(No Model.)

W. GRUNOW, Jr.
CAR FENDER.

No. 560,029. Patented May 12, 1896.

Fig. 1.

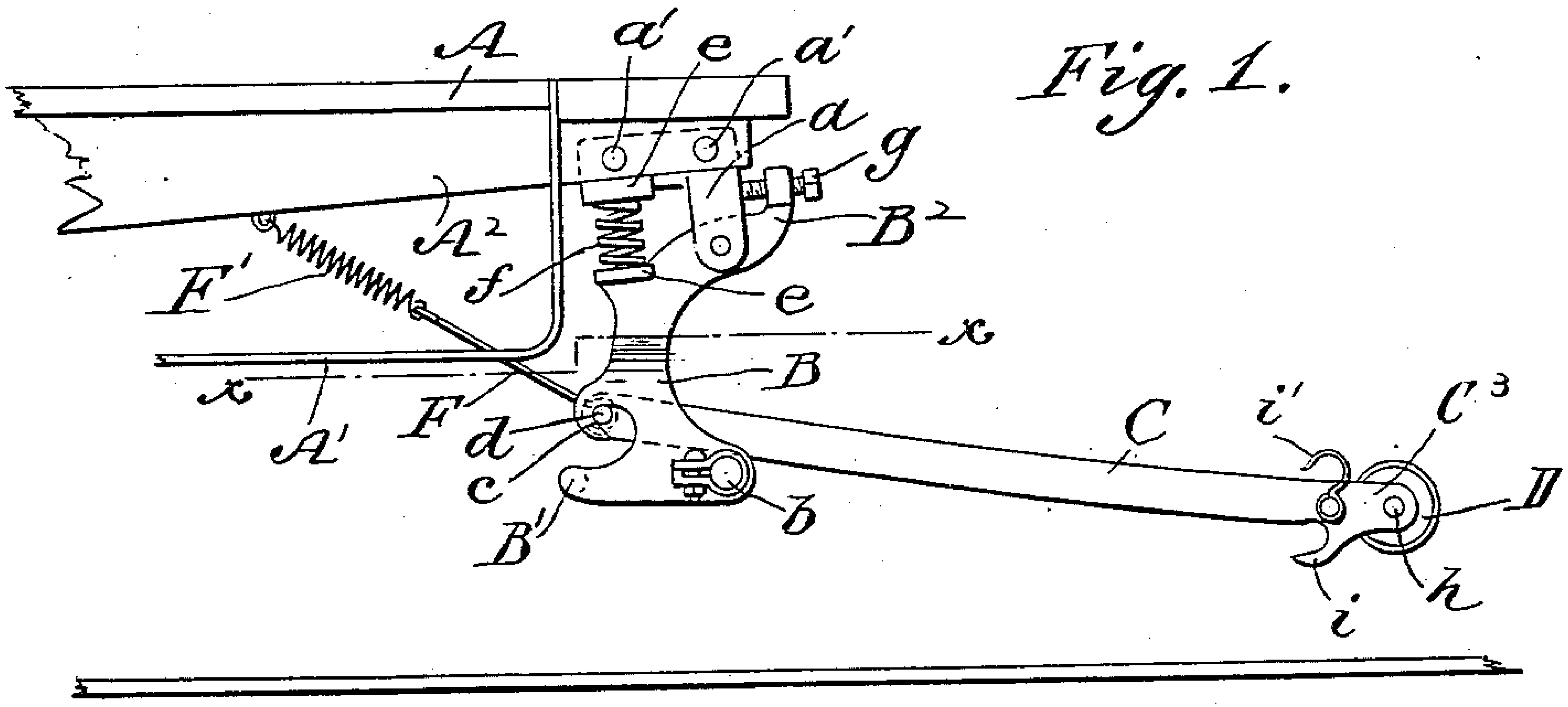


Fig. 2.

