

(No Model.)

2 Sheets—Sheet 1.

D. F. NIAL.
CAR FENDER.

No. 543,264.

Patented July 23, 1895.

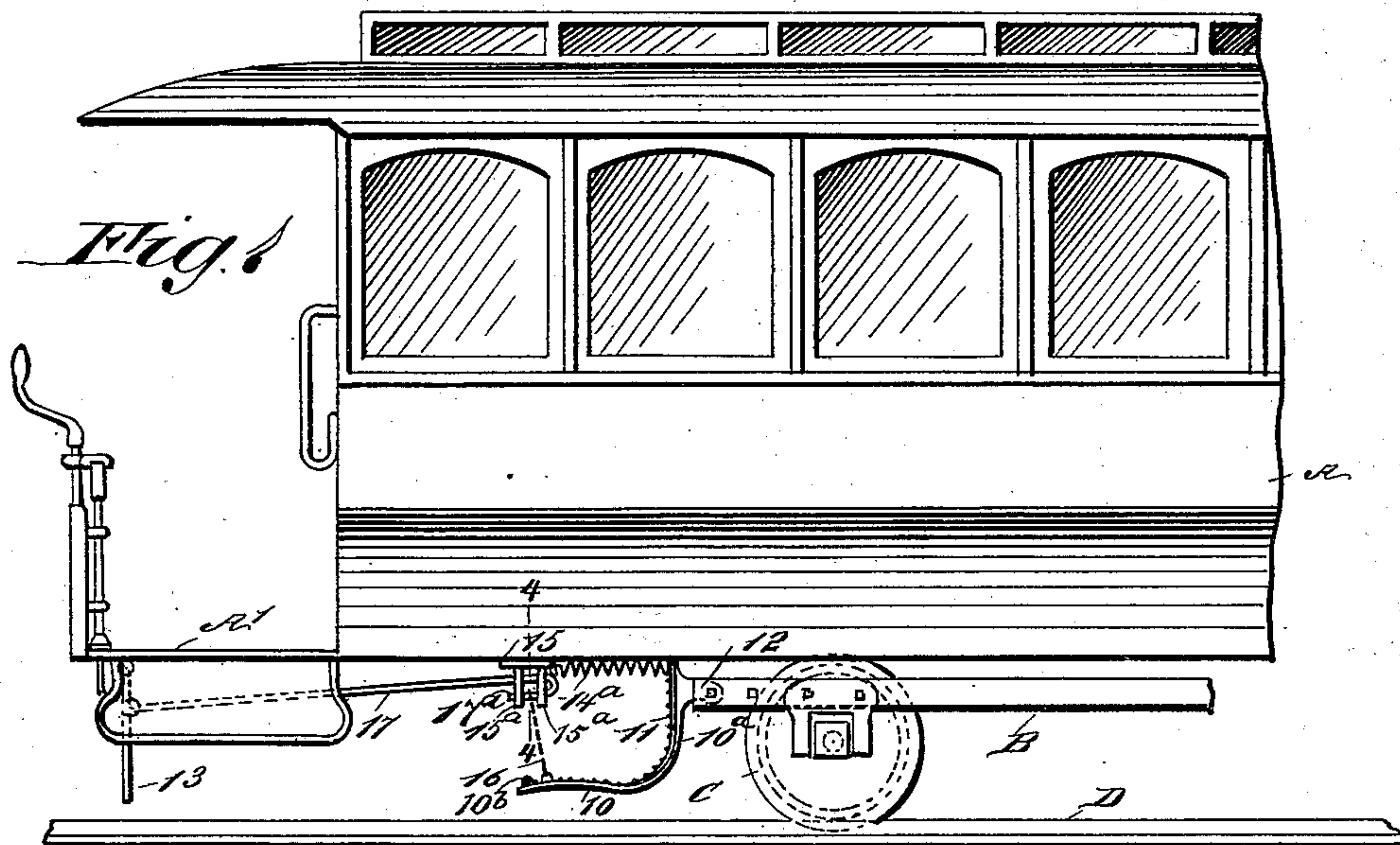


Fig. 2.

