

No. 701,682.

Patented June 3, 1902.

ERNEST E. CLARK & EBEN E. CLARK.

FENDER.

(Application filed Apr. 12, 1901.)

(No Model.)

Fig. I.

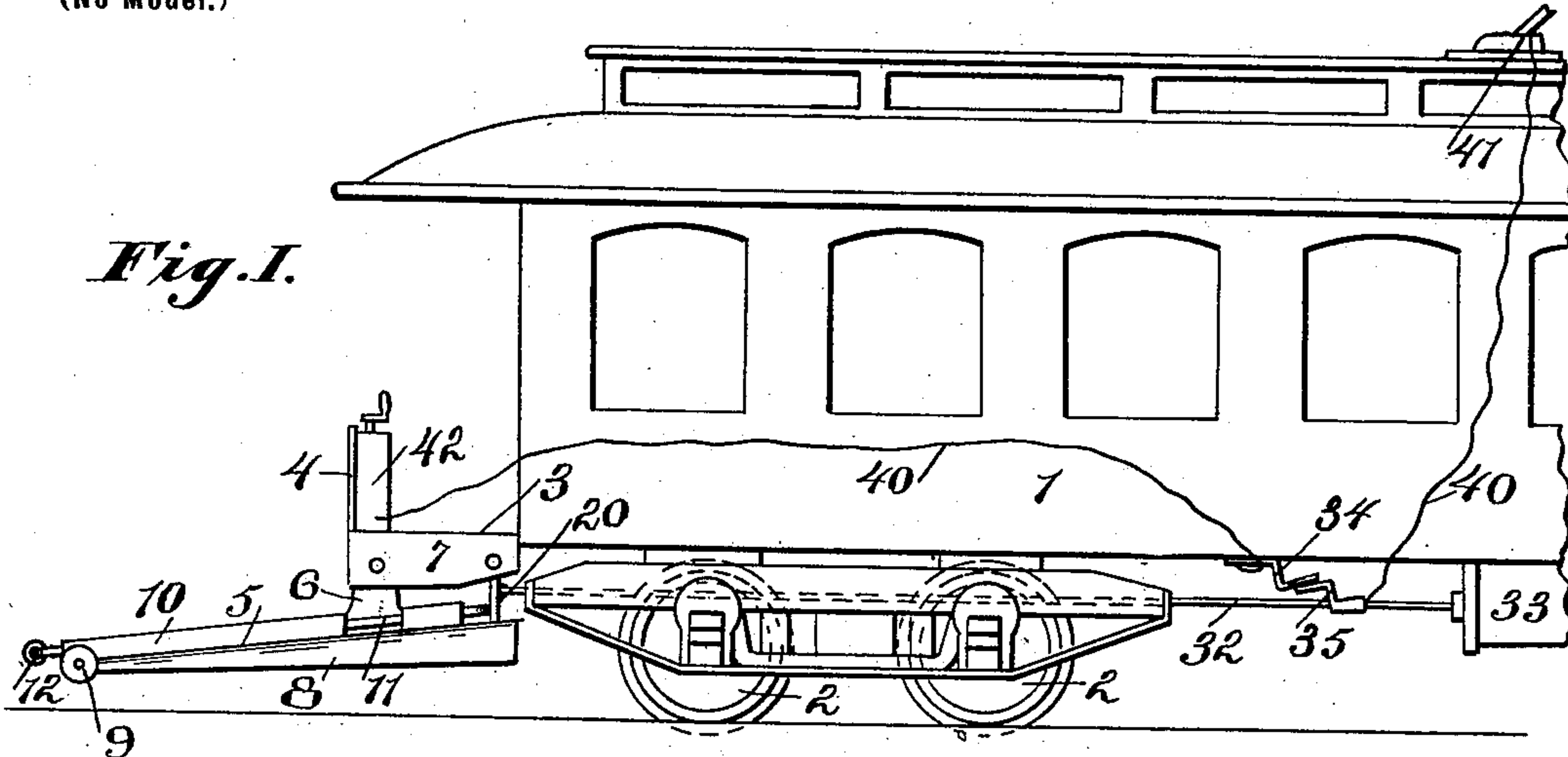


Fig. II.

