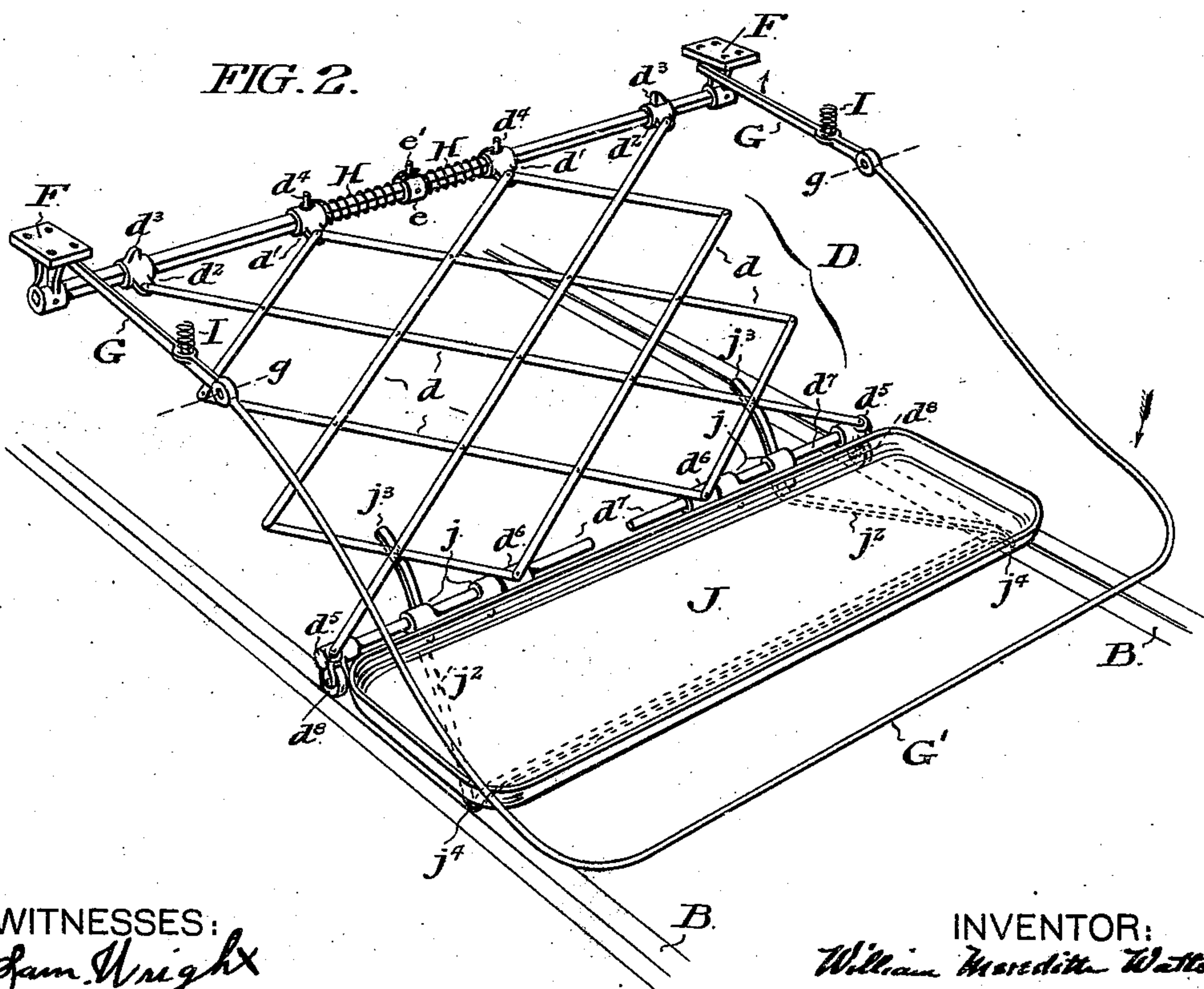
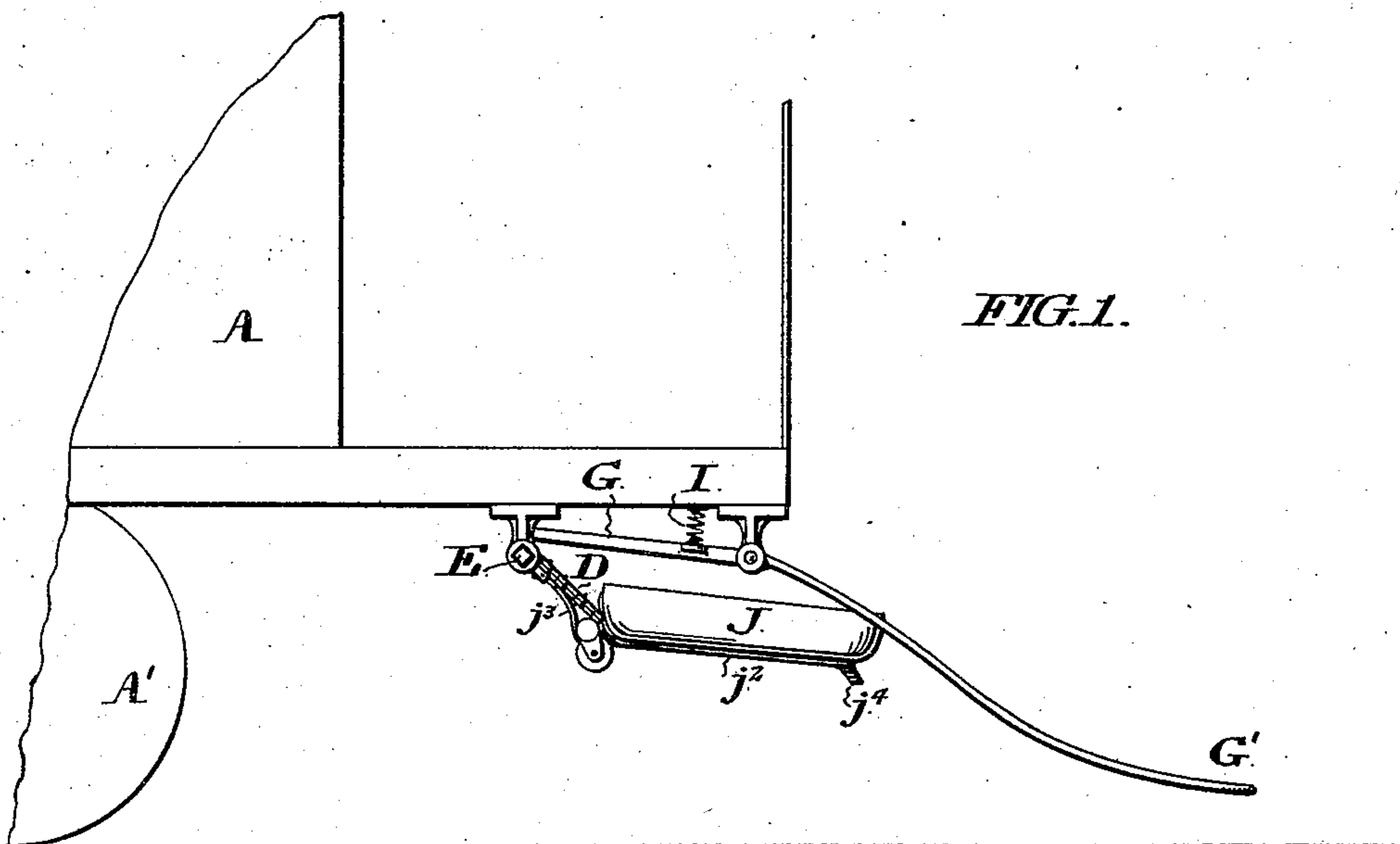