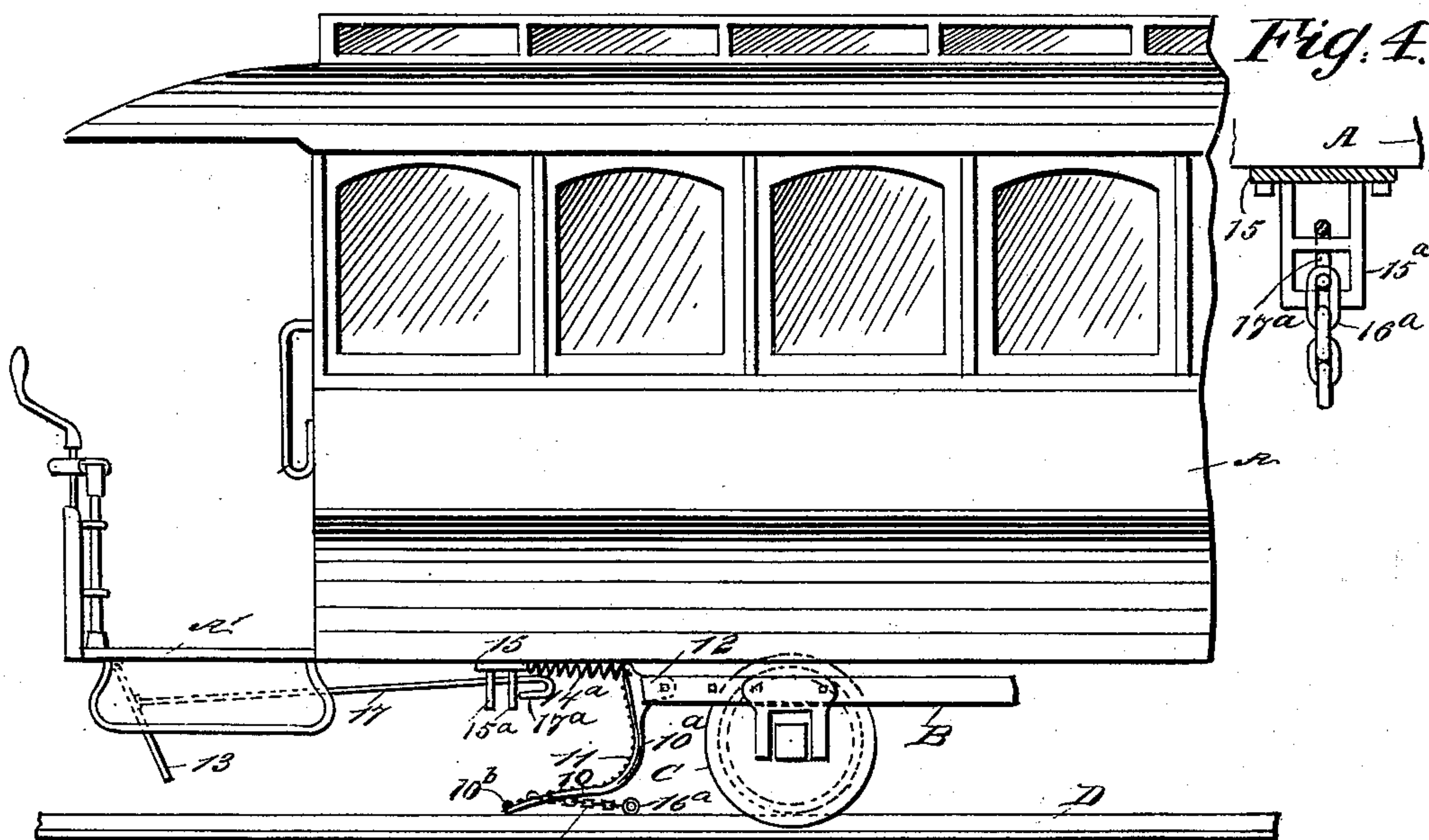
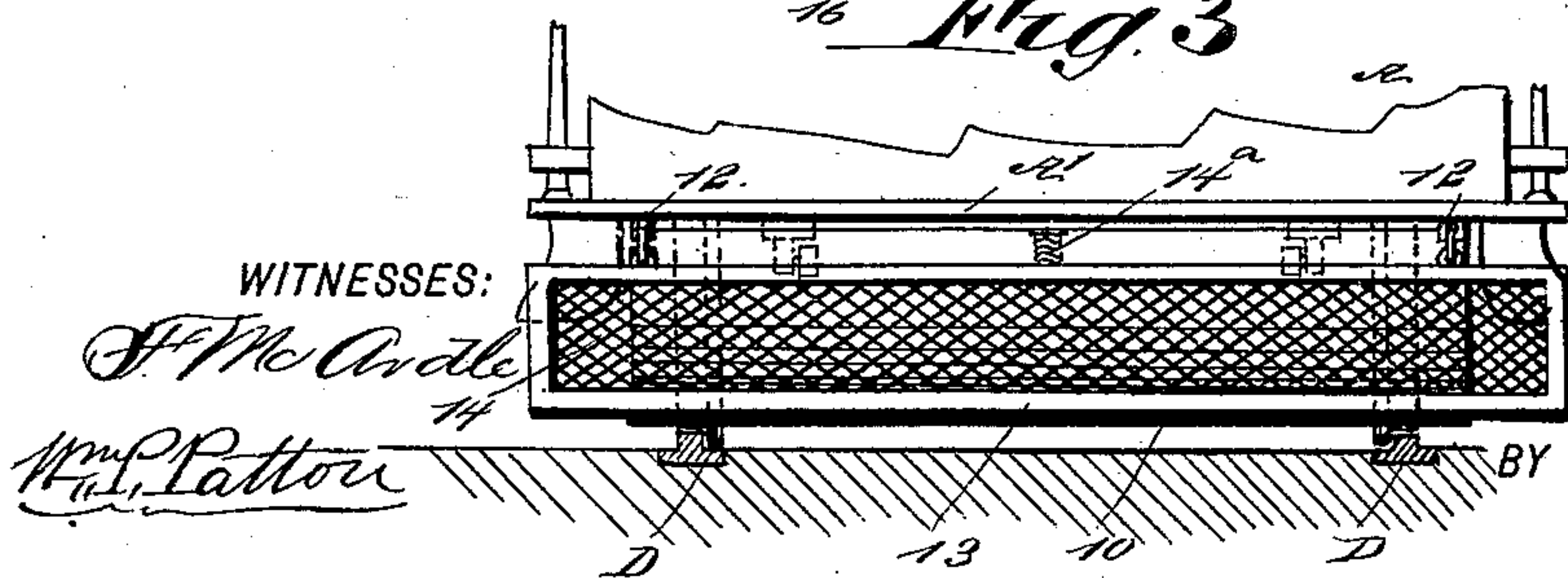


