

(No Model.)

G. W. ARCHER.

FENDER OR LIFE SAVING ATTACHMENT FOR CARS.

No. 538,943.

Patented May 7, 1895.

Fig. 1.

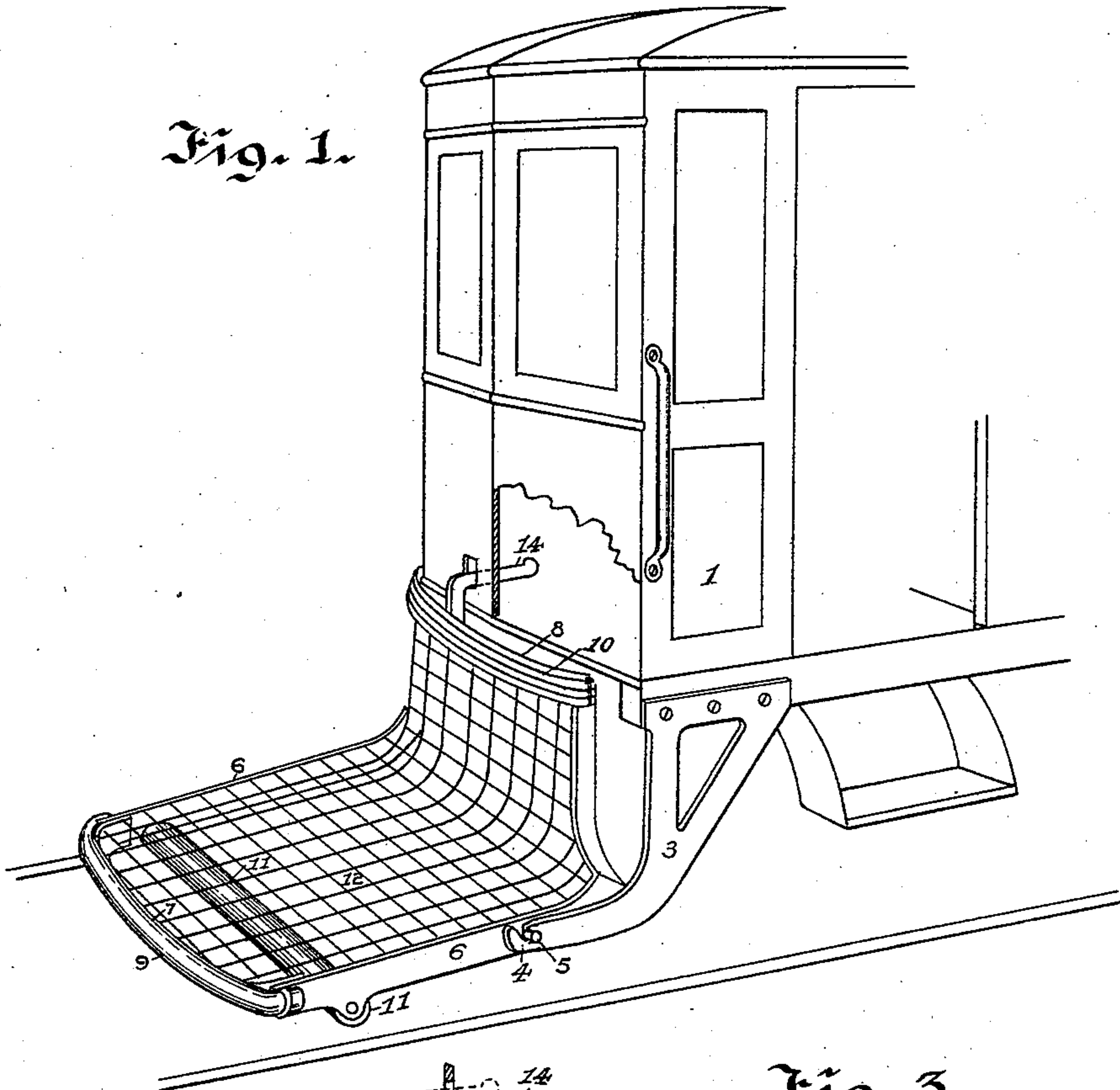


Fig. 2.

