

No. 637,227.

Patented Nov. 21, 1899.

A. M. BOWERS.
CAR FENDER.

(Application filed Sept. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1

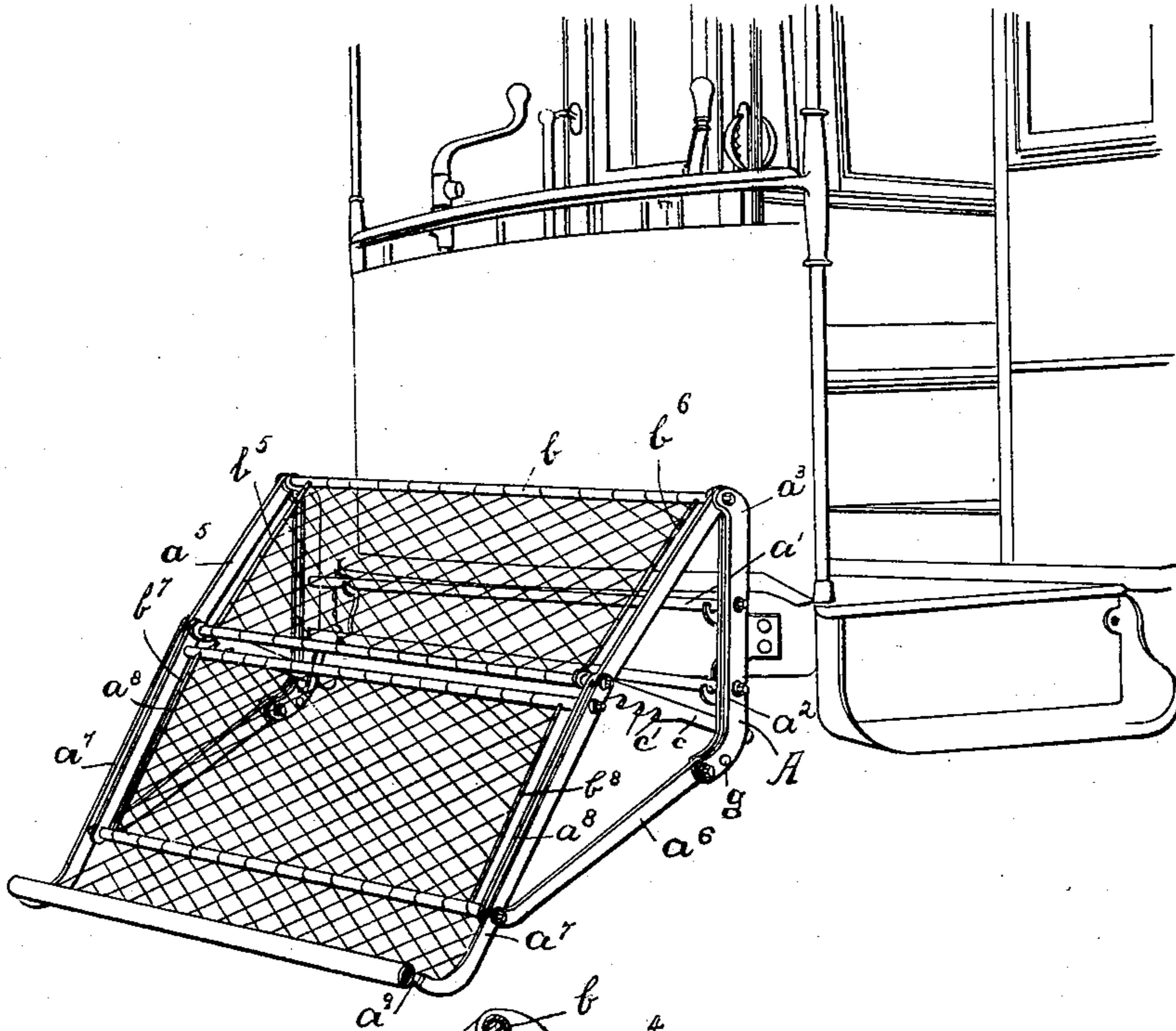