Fig. 3



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Fig. 5.

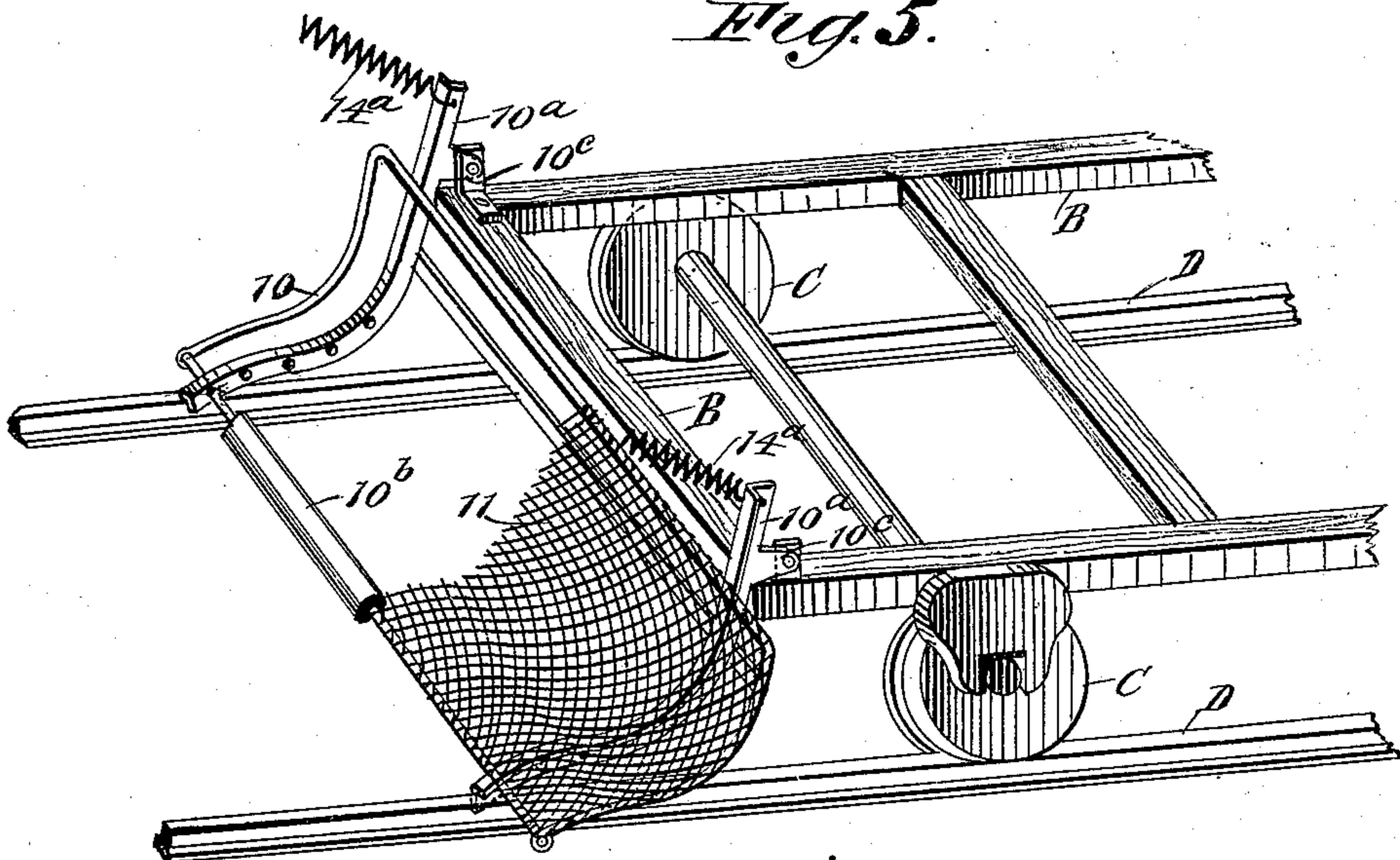


Fig. 6.