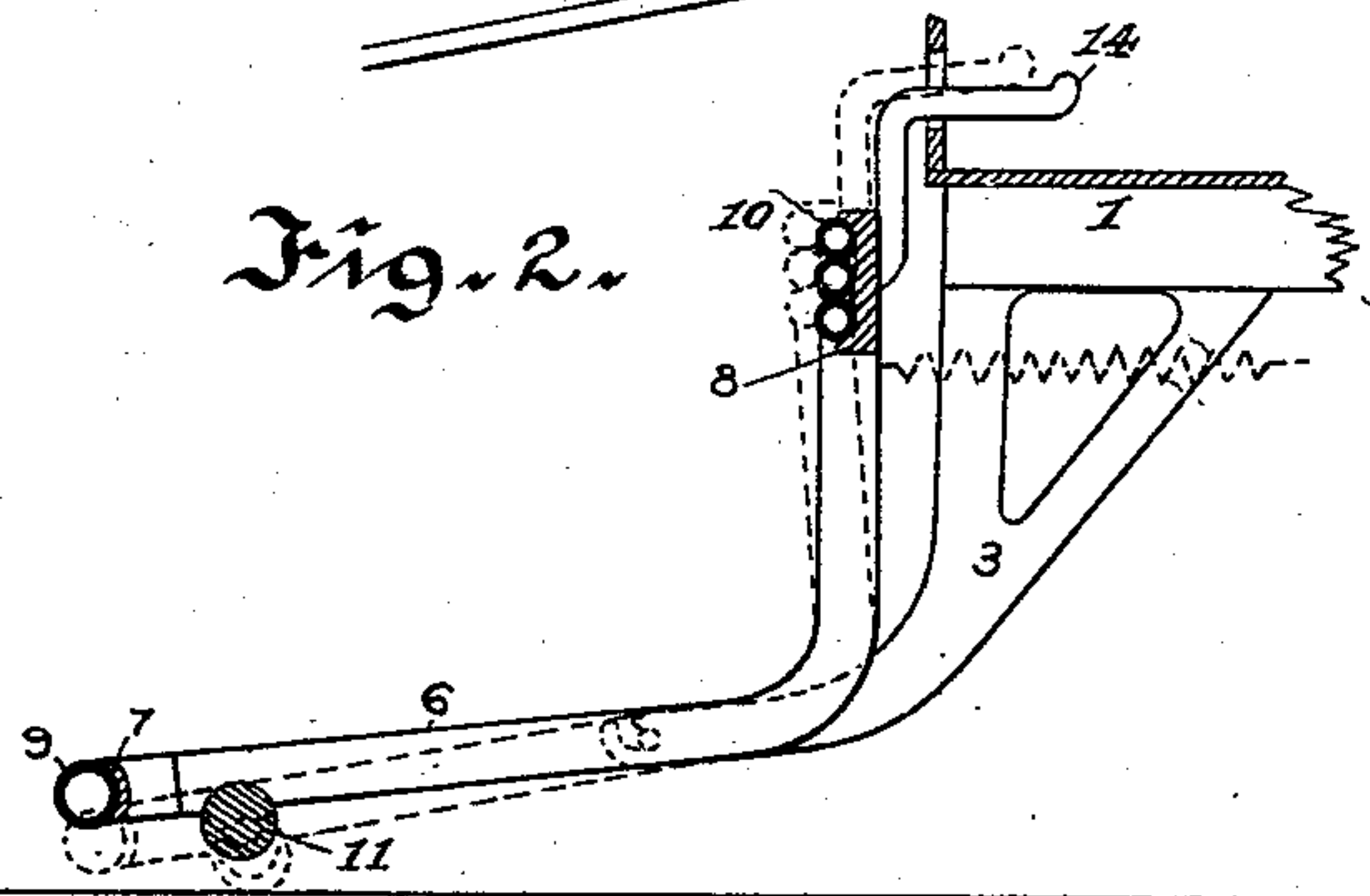


Fig. 3.

