

(No Model.)

2 Sheets—Sheet 1.

W. H. HORSTMANN.  
CAR FENDER.

No. 564,198:

Patented July 21, 1896.

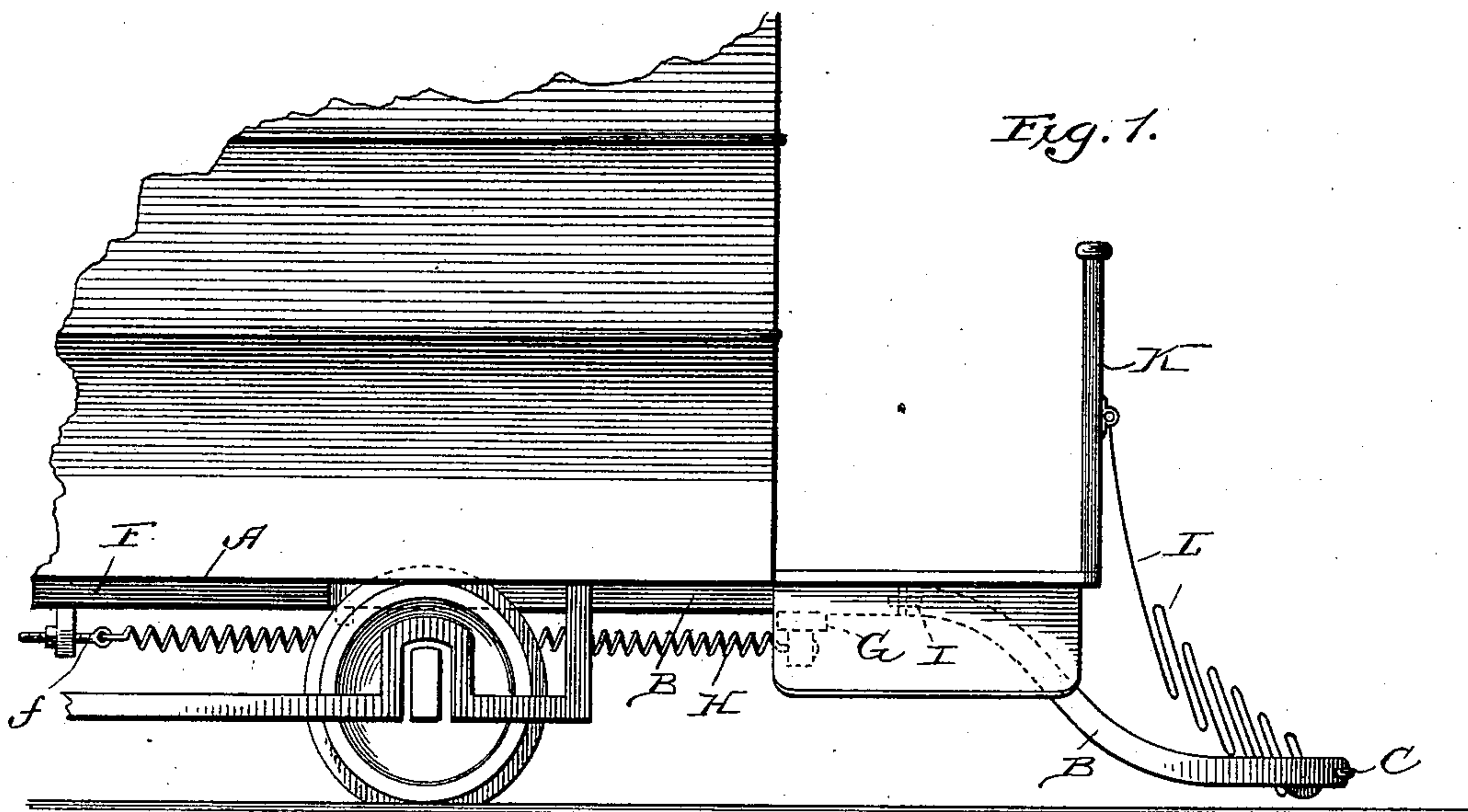
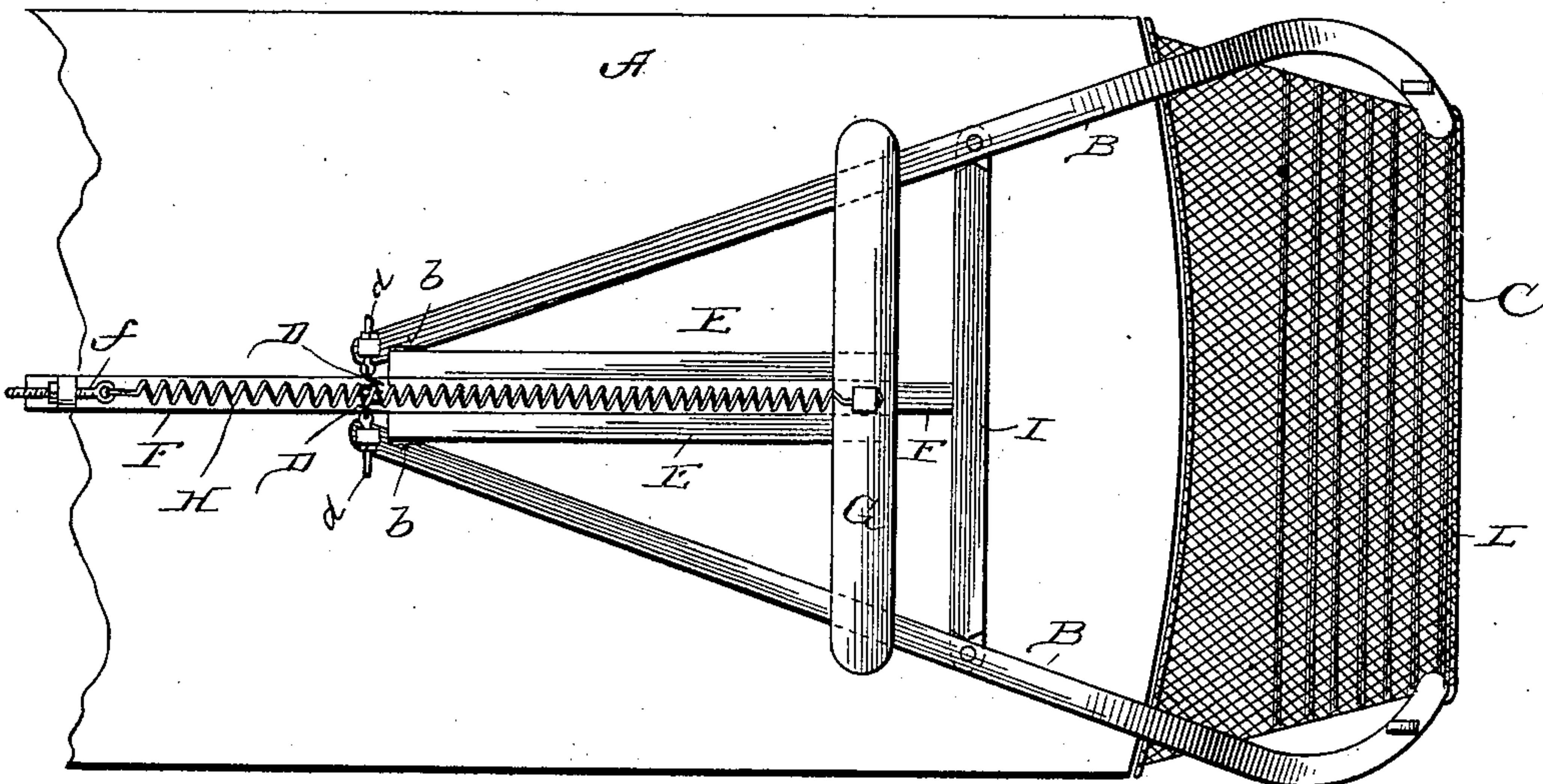