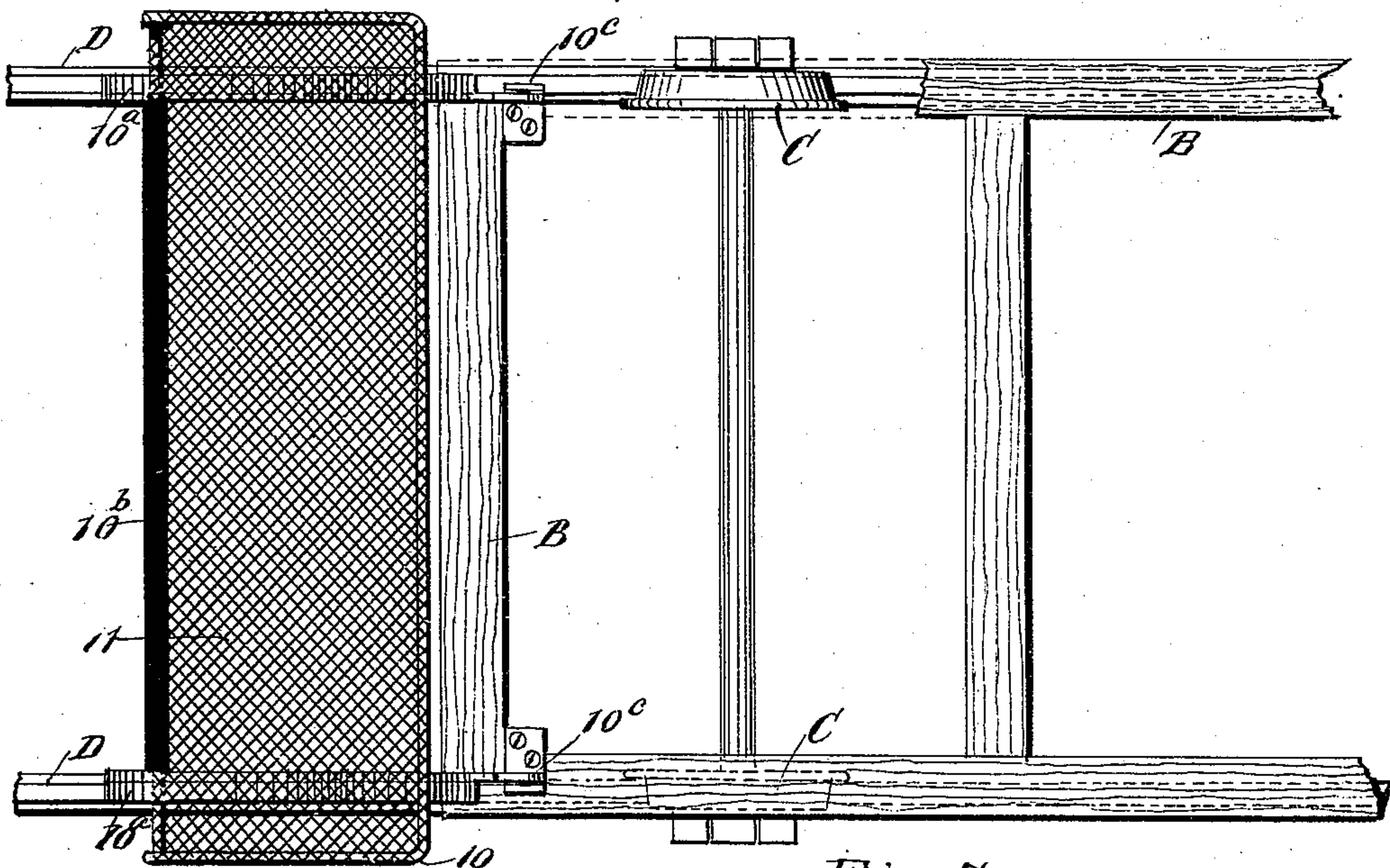
