

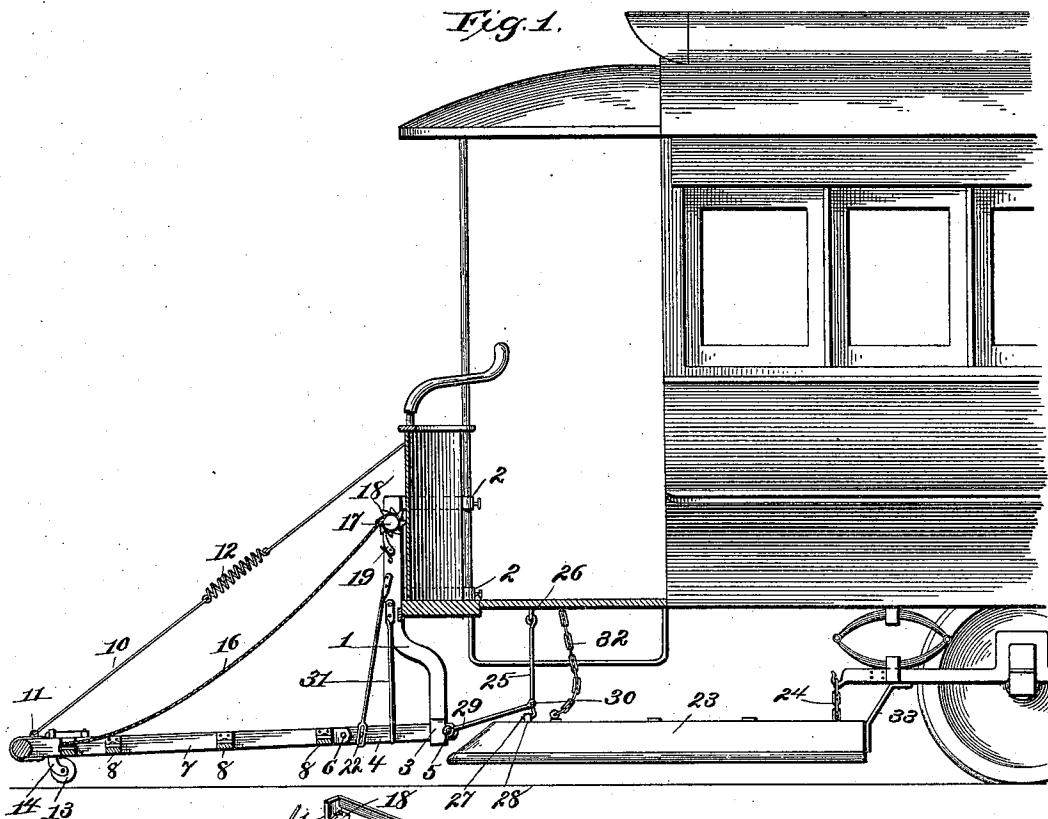
(No Model.)

I. D. MOSER.  
CAR FENDER.

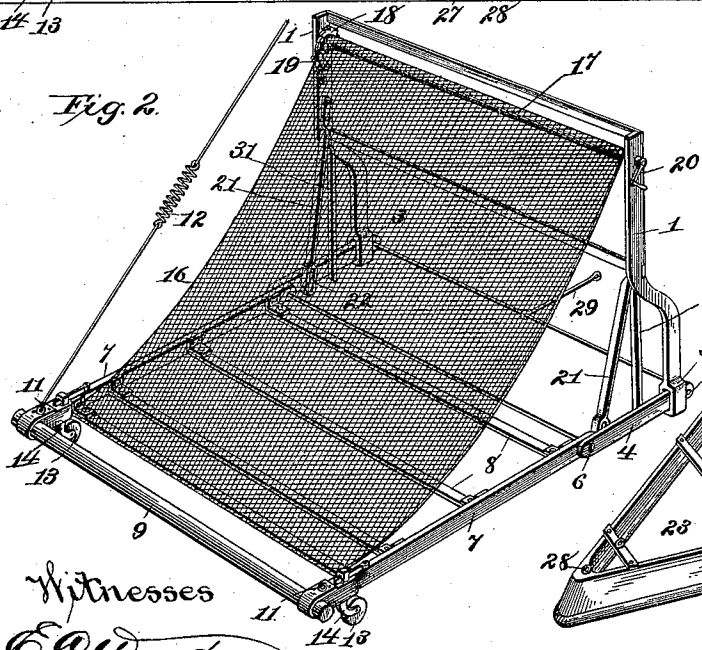
No. 574,928.

Patented Jan. 12, 1897.