Fig. 2.



WITNESSES:

Harry S. Rohrer.  
Henry S. Berlin

INVENTOR  
William H. Horstmann  
BY  
J. F. Beale.  
ATTORNEY.

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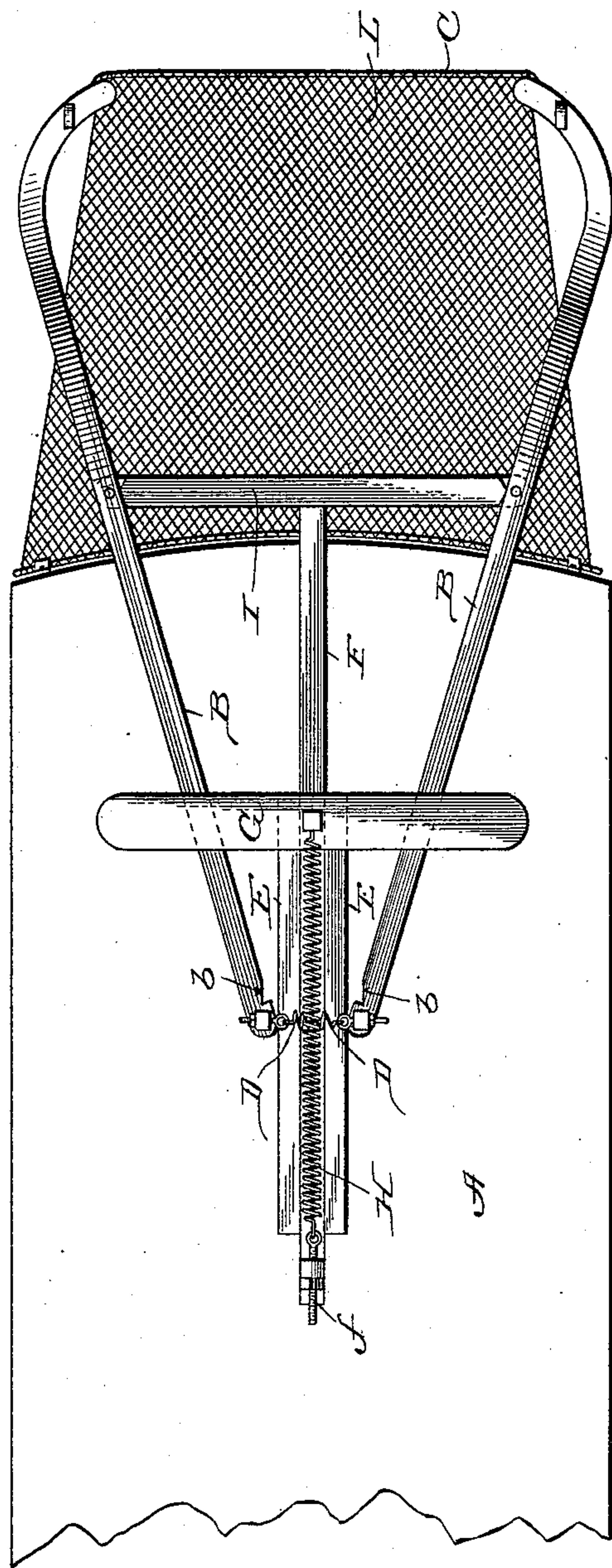
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Fig. 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM H. HORSTMANN, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 564,198, dated July 21, 1896.

Application filed October 19, 1895. Serial No. 566,214. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. HORSTMANN, 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; 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.

My invention relates to car-fenders, and more particularly to that class having a trip in front of the car-dashboard, which, when struck by an object or person, will actuate mechanism to throw the fender forward and catch the person thereon.

The object of my invention is to simplify and materially reduce the cost of construction of this class of fenders as well as to provide, by reason of its incomplex construction, a more positive and direct-acting mechanism. It is also my object to provide an improved fender-frame adapted to dispense with the employment of transverse bars or braces which could possibly come in contact with a person struck by the fender; also to dispense with the usual rigid upright portion of a fender-frame and thereby reduce the weight and remove the danger incident to a person coming in violent contact with said rigid portion.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of the front portion of a car, showing my fender attached in its normal position. Fig. 2 is a plan view showing the fender attached to the under side of a car-floor in its normal or folded position. Fig. 3 is a like view showing the same unfolded or extended.

Referring more particularly to the drawings, A denotes the under side of the car-floor; B, fender-hangers connected at their outer ends by a trip-rope C and at their inner ends by a coiled spring D D; said inner ends have notches *b* formed thereon and engaging with the rear square ends or corners of guides E E, fastened to the under side of the car-floor.

*d* denotes a right-and-left screw for adjusting the tension of the springs D and through

them the tension of the trip-rope C when the fender is set or in its normal position.

F denotes a plunger, between said guides and under a cross-brace G rigidly secured to said guides.

H denotes a coiled spring secured at an end to the brace G, the other end being adjustably secured to the plunger F by means of a screw *f*.

I denotes a spreader-bar pivotally secured to the hangers B, forming a hinge-joint therewith.