FIG. 2

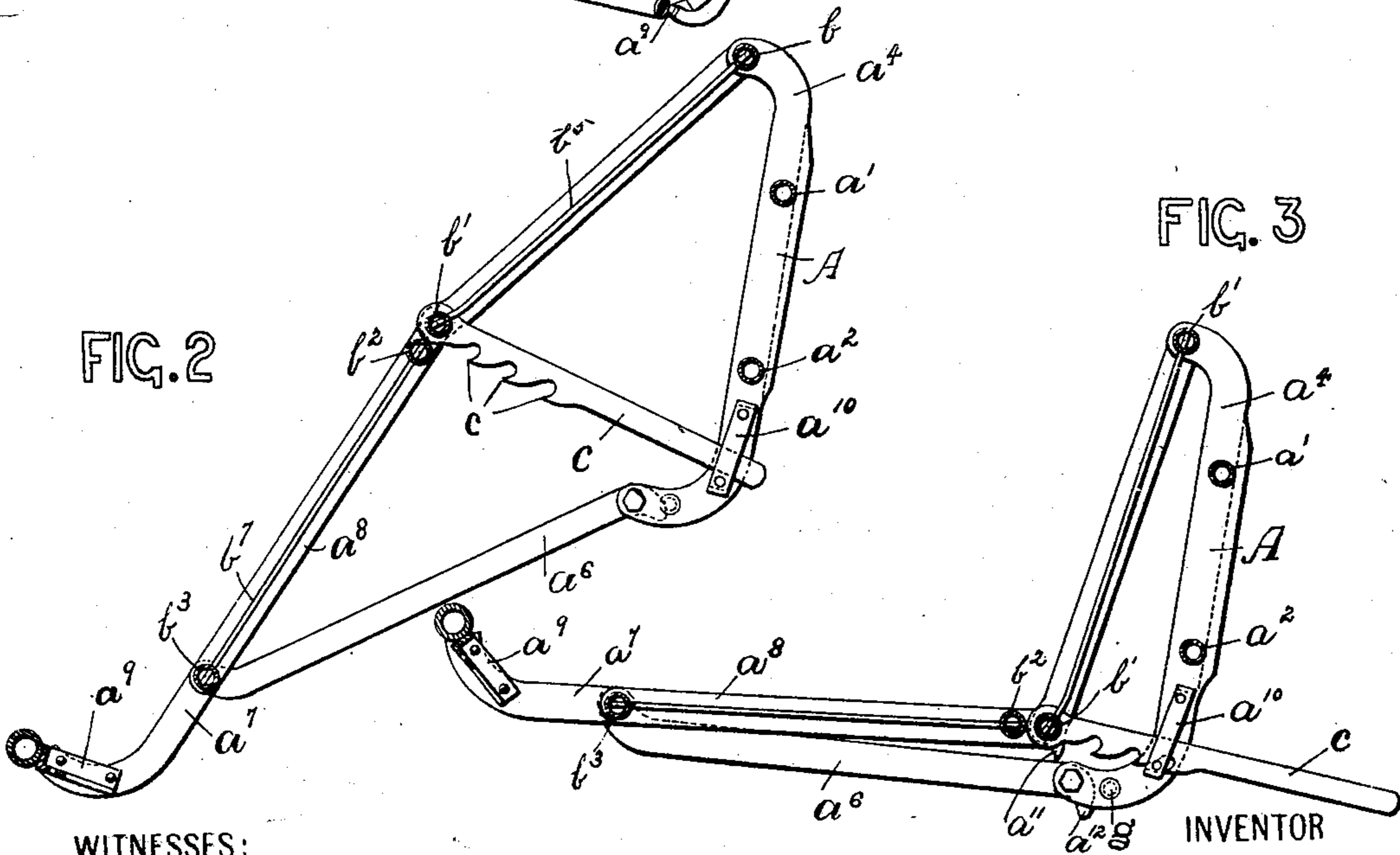
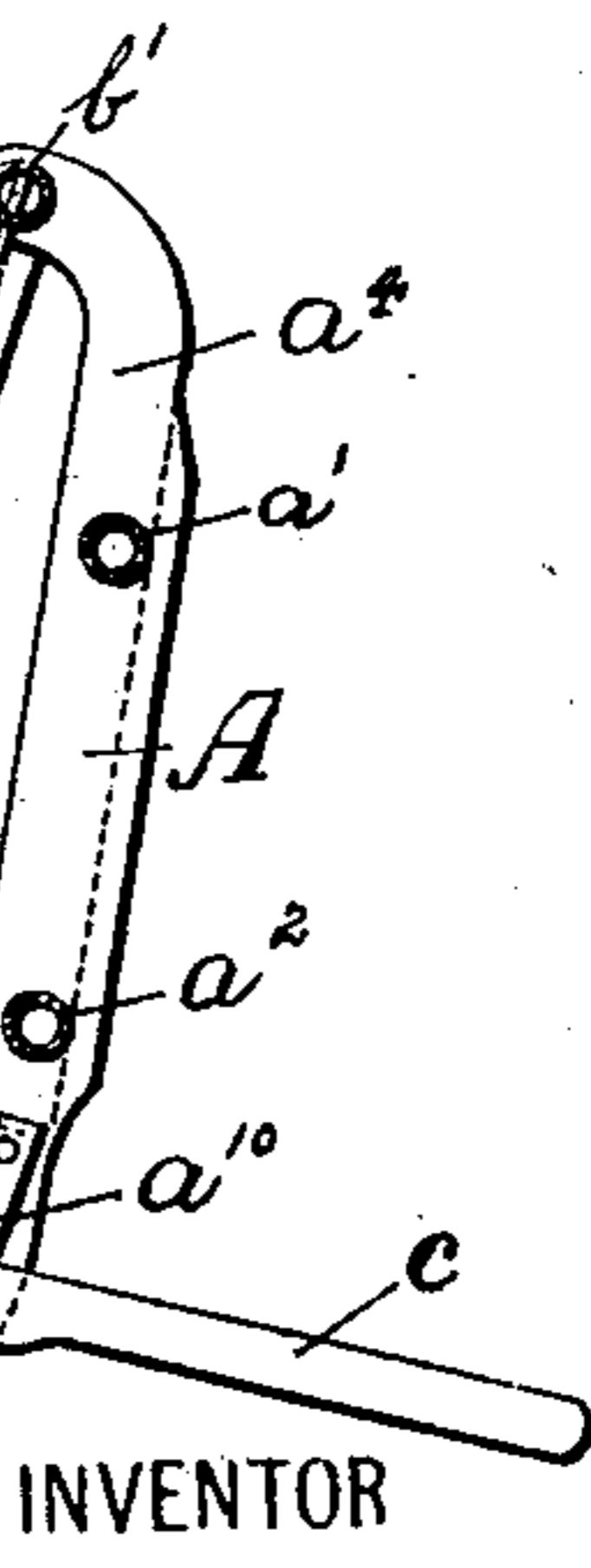