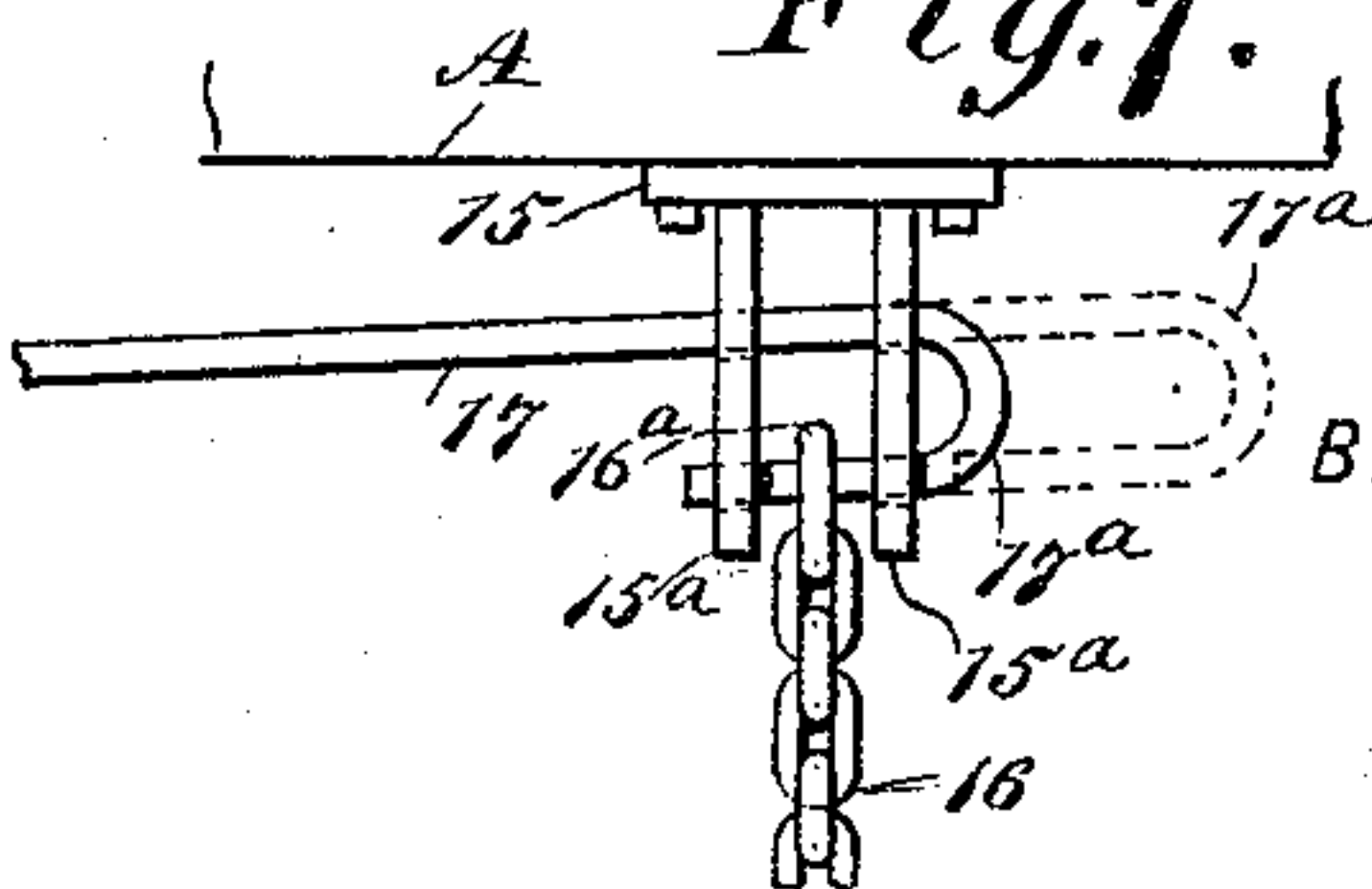