(No Model.)

W. M. WATTS.
CAR FENDER.

No. 551,802.

Patented Dec. 24, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM MEREDITH WATTS, OF PHILADELPHIA, PENNSYLVANIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 551,802, dated December 24, 1895.

Application filed June 29, 1895. Serial No. 554,406. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MEREDITH WATTS, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Car-Fenders, whereof the following is a specification, reference being had to the accompanying drawings.

My invention is primarily intended for use upon any form of vehicle traveling upon permanent ways, to prevent serious injury to persons struck by said vehicle.

I will use the term "car" hereinafter as comprehensive of vehicles to which my invention may be applied.

Stated broadly, my invention comprises a barrier composed of a series of lazy-tong levers disposed at right angles to the direction of traverse of the car and in advance of its wheels.

My invention also comprehends certain details of construction of said barrier and useful adjuncts thereto which facilitate its operation, and are hereinafter more definitely specified.

The peculiar lever construction characteristic of my invention is advantageous in that it may be compactly folded when not in use, and when extended presents a barrier of the requisite extent having a maximum resiliency and a minimum weight.

In the accompanying drawings, Figure 1 is a side elevation of a portion of the car with my fender shown thereon in its normal position. Fig. 2 is a perspective view of the device shown in Fig. 1, but shown in its extended position, the car being omitted.

A indicates the car, A' its wheels, and B the rails forming the permanent way.

D is the barrier composed of lazy-tong levers d , and supported at its upper edge upon a bar E, preferably of square cross-section.

The bar E is supported from the car in brackets F, to which it is rigidly secured.

The collars d' d^2 , to which the upper ends of the levers d are pivotally attached, are arranged to slide freely without rotation upon the bar E. The collars d^2 are provided with catch-lugs d^3 . Said lugs are adapted to en-

gage with and be normally retained by the tripping-levers G.

When the levers d are retracted, as shown in Fig. 1, the lug-collars d^2 are thrust beneath and engage the levers G. When the levers d are extended the lug-collars d^2 are withdrawn from the levers G, as shown in Fig. 2.