FIG. 3



WITNESSES:

Marcy J. Trudell
Chas. F. Rindzieher Jr.

ALBERT M BOWERS,

BY

Wm H. Campfield Jr.
ATTORNEY

UNITED STATES PATENT OFFICE.

ALBERT M. BOWERS, OF NEWARK, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 637,227, dated November 21, 1899.

Application filed September 5, 1899. Serial No. 729,429. (No model.)

To all whom it may concern:

Be it known that I, ALBERT M. BOWERS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention has reference to car-fenders attached to the front end of surface cars and adapted to collapse and form a basket or shelf on which the person is carried until the car is stopped.

20 The invention is furthermore designed to form when ready to be operated a light, simple, and easily-operated collapsible fender which can be folded up approximately flat against the dashboard of the car, and thereby enable the cars to be coupled together if necessary, and which also is cheap in construction, and the simplicity of its construction makes its operation assured.

30 In the drawings, Figure 1 is a perspective view of the fender, the front portion of a car, in its position ready to be operated. Fig. 2 is a vertical longitudinal section with the wire-netting removed and showing one of the side frames in elevation and in its extended position. Fig. 3 is a similar view, but with the fender collapsed after having been struck. Fig. 4 is a front view of one of the side frames and a portion of the wire panels in a position similar to that shown in Fig. 2, and Fig. 5 is a sectional view similar to Figs. 2 and 3 with the fender folded close up to the car. Fig. 6 is a detail sectional view on line 6 in Fig. 2; and Fig. 7 is a section on said Fig. 6, taken on line 7 in said figure. Fig. 8 is a detail of another hinge, to be described hereinafter.

45 In said drawings similar letters of reference indicate corresponding parts in each of the several views.

50 A indicates the standards or supports, which are connected by the rods or tubes a' and a'' and supported thereby on hooks or brackets

attached to the front of the car, as will be evident from Fig. 1. Said supports A are composed of two flat leaves of iron or other suitable metal, a^3 and a^4 , which are bent at their ends and form bearing-surfaces for the reception of the leaves a^5 and a^6 , which in turn support the side pieces a^7 and a^8 , the leaf a^7 being extended beyond the hinged joint of the leaf a^6 to form a support for the shelf or bumper a^9 , the whole forming when extended a diamond-shaped figure, as shown in Fig. 2. The connecting rods or tubes b and b' connect the two hinged ends of each leaf a^5 , and the rods b^2 and b^3 are similarly connected to the leaves a^7 and a^8 , the ends of said rods forming the pintles for said hinge-joints. The lower ends of the leaves a^3 and a^4 are connected or hinged to the leaf a^6 by means of the bolt or pin b^4 . Hinged or turning on said rod b' on either side is the rod c , provided with the teeth c' . Said rod c slides or works through the opening formed by the inside face of the rod and a guide-plate a^{10} , which is inserted in or otherwise secured to the leaf a^4 . The cross rods or tubes b and b' are connected near their ends by the smaller rods b^5 and b^6 , which form, with the cross-tubes, panels or frames, over which can be stretched wire or other suitable netting. The rods b^2 and b^3 are similarly connected by the rods b^7 and b^8 , which likewise form a panel for the stretching of a supporting-net. The said netting is stretched on said panels in any manner, but the ends are twisted around the supporting-rods, and when a heavy object falls on said fender there is a slight give or sliding of the wire around the tubing or rods to provide a yielding surface.

On the free ends of the plates a^7 is the bumper a^9 , which extends across the front of the fender and has affixed thereto a rubber or other suitable yielding material, which serves to lessen the force of the contact with the person being struck.

The hinge or joint of the leaves a^7 and a^8 with the leaf a^5 is shown in detail in Figs. 6 and 7, and the pintle is formed by driving a plug d in the end of the cross-tube b' , which can be secured by means of a pin or rivet d' , and said plug d is provided with a shoulder, against which a washer is forced by means of

the nut d^2 , which serves to hold the leaves on the pintle and prevents their binding when the nut is screwed up tight. The leaf a^5 is provided with a finger-piece a^{11} , which is adapted to come in contact with a plug e , placed in the end of the cross-tube b^2 , the purpose of which will be described hereinafter. The hinge formed by the joining of the plates or leaves a^3 and a^4 with the plate a^6 is pivoted on a bolt f . The plate a^6 is provided with a nose-piece a^{12} , which is adapted to come in contact with a pin or bolt g , driven or screwed through said leaves a^3 and a^4 , the nose-piece binding against said pin or bolt g being forced in contact, the construction of the fender allowing enough spring for their engagement, and thereby serving to hold the fender in its extended position and preventing its collapse unless hit by an object, as will be evident from Figs. 2 and 8.