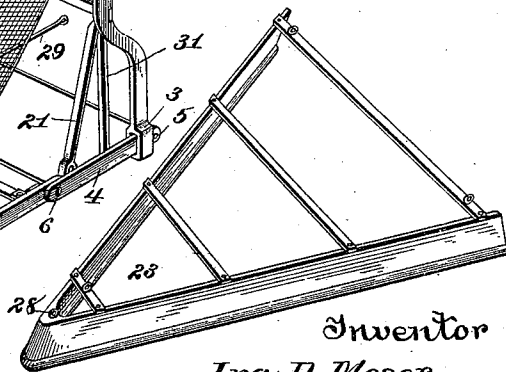
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

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## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 574,928, dated January 12, 1897.

Application filed April 1, 1896. Serial No. 585,842. (No model.)

*To all whom it may concern:*

Be it known that I, IRA D. MOSER, 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 Car-Fenders, of which the following is a specification.

My invention relates to a new and useful improvement in car-fenders, and has for its object to provide a device of this description which when applied to a car will prevent injury to a person with whom it may come in contact, and either scoop him up and safely carry him upon a yielding platform until the car can be stopped, or push him to one side from off the road-bed, thereby preventing the car-wheels from injuring said person; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring by number to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of one end of a car, showing my improvement applied thereto, the latter being in section, as well as the platform of said car; Fig. 2, a perspective of a fender detached from the car, and Fig. 3 a similar view of the wheel-guard.

Referring to the drawings, 1 represents a vertical frame composed of side and cross bars which are attached to the uprights of the dasher by means of suitable clamps 2. The lower extremities of the side bars of this frame are enlarged at 3 and have formed therethrough holes into which fit the arms 4, so as to slide horizontally, and these arms are prevented from withdrawal by the pins 5, passed through their rear ends, and have pivoted to their front ends at 6 the rectangular frame 7, composed of two side bars, a series of cross-bars 8, and a buffer-roll 9. The normal position of this frame is determined by the supporting-wires 10, which are attached to the outer end thereof at 11 and to the dasher-frame, and in practice I prefer to place coil-springs 12 in the center of each of these

supporting-wires, so as to give the frame a certain amount of spring movement upon its pivot-points, as will be readily understood. 55

13 are trunnell-rolls journaled in the casters 14, which in turn are pivoted in the side bars of the frame 7, so as to assume any angle necessary in passing around a curve should the rolls be in contact with the track or road-bed. The netting 16 is stretched between the outer end of the frame 7 and the upper end of the frame 1 by being attached to the former and secured upon the shaft 17, journaled in the latter, and this shaft is provided with a ratchet 18, whose teeth are adapted to be engaged by the spring-actuated pawl 19 to prevent a retrograde movement of said shaft, and 20 is a crank-handle secured to the opposite end of said shaft for the purpose of winding the netting on or off thereof. 60 65 70

The arms 4, and consequently the frame 7, which is pivoted thereto, are held normally in their extreme forward position by the springs 21, which are bolted or otherwise secured to the side bars of the frame 1 and are connected to the arms by means of slots formed in their lower ends, into which project the pins 22. The effect of this is to permit the rearward movement of the arm when coming in contact with an obstruction, so that by thus yielding the force of impact between the fender and the object struck will be minimized, and if such an obstruction be a person such person will be scooped up and thrust upon the netting, and the weight of the person upon the netting will cause the latter to sag, exerting sufficient pull to draw the outer end of the frame 7 upward, thereby retaining said person safely upon the netting until the car can be stopped. 75 80 85 90

If the object struck by the buffer-roll be a person in a prostrated position, the force of impact between such person and the fender will cause the latter to move backward, as before described, which will shorten the hypotenuse of the angle formed by the arms which will cause the outer end of the frame 7 to swing downward, bringing the trunnell-roll in contact with the rails of the track, which will also bring the buffer-roll in closer proximity to the road-bed, thereby putting the fender in the most favorable position for scooping up the prostrated form. 95 100

In order to provide a further safety against the wheels coming in contact with the person, I provide a wheel-guard 23, which is constructed upon the order of a pilot and consisting of two sides meeting at an acute angle, so as to form a point, and diverging rearward until separated a distance somewhat greater than the distance between the wheels, so that should this guard come in contact with a person it would shed them to either side of the road-bed out of danger from the wheels. The guard is preferably suspended by flexible connections 24 at the rear by a rod 25 near its vertex, which rod is preferably stapled at 26 to the under side of the platform and terminates in a hook 27, adapted to engage the eye 28, projecting from the guard.

29 is a link pivoted to the rod at 30 and to the pin-rod 5, so that when the arms 4 are forced rearward the link 29 will swing the rod 25, so as to disengage the hook 27 from its eye, thus permitting the front end of the guard to fall into juxtaposition to the road-bed, or in contact therewith, as is found most desirable. When in this position, it will be seen that a person, however small, can by no possibility pass under the guard, but will be shed by one or the other of the sides thereof from the road-bed and clear of the wheels. Therefore, should the frame 7 from any cause whatever fail to pick up a person struck thereby, the force of contact with such person would trip the guard, as before described, putting it in a position to preclude the possibility of the person being struck by the wheels, even though the fender passes over said person.

