

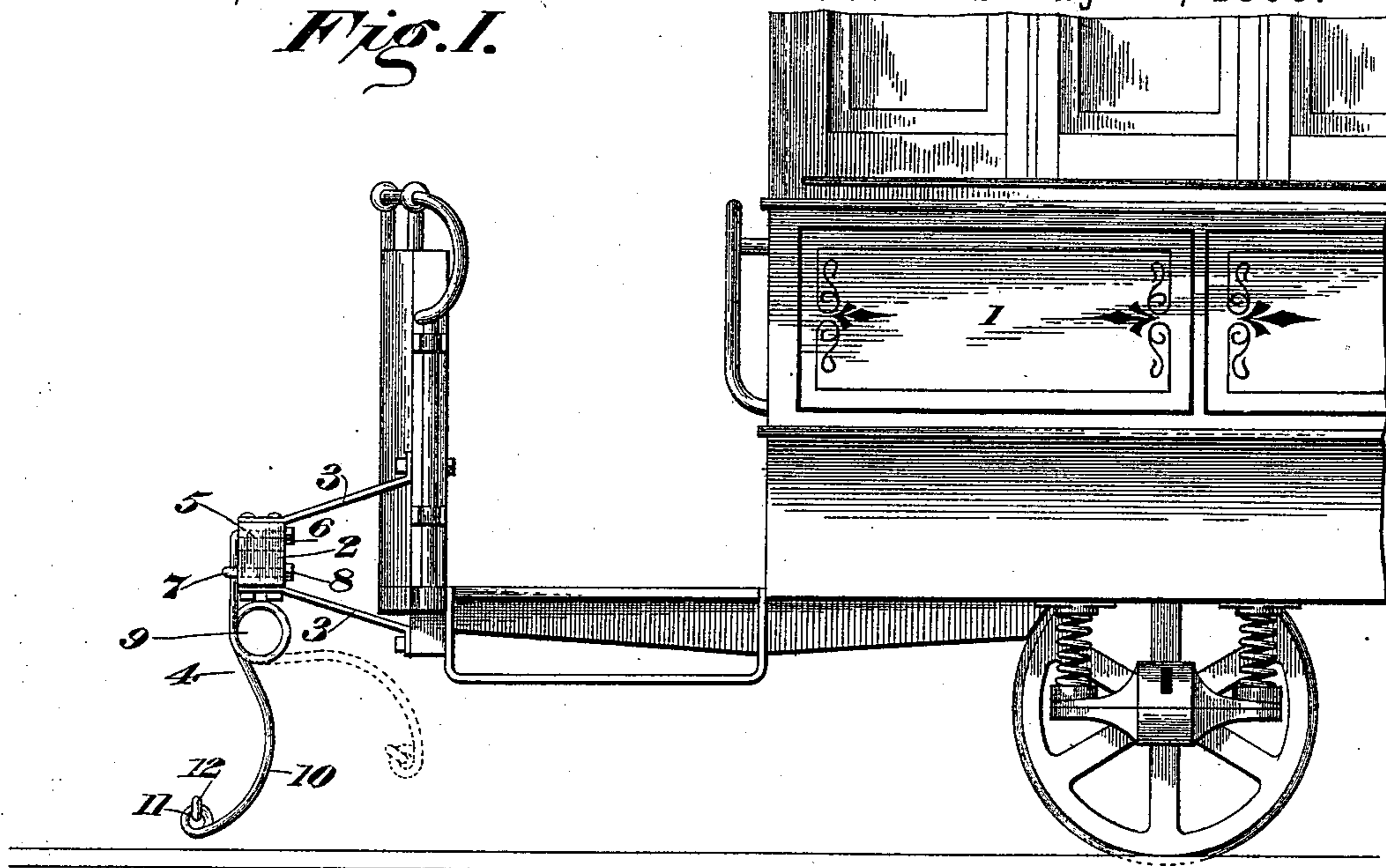
(No Model.)