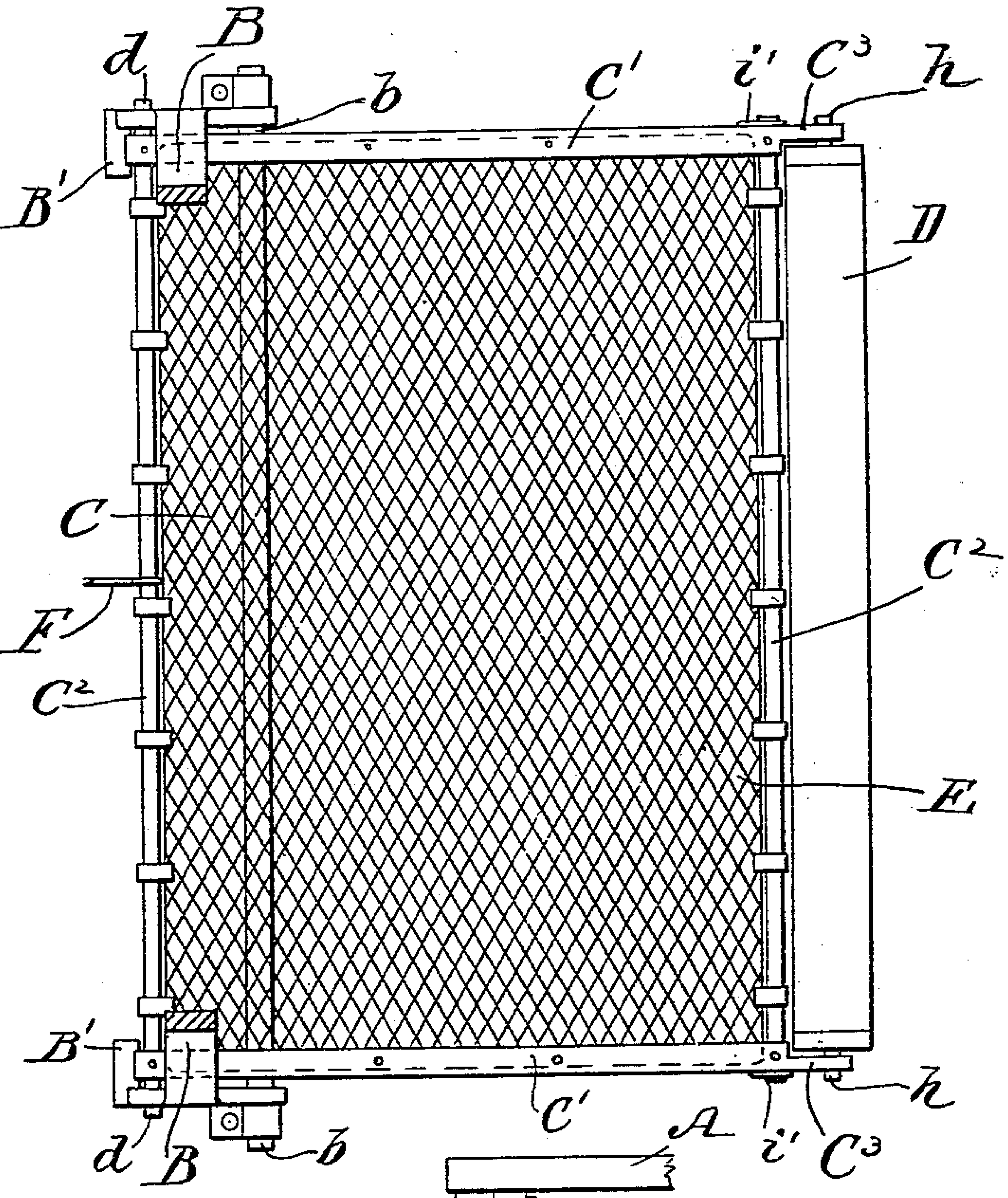
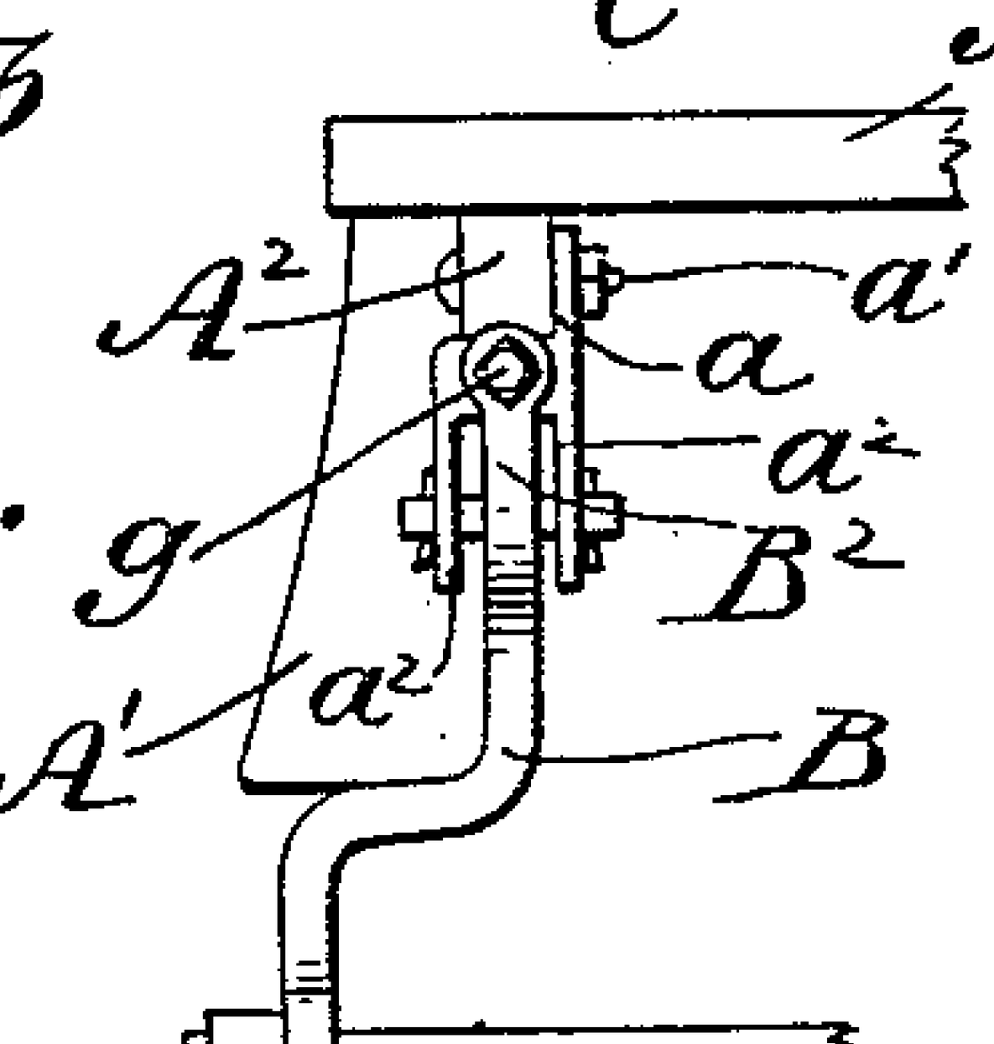


