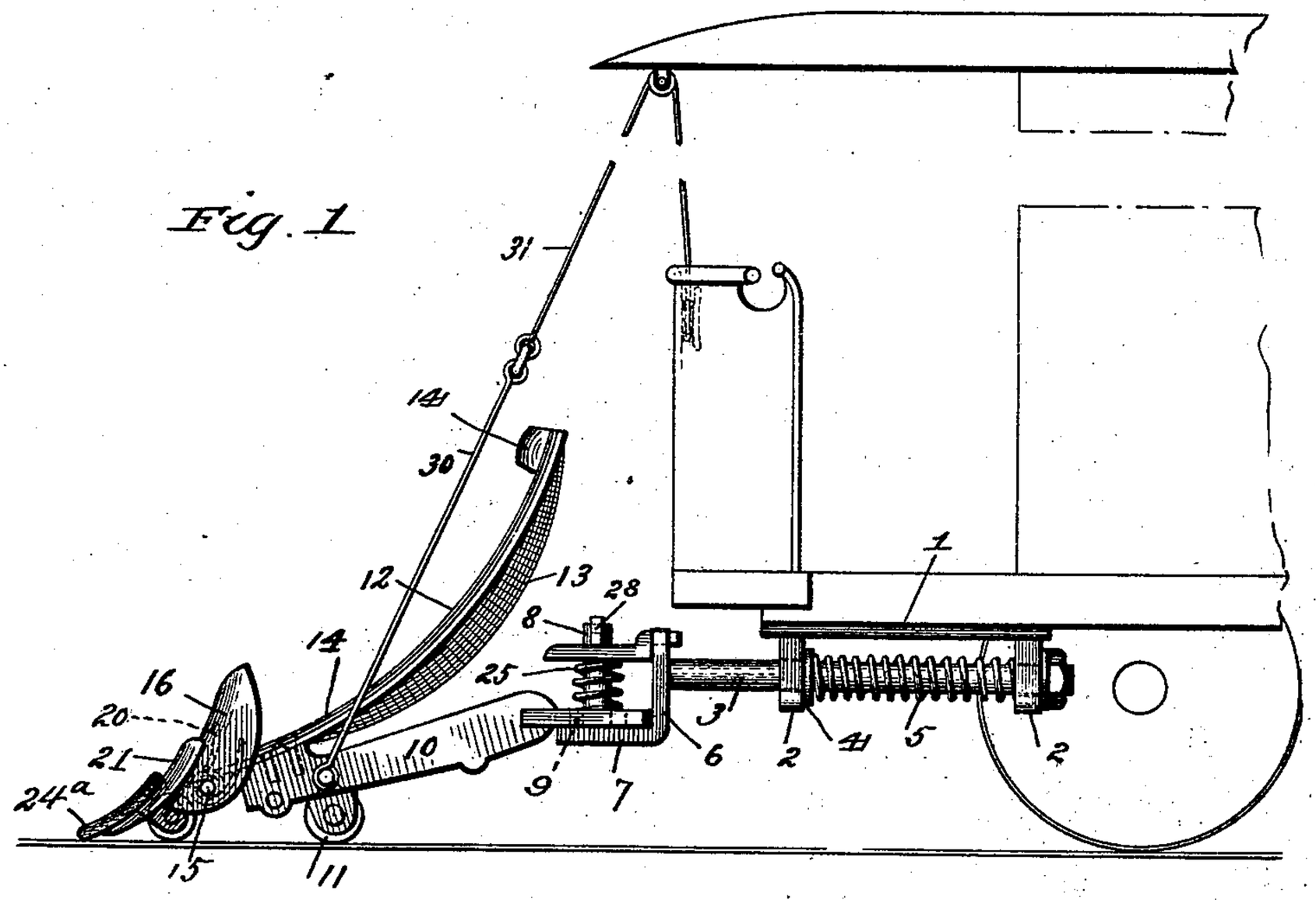