The mode of operation is as follows: The fender is placed in position on the car by placing the cross rods or tubes a^1 and a^2 on the hooks or brackets on the bumper of the car, as indicated in Fig. 1. The plates a^5 are pulled up until the nose-piece a^{12} on the leaf a^6 is in binding contact with the pin or shank g and the finger-piece on the leaf a^5 is in contact with the pin e , which acts as a stop, as will be seen from Figs. 2, 7, and 8. The rod or ratchet c is free to slide in the guideway formed by the plate a^{10} . When the fender strikes a person or object, it will naturally be thrown against the rods b^1 and b^2 , which on account of the loose joints will immediately give way under the weight of the falling person or object, and in so doing the forward end of the plate or leaf a^6 acts as a fulcrum for the leaves a^7 and a^8 and causes the front end or bumper a^9 of the fender to be thrown upward, thereby forming a basket or shelf for the reception of the person, and the front end a^9 serves as a guard to prevent the person rolling off after the collapsing of the same. One of the teeth c' of the ratchet c will have in the meantime become engaged with the lower edge of the guide-plate a^{10} , and the fender is rigidly held in its collapsed position. (Shown in Fig. 3.)

When two cars are to be coupled, the fender can be quickly folded up out of the way, as shown in Fig. 5, the ratchet-teeth c' serving to hold it in its place, and by lifting the end of the rod c the fender can be released and let down again to any desired position.

The joints, as shown in Figs. 7 and 8, are loose, and therefore are not liable to be clogged by mud or ice, and the fender is always ready to be operated.

The wire-netting stretched on the panels or frames of the fender serves as a cushion and, coupled with the yielding nature of the framework, reduces the chances of the person being maimed or bruised to a minimum.

It will be evident that after the fender has collapsed and the front end raised there is no chance of the person rebounding or rolling

off the fender, and they are safely and securely carried until the operator is enabled to stop the car.

I do not wish to be understood as limiting myself to the exact construction herein shown, as I may change the details of construction and the arrangement of parts without limiting the scope of my present invention.

Having thus described my invention, what I claim is—

1. A car-fender, comprising a pair of standards detachably secured to the car, a plate hinged to each standard at the top thereof, a pair of plates hinged to the ends of the plate aforesaid, one of said plates projecting to form a bumper, supporting-leaves hinged to the bottom of said standards and having their forward ends pivoted near the end of each pair of plates, and a ratchet designed to hold said fender in its collapsed position, substantially as described.

2. A car-fender, comprising a pair of standards detachably secured to the car, a plate hinged to the top end of each standard, a pair of plates hinged to ends of the plate aforesaid, one of said plates projecting and supporting a bumper, a supporting-leaf hinged to the lower end of each standard, and hinged at the other end to the lower portion of said pairs of plates, the whole forming a pair of approximately diamond-shaped frames, adapted to collapse, cross rods or tubes connecting said joints or hinges, wire-netting stretched on said cross rods or tubes, and a ratchet designed to hold said fender in its collapsed position, substantially as described.

3. A car-fender, comprising a pair of standards detachably secured to the car, a plate hinged to the top end of each standard, a pair of plates hinged to ends of the plate aforesaid, one of said plates projecting and supporting a bumper, a supporting-leaf hinged to the lower end of each standard, and hinged at the other end to the lower portion of said pairs of plates, the whole forming a pair of approximately diamond-shaped frames, adapted to collapse, cross rods or tubes connecting said joints or hinges, wire-netting stretched on said cross rods or tubes, a rod c provided with ratchet-teeth c' pivotally connected with one of said cross-rods, and in engagement with a stop on the standards, and designed to hold said fender in its collapsed position, substantially as described.