Upon the bar E is fixed a central collar e . The inner ends of two springs H are hooked upon a pin e' , forming a part of the collar e . The outer ends of the springs H are hooked upon pins d^4 , forming a part of the sliding collars d' on the respective sides of the fixed collars e . The tension of the springs H is such as to unfold the levers d and extend the barrier D downward when the lugs d^3 are free from engagement with the levers G. The release of the lugs d^3 from the levers G is effected by depression of the connecting-bar G', causing the levers G to rock upon their fulcrums g . The levers G are provided with springs I, tending to maintain the levers G in position for engagement with the lugs d^3 .

It is obvious that the amount of pressure upon the connecting-bar G' required to release the barrier D may be regulated by varying the pressure of the springs I.

The lower ends of the levers d are pivoted to the roller-bearings d^5 and the sliding collars d^6 . The cylindrical extensions d^7 of the bearings d^5 upon which the collars d^6 slide serve to stiffen the lower edge of the barrier D without interfering with the operation of its levers d . The friction-rollers d^8 in the bearings d^5 rest upon the rails B when the barrier is lowered and serve to keep it clear of the road-bed.

In order that a person caught upon the barrier D may be held clear of the ground until the car can be stopped, I provide a body-supporting device J, which may be of any convenient construction and is hereinafter termed a "basket." I prefer to mount said basket J upon the front of said barrier, but in such a manner as not to interfere with the operation of its levers d . A convenient method of mounting said basket is best shown in Fig. 2 of the drawings.

Slide bearings j are disposed upon the cylindrical extensions d^7 between the roller-

bearings d^5 and the sliding collars d^6 . The basket J is secured to the slide-bearings j and is further stiffened and supported by a thin metal strip j^2 secured to the under side of both
 5 the slide-bearings j and the basket J. The rear ends j^3 of the strip j^2 are bent upward to bear upon the rear side of the barrier D and serve to maintain the basket J in a substantially horizontal position whether said barrier
 10 is raised or lowered.

The strip j^2 may be bent down at the forward corners of the basket J, as indicated at j^4 , and thus serve to keep the basket J clear of the ground, or the front edge of said basket
 15 may be provided with friction-rollers similar to the rollers d^8 of the barrier D.

The normal position of the above-described devices being that of Fig. 1 with the lever-barrier retracted and the basket raised, injury to the device itself by small obstructions upon the track, such as irregular or loose paving-stones, is obviated. It is, however, obvious that the depression of the bar G' occasioned by its contact with a person upon
 25 the track will raise the tripping-levers G under the pressure of the balance-springs I and free the barrier and attached basket, and thus permit of their instantaneous descent accelerated by the springs H. The person struck
 30 is thus, if knocked down, kept from contact with the car-wheels by the extended barrier D and held clear of the ground by the basket J.

The parts may be returned to their normal position by manually lifting the barrier D, as the lug-collars d^2 automatically engage the levers G when the levers d of the barrier D are thus retracted.

In the convenient embodiment of my invention which I have shown and described the barrier D is indicated as disposed beneath the platform of the car; but it is obvious that it may be supported at or beyond the end of said car structure and other modifications in
 45 its application or construction be made without departing from the spirit of my invention.

I therefore claim—

1. In a car fender,—a basket mounted upon the front of a series of lazy tong levers, whereby
 50 by said basket may be shifted to and from

an operative position,—and a lever adapted to retain said lazy tong levers in a predetermined position substantially as set forth.

2. In a car fender;—a barrier comprising a series of normally retracted lazy tong levers,—
 55 a support for the upper edge of said barrier,—a basket supported upon the front of said barrier,—and a tripping lever whereby said barrier may be released, substantially as set forth.
 60

3. In a car fender,—an extensible depending barrier comprising a series of lazy tong levers,—a support for the upper edge of said barrier adapted to be secured to a car,—and
 65 a basket supported in a substantially horizontal plane by said barrier,—substantially as set forth.

4. In a car fender,—a depending barrier comprising a series of lazy tong levers,—a support for the upper edge of said barrier,—
 70 a basket secured to the lower edge of said barrier,—means to secure said barrier in a retracted position,—and means operated by an impinging body to release and extend said barrier and basket into position to receive
 75 said body,—substantially as set forth.

5. In a car fender,—a depending barrier comprising a series of normally retracted lazy tong levers,—a support for the upper edge of said barrier,—rollers upon the lower edge of
 80 said barrier adapted to roll upon the way traversed by a car,—a basket supported in a substantially horizontal plane by said barrier,—a spring to extend said barrier,—a tripping lever to release said barrier and spring,—
 85 and a balance spring for the said tripping lever,—substantially as set forth.

6. In a car fender, a shaft,—a barrier comprising a series of lazy tong levers—a collar pivotally secured to one of said levers and
 90 adapted to slide upon said shaft without rotation thereon,—and a lever, whereby a lug upon said collar may be engaged and said barrier retained in a predetermined position, substantially as set forth.

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Witnesses:

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