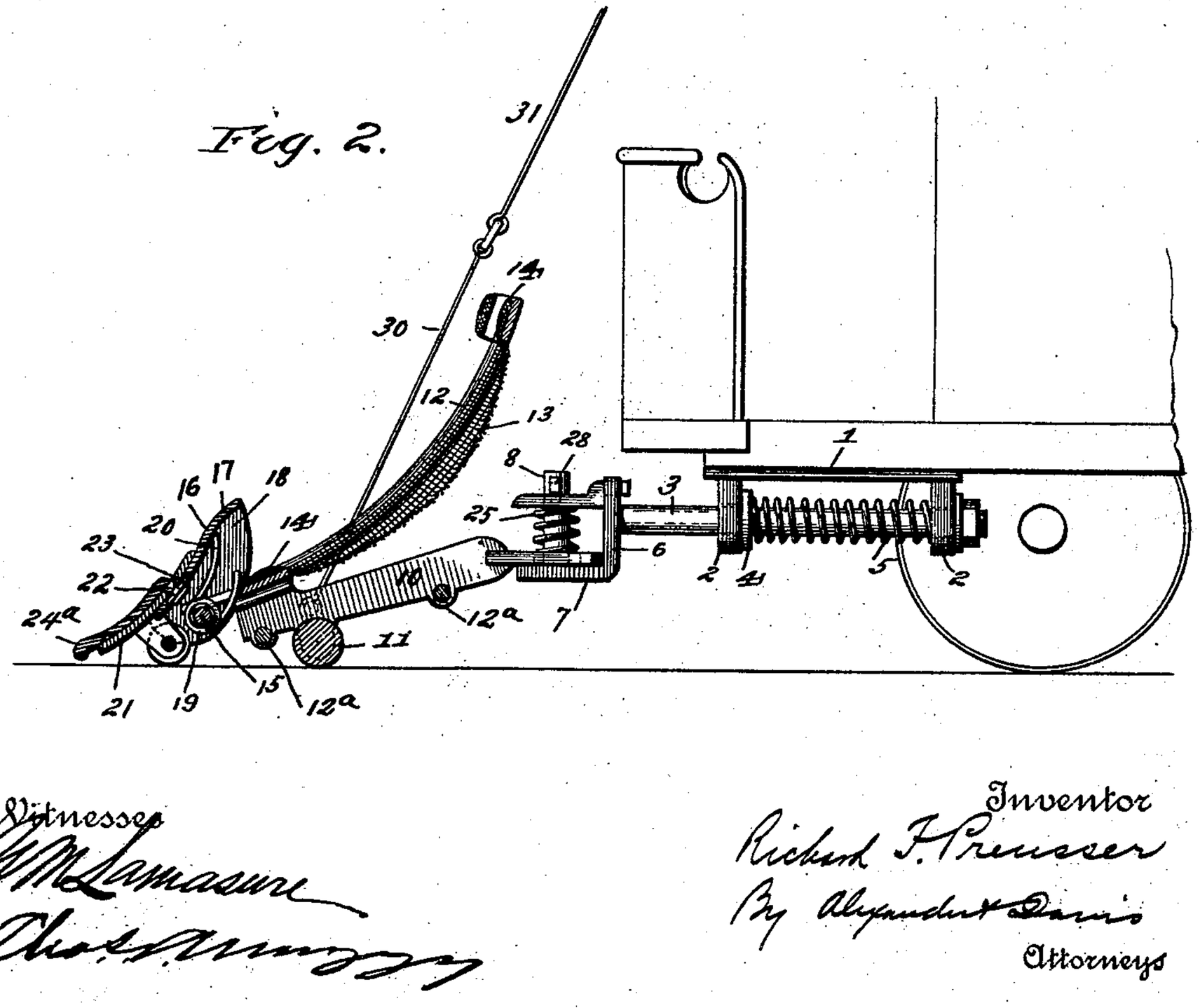