K denotes the dashboard, and L denotes a net suspended from said dashboard by its inner end, while its outer end is fastened to the trip-rope C. The sides of said net are loose or free and the body of the net is made full in order to sag slightly in the center when the net is stretched or extended outward. When the fender-frame is closed in or folded, the net falls in folds and laps fold upon fold in front of the car-bumper and along the inside of the trip-rope, affording a cushion.

The fender-frame is secured to the under side of the car floor and platform by screws or in any suitable manner.

My fender-frame may be made of any suitable material which would insure lightness and strength, and may be made of rectangular pieces, as shown, or tubing could be used for portions of the frame if desired.

When the fender is in its normal or set position, as shown in Fig. 1, the outer portion of the fender projects about two feet in front of the car, and when extended to its full length about six feet. The outer ends of the hangers are curved inward and have a lateral extension about equal to the car-platform on the track-rails. Said rounded ends, besides economizing space, serve to shunt an object or person lying on either rail outside of the range of the wheels and car-platform.

The fender-frame is operated automatically to shoot forward by the contact of the yielding trip-rope with a person or object in its path-way and instantly projects the net outwardly and under the same and prevents the possible contact of such object or person with the platform or car-body or being carried under the same. It will be observed in this connection



tion that I dispense with transverse bars or any uprights or other portion of a fender-frame which could possibly come in contact with a person, the impact being received entirely upon the yielding trip-rope and net.

As the trip-rope yields, the outer ends of the pivoted hangers move inward, causing the inner ends to move outwardly, overcoming the tension of the springs D and releasing the catches *b* from the ends of the guides E E. The coiled spring H, acting through the plunger, instantly projects the fender-frame and spreads the net.

In order to fold the fender it is only necessary to force the hangers back until the hooks *b* engage with the rear corners of the guides E E. In this position the fender is elevated about two or three inches above the ground, so that the trip-rope would strike about the ankles.

As shown in Fig. 1, I provide the outer ends of the hangers with a shoe or runner to guard the outer ends of the hangers from contact with the rails when the fender is extended.

Instead of a shoe I may use a small wheel for this purpose journaled on the outer end of each runner.

Having shown and described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-fender having a net or other yielding portion projecting in front of the car, the combination of the hanger-arms connected at their outer ends by a yielding attachment and at their inner notched ends by a yielding contractile connection, said arms being separated by a spreader-bar to which they are hinged and adapted to swing in a horizontal plane, and means for projecting said fender forward.

2. The combination of the fender-frame consisting of the diverging arms having a yielding connection at their outer ends and connected by a coiled spring at their inner ends, means for retaining said inner ends the spreader-bar hinged to said arms between the inner and outer ends, and means for automatically releasing and forcing said arms outwardly when resistance is offered to said yielding connection between the outer ends of said arms.

3. In a car-fender frame of the class de-

scribed, the combination of the pivoted hangers having their outer ends adapted to swing outwardly and connected by a trip-rope or other yielding connection, and their inner ends connected by a coiled spring, a spreader hinged to said hangers between said ends, means for confining the inner ends of said arms and releasing the same, and means for thrusting said frame forward, substantially as shown and described.

4. In a car-fender of the class described the combination of the hinged hangers, the coiled spring for projecting the same forward the yielding connection at their outer ends, the flexible contractile connection at their inner ends adapted to separate or spread said outer ends and stretch their yielding connection; and also adapted to retain said inner ends in their normal position and allow of their release, said contractile connection having adjustable means secured to the inner ends of said hangers for regulating the tension of said yielding connection between their outer ends, substantially as shown and described.

5. In a car-fender of the class described the combination of the hangers hinged together and separated by a spreader their inner and outer ends moving in a horizontal plane in opposite directions, and having an adjustable flexible connection between said ends, the plunger pivotally attached to said hangers, an adjustable coiled spring for actuating the fender-frame and means for securing said frame to the under side of a car-floor.

6. In a car-fender of the class described the combination of the net secured to the dashboard and to the trip-rope, the hangers hinged together and separated by a spreader their inner and outer ends moving in opposite directions the inner ends connected by a coiled spring and their outer ends by said trip-rope, a plunger rigidly connected to said spreader, and a coiled spring actuating said plunger, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. HORSTMANN.

Witnesses:

H. E. PARKER,

GEO. H. HOWARD.