H. P. JOHNSON.  
CAR FENDER.

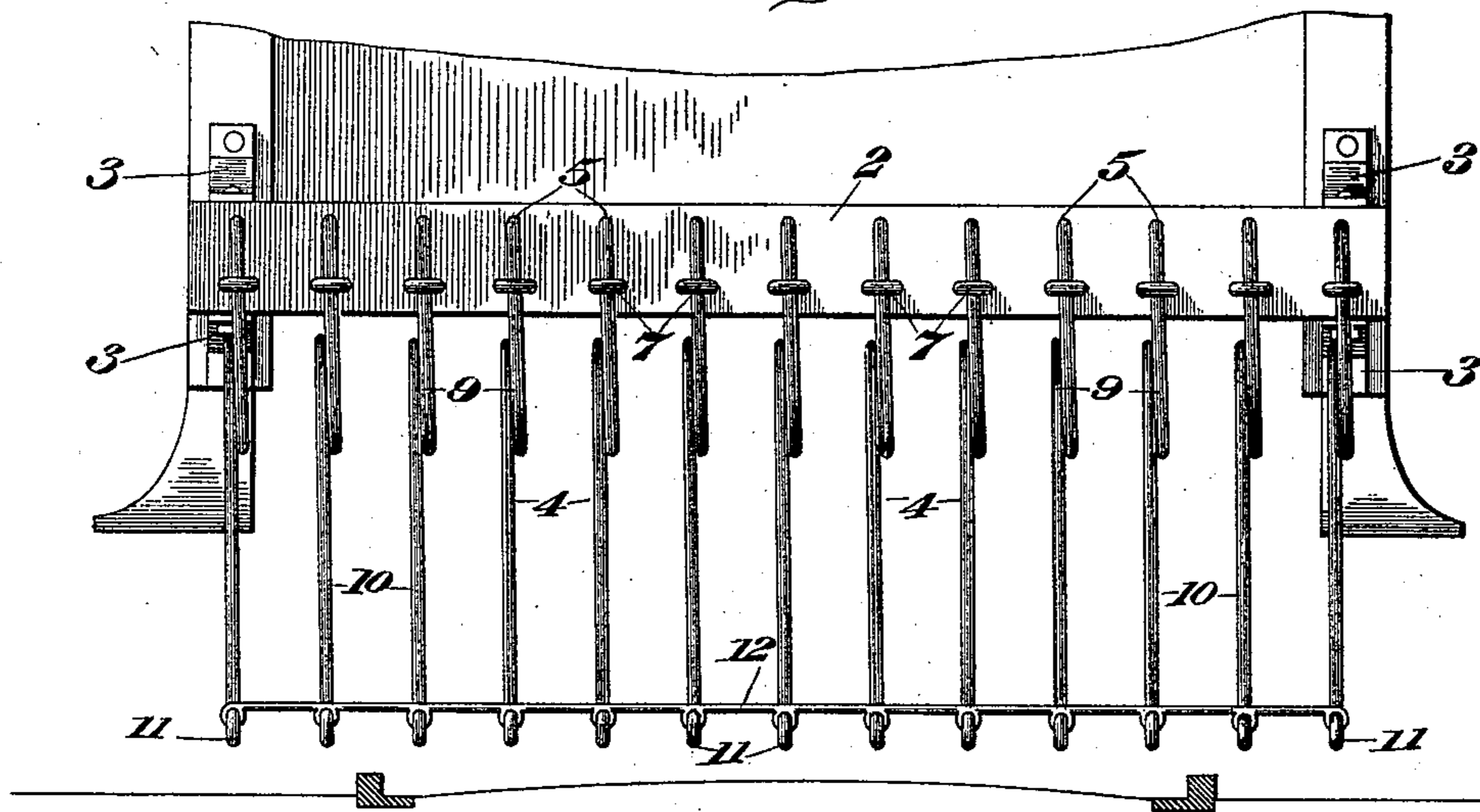
No. 539,134.

Patented May 14, 1895.

*Fig. I.*



*Fig. II.*



Witnesses

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# UNITED STATES PATENT OFFICE.