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

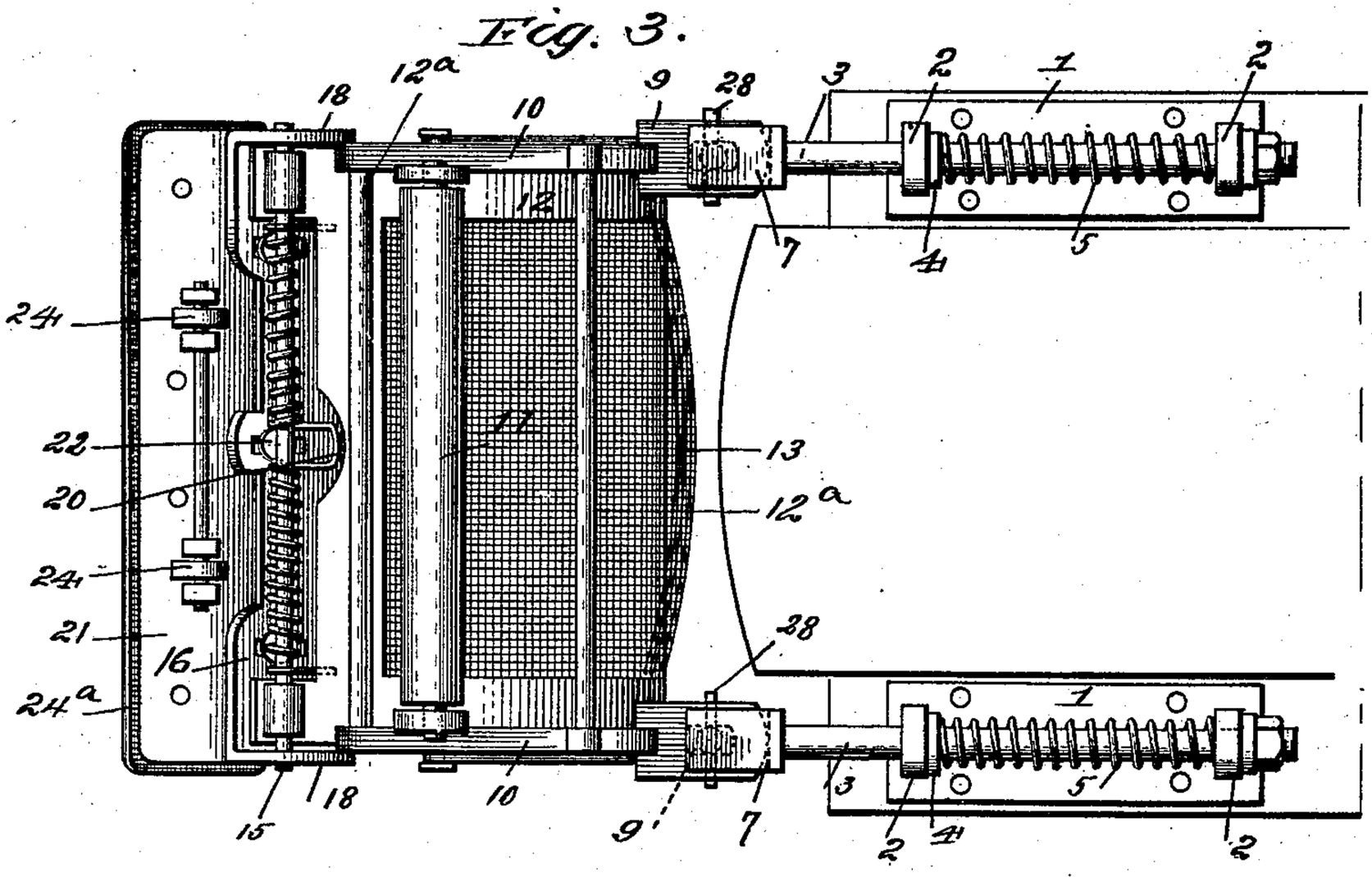


Fig. 4.