4. A car-fender, comprising a pair of standards detachably secured to the car, a plate or leaf pivotally connected to the top of each standard, a pair of plates hinged to the plates aforesaid, one of said plates projecting to support a bumper, a supporting-leaf hinged to the lower end of each standard, and hinged at the other end to the lower portion of said pairs of plates, the whole forming a pair of approximately diamond-shaped frames, cross rods or tubes connecting the joints or hinges, rods connecting said cross rods or tubes and forming with said cross-rods a frame or panel

to support a netting, said frame being adapted to collapse, and a ratchet designed to be thrown in engagement with a stop on said standard and hold the fender in its collapsed condition, substantially as described.

5 5. A car-fender, comprising a pair of frames, each frame consisting of a standard detachably secured to the car, consisting of a pair of leaves, a plate hinged to the top of said standard, a pair of plates hinged to the plate aforesaid at its lower end, a supporting-leaf hinged to the lower end of said standard and hinged at the other end to the lower portion of said pair of plates, said frames being adapted to collapse, a ratchet hinged at its one end to the joint of the pair of plates and the upper plate, the free end of said ratchet working in a guide on said standards, and adapted to hold the fender in its collapsed position, cross rods or tubes connected with and forming pintles for said joints, rods connecting said cross-rods and forming there-with panels or frames to support a netting, and a bumper on the front of said fender to form, when the fender is collapsed, a guard, substantially as described.

6. A car-fender, comprising a pair of frames, each frame consisting of a standard A, detachably secured to the car, consisting of a pair of leaves a^3 and a^4 , a plate a^5 hinged to the top of said standard, a pair of leaves a^7 and a^8 hinged to the plate a^5 , a supporting-leaf a^6 hinged to the lower end of said standard A, and hinged at the other end to the lower portion of the said leaves a^7 and a^8 , cross rods or tubes b , b' , b^2 and b^3 connecting and forming pintles for said joints, the tubes being provided at their ends with plugs d which are fastened by pins d' , the leaf a^5 provided with a finger-piece a^{11} , which is in contact with the end of the tube b^2 when the fender is extended, and the plates a^6 being provided with a nose-piece a^{12} which is in bind-

ing contact with the bolt or pin g and the standard A, the whole forming a pair of approximately diamond-shaped frames, adapted to collapse, a ratchet c designed to engage with a guide a^{10} on the standard A, and hold the fender in its collapsed position, substantially as described.

7. A car-fender, comprising a pair of frames, each frame consisting of a standard A, detachably secured to the car, consisting of a pair of leaves a^3 and a^4 , a plate a^5 hinged to the top of said standard, a pair of leaves a^7 and a^8 hinged to the plate a^5 , a supporting-leaf a^6 hinged to the lower end of said standard A, and hinged at the other end to the lower portion of the said leaves a^7 and a^8 , cross rods or tubes b , b' , b^2 and b^3 connecting and forming pintles for said joints, the tube b^2 being provided at either end with a plug d , a pin d' securing the plug in said tube, said leaves a^7 and a^8 and said leaf a^5 being hinged on said plug d , a shoulder on said plug adapted to act as a stop to a washer or a nut, screwed on the screw-threaded end of said plug d , thereby insuring a loose joint, the leaf a^5 provided with a finger-piece a^{11} , which is in contact with the end of the tube b^2 , when the fender is extended, and the plate a^6 being provided with the nose-piece a^{12} which is in binding contact with the bolt or pin g in the standard A, the whole forming a pair of approximately diamond-shaped frames, adapted to collapse, a ratchet c designed to engage with a guide a^{10} on the standard A, to hold the fender in its collapsed position, substantially as described.

In testimony that I claim the invention set forth above I have hereunto set my hand this 2d day of September, 1899.

ALBERT M. BOWERS.

Witnesses:

WM. H. CAMFIELD, Jr.,
J. FOSTER HANKINSON.