In order to render the fender more staple after it has been forced rearward by contact with an obstruction, I provide the secondary springs 31, which are also secured to the frame 1 and so arranged that after the primary springs have been deflected rearward sufficiently to come in contact with the secondary springs the latter will take up the strain upon said primary springs, and while permitting a still further rearward movement, should sufficient force be brought to bear upon the fender to overcome their resiliency, yet protecting the primary springs against fracture. The advantage of this will be obvious in that should a fender strike a wagon or other heavy obstruction the force of impact will be greatly reduced by the giving of the primary springs as well as the secondary springs, and consequently less damage will be done to said wagon, as well as to the fender. By the attachment of the netting to the revoluble shaft it will be seen that the former may be drawn taut or permitted to sag by the proper manipulation of the pawl, and also when it is desired to elevate the primary frame to the fender this may be accomplished by the winding of the netting upon the shaft after the manner of a windlass. The downward movement of the outer end of the guard may be limited, if desired, by a flexible connection 32, attached to the

under side of the platform and to said guard, as shown in Fig. 1, and also this guard may be prevented from an oscillatory movement by the brackets 33, but one of which is here shown.

If it is found desirable to increase the size of the trunnel-rolls 13, this may be accomplished and yet leave the buffer-roll in proper relative position to the road-bed by deflecting downward the outer ends of the side bars 7.

Other slight modifications might be made in the construction here shown without departing from the spirit of my invention, and I therefore do not wish to limit myself to this exact construction.

Having thus fully described my invention, what I claim as new and useful is—

1. In combination with a car, a vertical frame secured thereto, arms adapted to slide in the lower extremities of said frame, a rectangular frame 7 pivoted to said arms, a buffer-roll carried by the outer end of the last-named frame, supporting-wires 10 connected to the outer end of the frame 7 and to the dasher, trunnel-rolls carried by the outer end of the frame 7 adapted to travel upon the track so as to determine the lowest position of said frame, a shaft 17 journaled in the vertical frame provided with suitable winding and locking mechanism, a netting attached to the outer end of the frame 7 and to said shaft, primary springs and secondary springs secured to the side bars of the vertical frame and arranged to offer a spring resiliency to the rearward movement of the frame 7, as shown and for the purpose set forth.

2. In combination with a car, a vertical frame secured thereto, arms adapted to slide in the lower extremities of said frame, a rectangular frame 7 pivoted to said arms, a buffer-roll carried by the outer end of the last-named frame, supporting-wires 10 connected to the outer end of the frame 7 and to the dasher, trunnel-rolls carried by the upper end of the frame 7 adapted to travel upon the track so as to determine the lowest position of said frame, a shaft 17 journaled in the vertical frame provided with suitable winding and locking mechanism, a netting attached to the outer end of the frame 7 and to said shaft, primary springs and secondary springs secured to the side bars of the vertical frame and arranged to offer a spring resiliency to the rearward movement of the frame 7, and a wheel-guard adapted to shed an obstruction sidewise beyond the wheels, substantially as and for the purpose set forth.

3. In combination with a car, a vertical frame 1 secured thereto by suitable clamps 2, arms 4 adapted to slide horizontally in suitable holes formed in the lower extremities of said frame, springs 21 secured to the side bars of said frame and connected to said arms, secondary springs 31 also secured to the side bars of the vertical frame, and so arranged as to pick up the primary springs when the fender is forced rearward past a certain limit, a rec-

tangular frame 7 pivoted at 6 to said arms, a  
buffer-roll 9 secured to the outer end of said  
frame, supporting-wires 10 connecting the  
outer end of the frame 7 to the dasher of the  
5 car, springs 12 placed in the center of said  
wires for giving the outer end of the frame 7  
a resilient swinging movement, trunnell-rolls  
13 journaled in the casters 14 for limiting the  
downward movement of the frame 7, an angu-  
10 lar guard 23 suspended from the under side  
of the car so as to shed an obstruction with  
which it may come in contact, crosswise, be-  
yond the wheels, a hooked rod 25, a link 29  
connecting said rod to the arms 4 whereby

the rear movement of said arms will disen- 15  
gage said hook from the guard and permit the  
latter to drop in contact with the road-bed,  
and a netting connecting the outer end of the  
frame 7 with the upper end of the frame 1,  
substantially as shown and for the purposes 20  
set forth.

In testimony whereof I have hereunto af-  
fixed my signature in the presence of two sub-  
scribing witnesses.

IRA D. MOSER.

Witnesses:

S. S. WILLIAMSON,  
R. M. PIERCE.