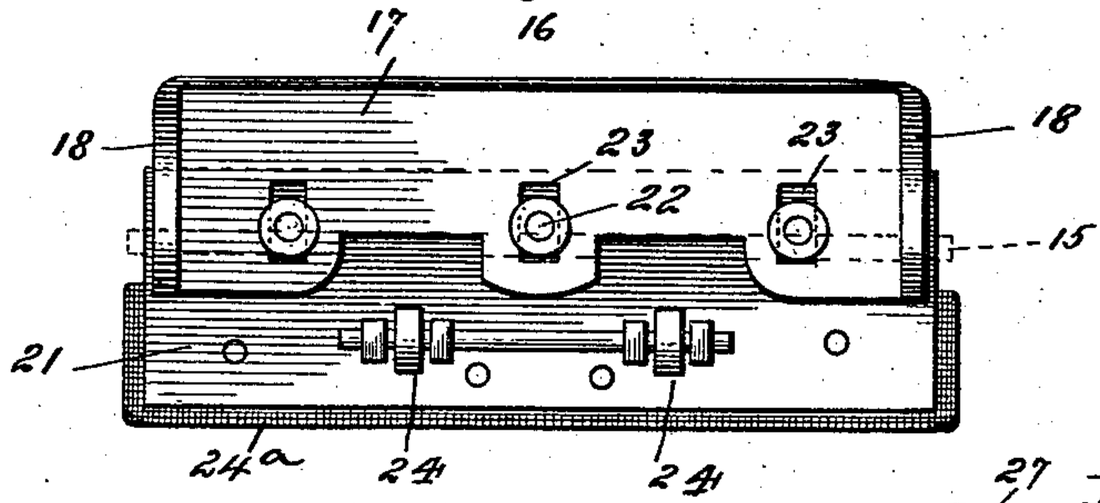


Fig. 5.

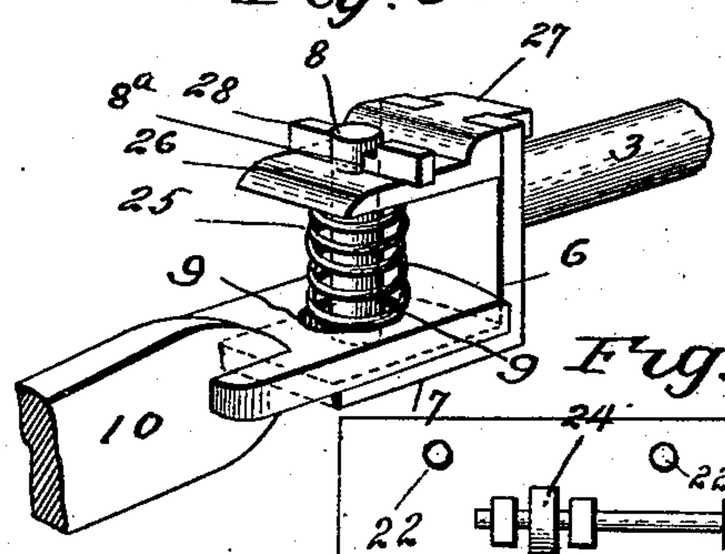


Fig. 6.