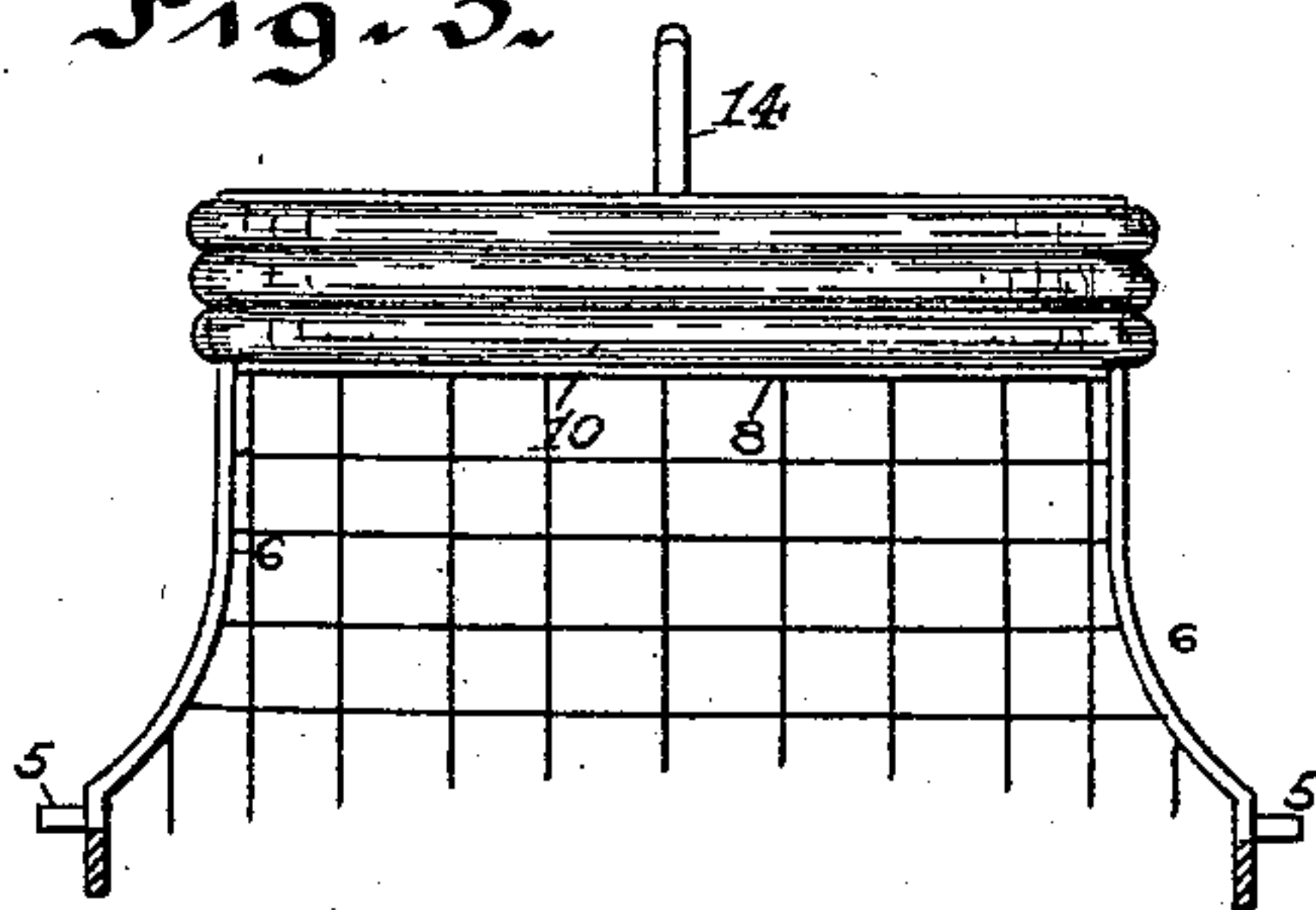
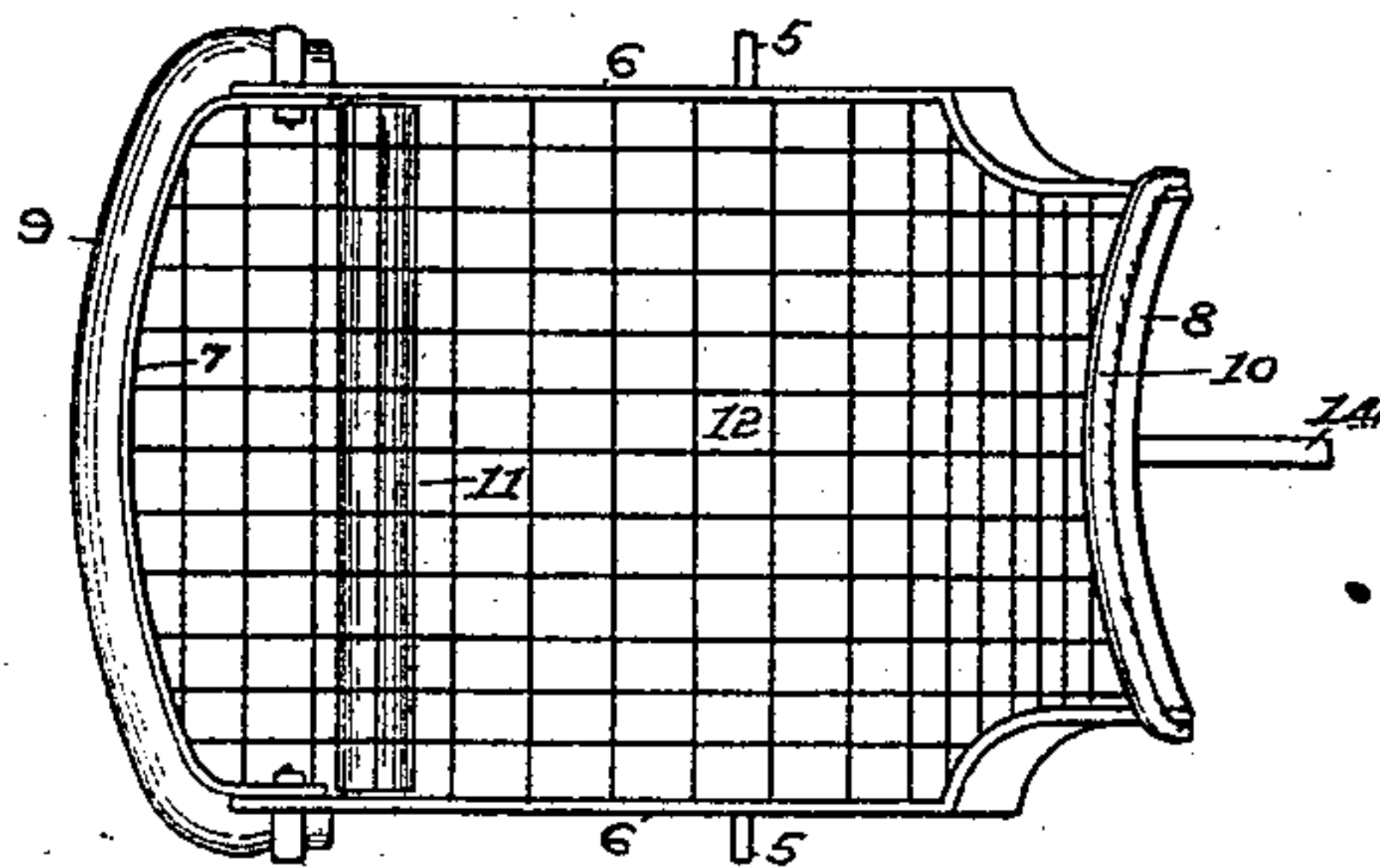