HENRY PERKINS JOHNSON, OF SAN FRANCISCO, CALIFORNIA.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 539,134, dated May 14, 1895.

Application filed August 16, 1894. Serial No. 520,483. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY PERKINS JOHNSON, a citizen of the United States, residing at San Francisco, county of San Francisco, State of California, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce certain new and useful improvements in fenders designed to be attached to the forward end of a car, as for example a railway or tram car, and which is adapted by its peculiar construction to form a reliable safe-guard against loss of life or injury to a person struck by the car, and without liability of interfering with the ordinary progress of the car.

In the accompanying drawings, Figure I is a side elevation of a section of car with my fender attached, showing the ordinary position of the fender in full lines and showing the extreme limit of rearward movement in dotted lines. Fig. II is a front elevation of the same.

Referring to the figures on the drawings: 1 indicates a section of car body and 2 a cross beam, as of wood, securely and rigidly fastened thereto, as by bracket irons 3 bolted, for example, at their respective extremities to the cross beam and to the front wall of timbers of the car. To the cross beam, preferably in front thereof, is a series of fingers or supports 4, of a construction peculiarly designed to perform the office required of them. These fingers are preferably made of spring metal, having one end bent, as indicated at 5 and passing through the cross beam, secured in place by a nut 6. An eyelet or tie bolt 7, with nut 8, passing through the cross beam below the bend 5 of the finger, is preferably employed to hold it immovable upon the cross beam.

9 indicates a circular bend in the finger designed to afford for it suitable spring action, and to render the same available in the proper manner when required.

Below the circular bend the fingers are symmetrically curved, as indicated at 10, toward the car so as to present a supporting surface to any object that may be caught and taken up by the fingers. The lower ends of the fingers are blunted or protected, which

may be readily accomplished by bending the metal into a circle, as illustrated at 11.

It is essential that the lower ends of the fingers should be located somewhat in front of the cross beam and at a sufficient height from the ground or surface on which the car moves to permit the fingers, when bent rearwardly, to almost, but not quite, touch the ground. The consequence is, that if a movable body, for example a man, should be caught by the fingers, they will immediately give until they almost touch the ground and will then exert an upward or lifting tendency upon the body and, instead of rolling or wedging it under the fender will lift it free from the ground and into the curves of the fingers. As soon as the friction of the movable body against the ground is relieved, the united action of the fingers will readily lift it and support it safely in the curves of the fender.

To accomplish the result described, in the manner set forth, it is necessary that the fingers should not move so close to the ground as to render them liable to strike against any immovable object, as for example, a protruding paving stone, or the like. It is, therefore, essential that the fingers should not, at any part of their movement, strike the ground, but should be free to retreat before any immovable object until they may rise over and clear it. The limit of backward movement is illustrated in dotted lines in Fig. I of the drawings.

It is desirable that the fingers should be united to some extent in order to act in unison to afford in effect a single fender in front of the car. It is also desirable that when the finger strikes an immovable object it should yield independently of the others, and not oppose the resistance of all the fingers to the movement of the car. I accomplish this twofold object by uniting the lower ends of the fingers with a flexible cross piece 12 which, while it allows independent movement in each of the fingers, acts to unite all the fingers into a single receptacle for a movable body that is caught by the fender.

What I claim is—

In a car fender, the combination with a cross beam supported upon brackets at a suitable distance in front of the car, of spring metal fingers composed of a vertical part, a gradu-

ally curved part and an intermediate circular  
bend located immediately beneath the beam,  
said fingers being provided at their upper  
and lower extremities respectively, with a  
5 horizontal part passing through and secured  
with the cross beam, and with loops connected  
by a continuous flexible piece and tie bolts 7  
securing the fingers at a point intermediate

of their ends to the cross beam, substantially  
as specified. 10

In testimony of all which I have hereunto  
subscribed my name.

HENRY PERKINS JOHNSON.

Witnesses:

JOHN H. CROCKER,  
JOSEPH BUCHANAN.