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM GRUNOW, JR., OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO ZALMON GOODSELL, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 560,029, dated May 12, 1896.

Application filed December 12, 1894. Renewed November 4, 1895. Serial No. 567,956. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRUNOW, Jr., a citizen of the United States, and a resident of Bridgeport, county of Fairfield, and State of Connecticut, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in all the figures.

This invention relates to car-fenders which project in front of the car-platform, and has for its object to provide a simple, cheap, readily-constructed, and perfectly-operating device of this character, which will be normally projected beyond the front of the car and automatically depressed by the impact of a body striking the front of the same, which may be adjusted to any desired height from the track and be vertically yielding or adapted to oscillate, and which may be slid rearwardly beneath the car-platform when not in use.

The invention consists in the novel construction and arrangement of parts hereinafter fully described.

In the accompanying drawings, Figure 1 is a side elevation of a device embodying my invention mounted upon the forward end of the car-platform. Fig. 2 is a sectional plan upon the line $x\,x$, Fig. 1. Fig. 3 is a front elevation of one side of the fender-supports and platform.

In the practice of my invention I secure to the under surface of the car-platform A, in front of the car-steps A′, hangers a at each side thereof, secured to the beams A^2 by means of bolts a', said hangers being provided with bifurcated or forked arms a^2, in which are journaled angular or curved arms B, depending therefrom, and having secured between the lower ends of the same a cross bar or rod b. At the rear of the arms are formed semicircular notches c, in which are inserted pins d, projecting outwardly from each end of the fender-frame C, which is thus pivoted at the rear thereof in the said arms and rests upon the rod b, and beneath these notches the arms have inwardly-projecting lugs B. Upon the upper surface of the arms B are formed flanges e, above which are mounted spiral springs f, bearing against said flanges and the extension or flange e' of the hangers a. Projecting upwardly from the forward end of the arms B are extensions B^2, in which are mounted set-screws g, bearing against the hangers a, to adjust the angle of suspension of the arms.