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## FENDER OR LIFE-SAVING ATTACHMENT FOR CARS.

SPECIFICATION forming part of Letters Patent No. 538,943, dated May 7, 1895.

Application filed November 18, 1893. Serial No. 491,347. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. ARCHER, of Rochester, in the county of Monroe and State of New York, have invented certain new and  
5 useful Improvements in Fenders or Life-Saving Attachments for Cars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming  
10 a part of this specification, and to the reference-numerals marked thereon.

My present invention has for its object to provide an improved fender or attachment for street or other cars adapted to catch and re-  
15 tain persons on the track, and prevent their being injured, and to this end consists in certain improved constructions and combinations of parts, all as will be hereinafter fully described and the novel features pointed out  
20 particularly in the claims at the end of this specification.

In the drawings, Figure 1 is a perspective view showing the construction and manner of applying my invention to a street-car; Fig. 2, a  
25 longitudinal sectional view of the attachment; Fig. 3, a cross-sectional view; Fig. 4, a plan view of the net-frame removed.

Similar reference numerals in the several figures indicate similar parts.

30 The body of the car, indicated by 1, is of the ordinary or any preferred construction, and propelled by any suitable motor, electricity, steam or by cable, and secured to some portion of its ends are brackets 3 extending  
35 slightly forward of the front and having recesses or slots 4 preferably open at the upper side for the accommodation of the trunnions or pivots 5 on the fender or net frame. This frame is composed of two side pieces 6, pref-  
40 erably of metal, having the lower substantially horizontal portions connected by a recessed front bar 7 and the upwardly extending portions connected by a similar bar or plate 8 slightly curved, and preferably ar-  
45 ranged about level with or slightly above the floor of the car, as shown.

Arranged in the recess in the front bar 7 is an elastic cushion or buffer, composed, in the present instance, of a rubber tube 9 filled with  
50 air serving to prevent injury to a person on

the track when struck by the car. The upper bar or plate 8 is also suitably cushioned, preferably by a series of three or more rubber inflated tubes 10, similar to the tube 9, held in position by suitable securing devices. 55 The lower portions of the side pieces 6 of the frame are provided with suitable bearings in which are journaled the ends of a wooden roller 11 extending below the frame and adapted to rest upon the rails or the pave- 60 ment between the rails, if desired, when the frame is tilted forward to the position in dotted lines Figs. 1 and 2.