Fig. 7.



WITNESSES:

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INVENTOR

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BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL F. NIAL, OF TROY, NEW YORK.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 543,264, dated July 23, 1895.

Application filed November 23, 1894. Serial No. 529,713. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. NIAL, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Car-Fenders, of which the following is a full, clear, and exact description.

My invention relates to improvements in car-fenders of the automatic type, and has for its object to provide a car-fender that is very simple, is inexpensive, and perfectly practical in operation, being brought into service by the impinge of a person that may be struck by the forward portion of the fender device while on the railway-track.

A further object is to provide means for the rocking attachment of the fender proper on the frame of the car-truck, so that oscillations of the car-body will not be to any great extent transmitted to the fender-scoop.

The invention consists in the construction and combination of parts, as is hereinafter described, and indicated in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the improvement applied to a car and adjusted for service. Fig. 2 is a side view of the fender on a car, showing the position of parts after being struck in front by an object. Fig. 3 is a front view of the lower portion of a car-body and the improvement thereon. Fig. 4 is a transverse sectional view of part of the improvement on a bottom portion of a car. Fig. 5 is a perspective view of the fender-scoop on a car-frame, in part, portions of the fender-scoop being removed to show the construction of other parts. Fig. 6 is a plan view of the fender-scoop frame and of the car-frame whereon the fender is hinged, and Fig. 7 is a detached enlarged side view of a detail of construction which is part of the improvement.

The improved car-fender is adapted for use in connection with any car that is moved on a railroad, and is particularly well adapted for service on a street-railway car that may be moved by cable or electricity, and which is dangerous to human life if not provided with reliable means for preventing a person

from being crushed or run over if accidentally struck by the car.

In the drawings, A represents a portion of a car-body, such as is usually provided for a street-railway passenger-car, and B indicates the end portion of the car-truck frame that is supported for propulsion on the rails D by the wheels C.

The fender proper consists of a scoop-like device, of which 10 is the border frame, which is curved at each end near the center of said ends and in the same direction, so as to produce an upright portion and a nearly-horizontal portion on the frame.

Preferably the frame 10 is furnished with light strong angle-iron brace-bars 10^a, that are bent edgewise to conform in shape with that of the ends of the frame, and said bars, two in number, are perforated at their extremities to receive the forward rail of the frame 10, and are secured on the side of the border frame that in service is nearest to the truck-frame B at such points as will allow their lower ends to have contact with the track-rails D, as shown clearly in Fig. 5.