The fender-frame C is formed of two side bars C′, connected at the front and rear by means of tubular pipes C^2, said side bars C′ being provided with forwardly-projecting extensions C^3, in which is mounted a preferably wooden roller D, ferruled at either end, and provided with a tubular shaft b, extending therethrough, or trunnions at either end thereof journaled in said extensions C^3. Upon the bottom of the extensions C^3 are formed hooks i, and upon the outer ends of the forward pipe or tubular rod C^2 are pivotally mounted hooks i'. Intervening the cross-bars C′ and the tubular rods C^2 is a wire-netting E, secured thereto in any suitable manner.

The fender-frame is secured in position and the pins d upon the rear thereof held in the notches c by the weight of the forward portion of said frame, and the same is further secured by a rod F, connected by means of a spring F′ to the under side of the car-platform, said rod F being removably attached to the rear pipe or tubular rod C^2 at the center.

The operation of the device will be readily understood from the foregoing description, taken in connection with the accompanying drawings. When the body strikes the roller D, the impact thereof against said roller causes the frame C to yield downwardly, bearing against the cross-bar b of the arms B, which said arms yield upwardly and rearwardly against the springs f, between the same and the hangers a. The height of the forward end of said fender-frame may be adjusted by means of the set-screws g. When the fender is not in use, the same may be tilted upwardly at the front to disengage the pins d from the notches c, whereupon the fender-frame may be slid rearwardly, resting upon the lugs B′ until the hooks i engage the under side of the cross-bar b, to support said fender in the retracted position. The hooks i' may also be dropped down upon said cross-bar to further secure the fender in place.

The advantages resultant from the use of the invention will be manifest to all who are conversant with the general class of devices to which the same appertains.

I do not confine myself to the exact formation of parts or construction of details herein set forth and illustrated.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-fender comprising arms pivoted beneath the car-platform to depend therefrom and be rearwardly movable, springs between said arms and the platform, whereby they yield, a cross-bar connecting the arms at the front, a fender-frame detachably pivoted in said arms and resting upon the bar, and adapted to be slid rearwardly, lugs projecting from said arms to support said fender in the retracted position, and means upon said frame for securing the same in the retracted position, substantially as shown and described.

2. A car-fender comprising hangers secured to the car-platform, arms pivoted therein to depend therefrom, springs between said arms and the hangers, set-screws mounted in said arms bearing against the hangers to adjust the angle of suspension thereof, and a fender-frame detachably pivoted in said arms at the rear thereof and downwardly immovable, and adapted to be slid rearwardly beneath the car-platform, substantially as shown and described.

3. A car-fender comprising hangers secured beneath the car-platform, arms pivoted in said hangers to depend therefrom, springs between said arms and the hangers, a cross-bar connecting said arms at the front, notches formed therein at the rear, and lugs projecting inwardly from said arms at the rear, a fender-frame having pins thereon pivoted in said notches and resting upon the cross-bar, whereby it is downwardly immovable, and adapted to be slid rearwardly beneath the car, and hooks upon said frame to engage the cross-bar when the fender is retracted, substantially as shown and described.

4. A car-fender comprising hangers secured beneath the car-platform, angular arms pivoted therein and depending therefrom, springs between said arms and the hangers, set-screws mounted in said arms and hangers to adjust the angle of suspension of the fender, a cross-bar connecting the arms at the front, notches formed therein at the rear, and lugs projecting inwardly therefrom, a fender-frame comprising side and cross bars having intervening netting, and connected at the rear to the car-platform by means of a spring, said fender being adapted to be slid rearwardly beneath the car, hooks upon said frame to engage the cross-bar of the arms, and secure the same when retracted, and a roller at the front of said frame, substantially as shown and described.

5. A car-fender comprising forked hangers secured beneath the car-platform, angular arms pivoted in said hangers and depending therefrom, whereby they are rearwardly movable, spiral springs between said arms and the hangers, whereby the arms are vertically yielding, extensions at the front of said arms, set-screws therein bearing against the hangers to adjust the height of the forward end of the fender, a cross-bar connecting said arms at the front, notches formed therein at the rear, and lugs projecting rearwardly therefrom, a fender-frame comprising side bars connected by tubular rods at front and rear, with intervening netting, pins upon the rear rod, detachably mounted in the notches, said frame resting upon the cross-bar and secured to the platform by means of a rod and spring and adapted to be slid rearwardly beneath the car, hooks formed upon the under side of the fender-frame to engage the bottom of the cross-bar when the fender is retracted, lugs pivoted thereon to engage the top of said bar, extensions projecting from the fender, and a wooden roller journaled therein, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of December, 1894.

WM. GRUNOW, JR.

Witnesses:
ZALMON GOODSELL,
CHARLES KELSEY.