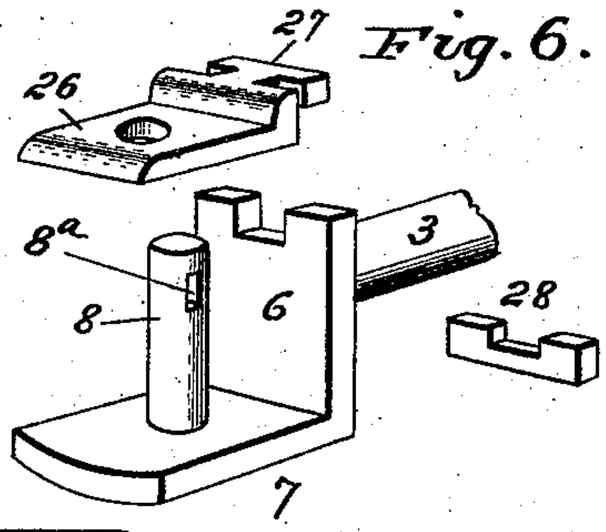
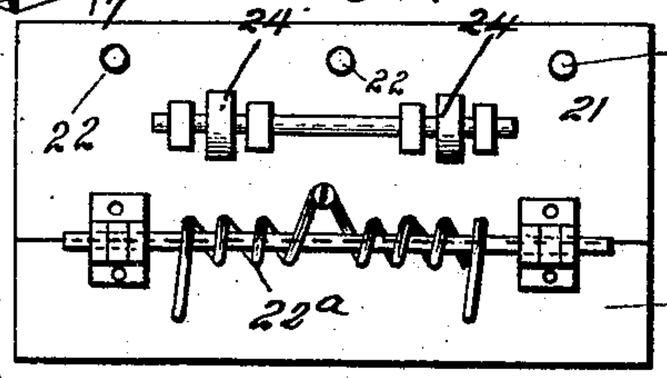


Fig. 7.



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UNITED STATES PATENT OFFICE.

RICHARD F. PREUSSER, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 534,617, dated February 19, 1895.

Application filed November 7, 1894. Serial No. 528,160. (No model.)

To all whom it may concern:

Be it known that I, RICHARD F. PREUSSER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Street-Car Fenders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates particularly to that class of car fenders which consists of a frame extended forwardly from the end of the car, its forward end being supported on rollers which travel on the track bed, said frame carrying the buffer or shoe and the catching-cradle.

The invention has for its object to provide a device which may be raised or lowered from the front platform and which will yield and move inwardly toward the car when it strikes an object, a spring-controlled pivoted buffer or shoe being secured to the front end of the frame to strike the object first, said buffer being adapted to turn on its pivots and aid in throwing the object struck into the net or cradle if said object is not pushed off the track.

Another object of the invention is to provide means for detachably securing the fender to the car.

The invention consists in the novel combination and arrangement of parts which will be fully hereinafter described and particularly set forth in the claims appended.

In the drawings:—Figure 1 is a side view of the fender attached to a car; Fig. 2, a sectional view thereof; Fig. 3, a bottom view thereof; Fig. 4, a detail bottom view of the pivoted buffer detached; Fig. 5, a detail perspective view of the means for detachably securing the fender to the car; Fig. 6, a detail view of these parts separated; and Fig. 7 a detail of a modification of the buffer or shoe.

Referring to the various parts by numerals, 1, 1, designate plates which are secured to the under side of the car on each side thereof and are each provided with depending lugs 2, 2. Each set of lugs is apertured for the passage of a longitudinal bar 3, which is formed with a collar 4 near the forward lug 2, a coil spring 5, being confined between the collar and the rear lug, said spring forcing the bar 3 normally forward. These bars extend forward of the front lugs a suitable distance and are each provided at its forward end with a bracket, which consists of a vertical plate 6, and a forwardly-extending horizontal plate 7 connected to the plate 6 at its lower end. Extending upwardly from each of these plates 7 is a vertical pin 8, which is slotted horizontally near its upper end, at 8^a. Fitting loosely on these pins by means of the slots 9, are the inner, flattened ends of the side-bars 10 of the cradle-supporting frame. These bars extend forwardly and downwardly and are connected by suitable cross-bars 12^a, the frame so formed being supported by a suitable roller 11 carried by the forward end of the frame, said roller being mounted in bearings on the bars 10, and resting on the track bed, as shown.