The forward and lower edge of the frame 10 is preferably covered with a gum or other elastic cushion 10^b, which is sustained near the track-bed, but does not touch it when the fender-frame is in service to lift a body from the track, as the brace-bars 10^a extend slightly below the cushion and when in contact at their lower ends with the track-rails prevent a wearing contact of the elastic covering 10^b with the rough road-bed. There is a slightly-yielding netted covering 11 placed on the frame 10, this covering having sufficient area to extend completely over the space bounded by the said frame, to which it is firmly attached at its edges. The frame 10 is hinged to the truck-frame B by its top edge, or preferably by projections from the rear edges of the brace-bars 10^a at a short distance from the upper ends of said bars, as plainly shown at 10^c, in Figs. 5 and 6, so that the fender-scoop complete may be rocked on its pivot-connections with the truck-frame to cause it to approach the track or be removed therefrom.

At the front and on the under side of the platform A⁴, that as usual projects in advance of the car-body, an oblong apron 13 is hinged to hang by its upper edge across the platform,

its length being about equal with the width of the part it is hung from. The apron may be made in various ways, but preferably it is constructed, as shown, consisting, essentially, of a rectangular frame that is covered with a netting 14. (Shown plainly in Fig. 3.)

The proportions of the apron 13 are such as will adapt it to have a proper clearance from the rails D, and should extend outside of said rails at its ends, so as to insure that anything on the track ahead of the car will strike the apron if the car is moving toward the obstacle, which may be a person on the track.

Two springs 14^a extend from the upper ends of the brace-bars 10^a forwardly, and these springs are secured by their forward ends to the car-body, and as the springs engage the bars of the fender-frame above the hinge-joints of the latter, it will be seen that the pull of the springs will depress the lower edge of the fender-scoop toward the tracks D.

There is a bracket-plate 15 provided, which is composed of two depending spaced members 15^a, that are on a base-plate which is secured on the lower side of the car-floor, and said members are perforated at two points for the reception of a pusher-rod.

The fender-scoop is held at a short distance above the track D by a flexible connection 16, that may be a wire rope, or a chain, as shown, said chain having one end attached to the fender-frame 10 at or near its front transverse edge, and has a link 16^a of proper size secured on its other end.

A pusher-bar 17 is loosely secured by its forward end to the rear face of the apron 13, and passes rearward through the upper pair of holes in the depending members of the bracket-plate 15, and it has a downwardly and forwardly bent hook 17^a on the rear end which will enter its lower limb in the lower set of holes in the bracket-plate limb when the apron hangs plumb. The fender-scoop is lifted from the track D and hung from its front edge, so as to render the lower part of the frame 10 substantially level, as shown in Fig. 1, by the chain 16, the link 16^a of the chain being introduced in the space between

the limbs 15^a, and its link is engaged with the lower member of the hook on the rod 17, the stress of the springs 14^a preventing the hook from being accidentally displaced. The weight of the apron causes it to hang vertically, and this draws the hook forwardly in the bracket-plate 15 until its rear bent portion engages the rear face of the bracket 15 between the perforations in said bracket, affording additional safety against an accidental fall of the fender-scoop.

It will be seen that if an accidental contact of a person is had with the apron 13 while the car having the improvement is moving toward said person, the impinge of the falling individual will swing the apron rearwardly, so that its lower edge will pass over the prostrate body. This will push the bar 17 and cause the hook at the rear end of said bar to pass out of the aperture engaged by the lower member of said hook, so that the end of the chain 16 engaged by the hook will be dropped, thereby releasing the forward edge of the fender-scoop, which will instantly be depressed by the springs 14^a, so that the fender proper will scoop up the prostrated person and safely carry the body until the car is stopped, and the person is thus saved from serious injury by the instantaneous automatic action of the improved safety car-fender.

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

In a car-fender, the combination of L-shaped brace bars pivoted at their upper ends and perforated near their lower ends, a fender having a border frame bent to an L shape and having its front rail secured in the perforations in the extremity of the brace-bars, means for holding the front edge of said fender normally above the track, and means actuated by contact with an obstruction on the track for releasing said fender, substantially as set forth.

DANIEL F. NIAL.

Witnesses:

TIMOTHY J. QUILLINAN,
JOHN NIAL.