Extending over the open space of the frame is a grating or net work 12 of cord, wire or 65 metal strips forming a platform or net for the reception and retention of a person on the track, who would otherwise be struck by the car and injured. The frame is so weighted and the trunnions 5 so placed, that in normal 70 position the front edge is carried several inches above the surface of the ground, as shown in full lines, the preponderance of weight being back of the pivots, though the lower edge is slightly below the level of the 75 so that when the cushioned edge meets with an obstruction, as a person on the track, the frame will be tilted downward and forward, causing the roller to rest upon the ground and the person or obstruction to fall onto the 80 net or support, where he will be received without injury and carried along by the car. The cushioned upper rail 8 and the more or less flexible covering for the frame will pre- 85 vent injury to the person falling into the latter and the roller resting on the ground or rails will sufficiently support him until the car can be stopped.

In order that the motorman may lower the front of the frame, if he sees the person on 90 the track too late to arrest the car I provide the frame with a rearward arm or extension 14 projecting through the dash or into the car in convenient position to be operated by his foot. If there is considerable oscillation of 95 the car on its trucks tending to throw the front of the frame downward the motorman can hold the frame steady by placing his foot on the extension 14, as will be understood.

The vertical portions of the sides 6 of the 100



frame it will be noted, are carried toward the center somewhat, so as to permit the motor-man to use his switch-turning iron and manipulate a switch point, if desired, without leaving the car, and this construction obviates one of the serious objections to the use of a safety appliance projecting from the front as do those of the class to which my invention belongs.

10 The netting or covering 12 for the frame, it will be noted, is supported at the sides and ends only and there are no cross bars beneath it, so positioned as to strike and injure a person falling into the net;—also, as  
15 the cushions which I prefer to employ on the rail 8 are tubes secured at their ends only, there is no opportunity for injury to the person by contact with the hard fastening devices of any kind.

20 The herein described attachment is cheap, simple and not liable to get out of order, and will be found efficient in operation and necessitates the employment of but a single frame for each car, which may be readily  
25 transferred from one end to the other, as the car travels in opposite directions.

While I prefer to hold the forward part of the frame elevated by placing a preponderance of the weight back of the pivot, it will  
30 be understood that springs, as shown in broken lines, Fig. 2, could be used for the same purpose, but the present arrangement simplifies the construction and enables the frame to be transferred from one end of the  
35 car to the other with very little difficulty.

The covering for the frame may of course be of any suitable material, as canvas or metal, but a rope netting will be found to answer well, being cheap and light and less  
40 liable to injure a person thrown violently from his feet, than if a hard covering material were used.

I claim as my invention—

45 1. The combination with a vehicle, of the pivoted guard frame thereon having the rear portion extending vertically, and the lower substantially horizontal portion, the two parts forming an angle with each other, said frame being pivoted to the vehicle below and forward  
50 ward of its vertical part and having the forward lower edge below the level of the pivot, substantially as described.

ward lower edge below the level of the pivot, substantially as described.

2. The combination with a vehicle, of a pivoted guard frame having the vertical rear portion and the lower substantially horizontal  
55 portion, each provided with cushions, and the roller on the horizontal part, said frame being pivoted below and forward of its vertical part to the vehicle and having its lower edge below the level of the pivot, substantially as described. 60

3. The combination with a vehicle, of a pivoted guard-frame having the vertical rear portion and the lower substantially horizontal  
65 portion provided with the roller, said frame being pivoted below the upper end of its vertical portion to the vehicle, having its lower front edge below the pivot and being weighted in rear of the pivot, substantially as described.

4. The combination with the vehicle, of the  
70 frame pivoted thereon below its upper end, having the angular sides forming the horizontal and vertical portions, the top and bottom rails connecting them, and the buffers or cushions on said rails arranged respectively  
75 above and below the pivots of the frame, substantially as described.

5. The combination with a vehicle and the brackets thereon provided with open slots, of the frame having the vertical rear and sub-  
80 stantially horizontal forward portions and pivots entering the slots in the brackets on the vehicle, substantially as described.

6. The combination with a vehicle, having the brackets with open slots, of the frame  
85 having the pivots entering the slots, the upper and lower cushioned bars, the net or support, and the roller, said frame being weighted in the rear of the pivots, substantially as described and for the purpose specified. 90

7. The combination with a vehicle having the brackets, of the frame pivoted thereon composed of the side pieces and bent toward the center to form apertures at the sides, and the covering material, substantially as described. 95

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