Secured to the upper side of the cradle-carrying frame, at the forward end thereof, is the lower, forward end of the rectangular, spring cradle 12, which consists of side bars and end bars of spring-metal connected together in any suitable manner, the space between these bars being covered by a strong net 13. These bars are covered on their upper sides by a strip of rubber 14, which forms a cushion. The side bars of the frame 12 curve from their point of attachment to the bars 10 upwardly and rearwardly, as shown, and form with the net a yielding or resilient cradle in which any object caught will be received without injury.

A bar 15 is mounted in bearings secured to the under side of the cradle frame at its forward end, and the ends of this bar 15 extend beyond the sides of the cradle and its supporting frame and a buffer or shoe 16 is pivoted thereon. This buffer is formed with the slightly concaved face 17, and the rearwardly-bent ends 18 through which latter, near their lower ends, the rod 15 extends. The upper edge of this buffer is pressed forward and normally held in its raised position, as shown, by a coil-spring 19 which surrounds the rod 15, its free ends bearing against the cross bar of the spring-cradle. A loop 20, formed in this spring at its middle, bears on the under side of the shoe 16 near the upper edge thereof and forces said upper edge outwardly.

Slidably mounted on the face of the buffer 16 and extending beyond its lower edge is a supplemental buffer or shoe 21, which is movably connected to said buffer by a series of bolts 22 passing through it and through a series of slots 23 formed in the face plate of the buffer 16, as shown in Fig. 4. This supplemental buffer is provided on its under side with suitable rollers 24 which bear on the road bed when in operative position and aid in supporting said buffer. A rubber cushion 24^a is secured to the face of this supplemental buffer, as shown, and extends slightly below its lower end to prevent the end of said buffer coming into contact with the object on the track.

In Fig. 7 of the drawings is shown a modified form of the supplemental buffer. This form is constructed of two sections 21, 21^a, hinged together as shown, a spring 22^a serving to hold the outer section in its upper or normal position and the inner section being gravitatingly attached to the buffer by means of slots and bolts as in the other views. The object of this latter construction is, that if an object is struck while the cradle frame is raised, by means hereinafter described, the forward hinged portion of the supplemental buffer will be turned down to the road-bed against the tension of the spring 22^a and will prevent the object passing under the car, and also break the force of the blow.

To secure the cradle carrying frame removably on the pins 8, coil springs 25 are placed over said pins, their lower ends bearing on the upper sides of the flat portions of bars 10 and holding said ends normally against the plates 7. To cause these springs to bear against the bars 10, plates 26 provided with perforations for the passage of pins 8, and formed with T-heads 27 are secured in place on the pins 8 by means of keys 28 which are passed through the slots 8^a above the plates 26. The necks of the T-heads 27 fit in notches formed in the upper edges of plates 6 carried by the bars 3, and hold plates 26 in position on pins 8. When it is desired to remove the cradle-carrying frame from the car it is necessary to remove keys 28, plates 26 and springs 25 from pins 8. The frame may then be removed from the pins, and if desired placed upon corresponding pins at the opposite end of the car. A set of plates 1 and bars 3 and their springs are secured to each end of the car in order that the fender may be secured to either end of the car as desired.

To raise the fender from the ground when it is not in use, a bail 30 is secured at its lower end to the frame-bars 10 near their forward ends. A chain or rope 31 is secured to the center of the upper bar of this bail and is passed over a pulley secured to the car roof and then secured to the car in any suitable manner, in a position to be grasped by the operator.

The object of the gravitating portion 21 of the buffer 16 is that it enables the forward end of the frame to be held slightly raised as said slidable portion of the buffer will remain resting on the road-bed and adjust itself to the contour thereof, thereby not only making the face of the buffer broader but also insuring the picking up of any body that may be upon the road-bed.

It will be observed that by pivotally mounting the fender on the pins 8 and supporting said pins on the forward ends of the spring-pressed bars 3, it will have not only straight or direct rearward motion but will also be capable of a pivotal or swinging motion toward either side, the pins 8 forming pivots on which the fender may turn. The advantage of this is that if a body be struck by one corner of the buffer the fender will have a tendency to throw the object off the track, (and that without serious injury,) by swinging around on the pin 8 on the opposite side of the frame and at the same time moving inwardly at the point of impact.

The slots 9 in the bars 10 permit of a slight vertical movement of the outer end of the fender and enable the same to be tilted or raised by the operator, or by the force of the contact of a body if it strikes the rear portion of the cradle, the resiliency of the springs 25 (together with the elasticity inherent in the spring cradle 12) serving to prevent serious injury.

By pivoting the buffer 16 as described it will be turned down on its pivots by contact with an object, and will thereby not only aid in throwing said object off the track but will cushion the blow and prevent injury.

It will be observed that the rear ends of the frame bars 10 bear against the brackets carried by the spring pressed bars so that no strain comes upon the vertical pins carried by the brackets, these pins serving to hold the arms 10 from slipping off the brackets and also to hold the springs 25 in place.

Having thus fully described my invention, what I claim is—

1. A car fender, consisting of a forwardly-extending frame carried by the car, a cradle carried by said frame, said cradle consisting of a frame formed of spring-steel bars, the side bars thereof being extended upwardly and rearwardly and secured rigidly at the forward ends to the frame carried by the car, and a net secured between said bars, substantially as described.

2. The combination of a car, longitudinally movable supports at the sides of the car, springs normally pressing said supports forward, a fender pivotally mounted on said supports at each side of the car and having a bodily rearward movement and at the same time a pivotal or oscillating motion toward either side, as and for the purposes set forth.

3. The combination of a car, of a fender consisting of longitudinally- and independently-movable supports at the sides of the car springs normally pressing said supports forward, a cradle carrying frame projecting for-

ward, and means connecting the cradle carrying arms to the spring-actuated supports, said arms having a vertical pivotal movement and a horizontal pivotal movement with respect to the spring actuated supports, substantially as described.

4. The combination of a car fender, a buffing plate 16 pivoted on the forward end of the fender and extending across the same, and means for normally pressing the upper edge of said buffing plate upward and forward away from the fender, substantially as described.

5. A car fender comprising a frame, a cradle, a buffer pivoted on the forward end of said frame and extending thereacross, and a supplemental buffer gravitatingly mounted thereon, as and for the purposes set forth.

6. In a car fender, the combination of a car, a pivoted frame projecting forwardly from the car and carrying a roller adapted to rest upon the road bed, and a gravitating supplemental buffer carried at the forward end of said frame and provided with a roller or rollers adapted to rest upon the road bed, substantially as described.

7. A car fender comprising a frame, a cradle, a buffer pivoted on the forward end of said frame and extending thereacross, and a supplemental buffer slidably mounted on said buffer and carrying rollers adapted to rest upon the road bed, substantially as described.

8. The combination of a car, a bar mounted thereon at each side and means for normally pressing it forward, said bars carrying brackets, a car fender having the rear ends of its main bars pivoted to said brackets, springs normally pressing the rear ends of the frame bars down, and means for locking said springs in place, substantially as described.

9. A car fender comprising a frame, a cradle supported by said frame, means for removably and pivotally securing said frame to the car, said means consisting of the pivots 8, which the rear ends of the frame bars loosely engage, means for supporting said pivots, springs 25, plates 26 and removable keys 28, substantially as described.

10. The combination of a car, plates 1 secured thereto, bars 3 supported by said plates, springs normally forcing said bars forward, pivot pins carried by said bars, a frame loosely pivoted at its rear end on said pins, a cradle carried by said frame, substantially as described and for the purpose set forth.

11. In a car fender the combination of a frame projecting forwardly from the car, a spring pressed buffing plate 16 extending across the frame at its front end, a gravitating supplemental buffer carried by said buffing plate and carrying rollers resting on the road bed, and a spring-actuated plate 21^a hinged to the front edge of said supplemental buffer, substantially as described.

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

RICHARD F. PREUSSER.

Witnesses:
CHARLES D. DAVIS,
WM. R. DAVIS.