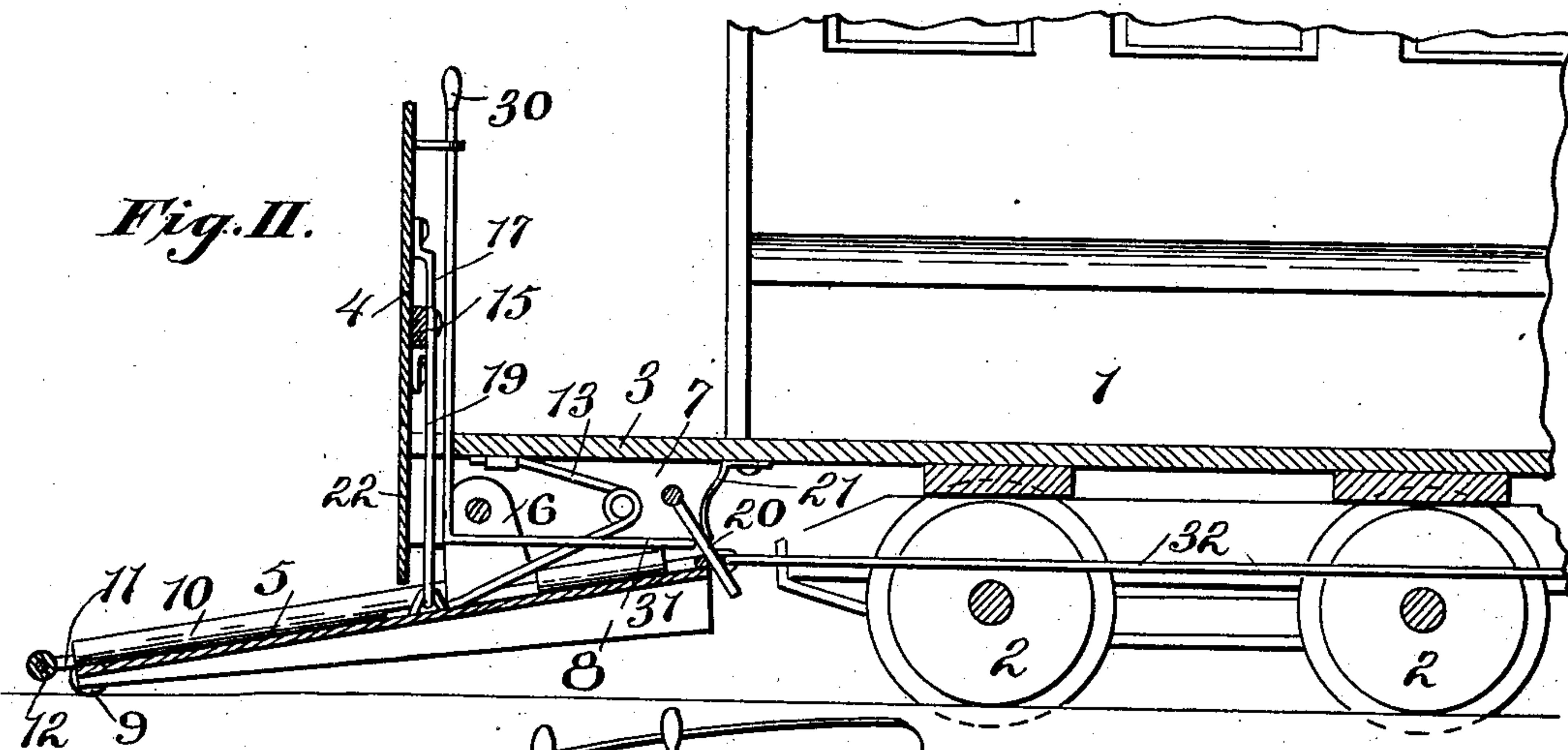
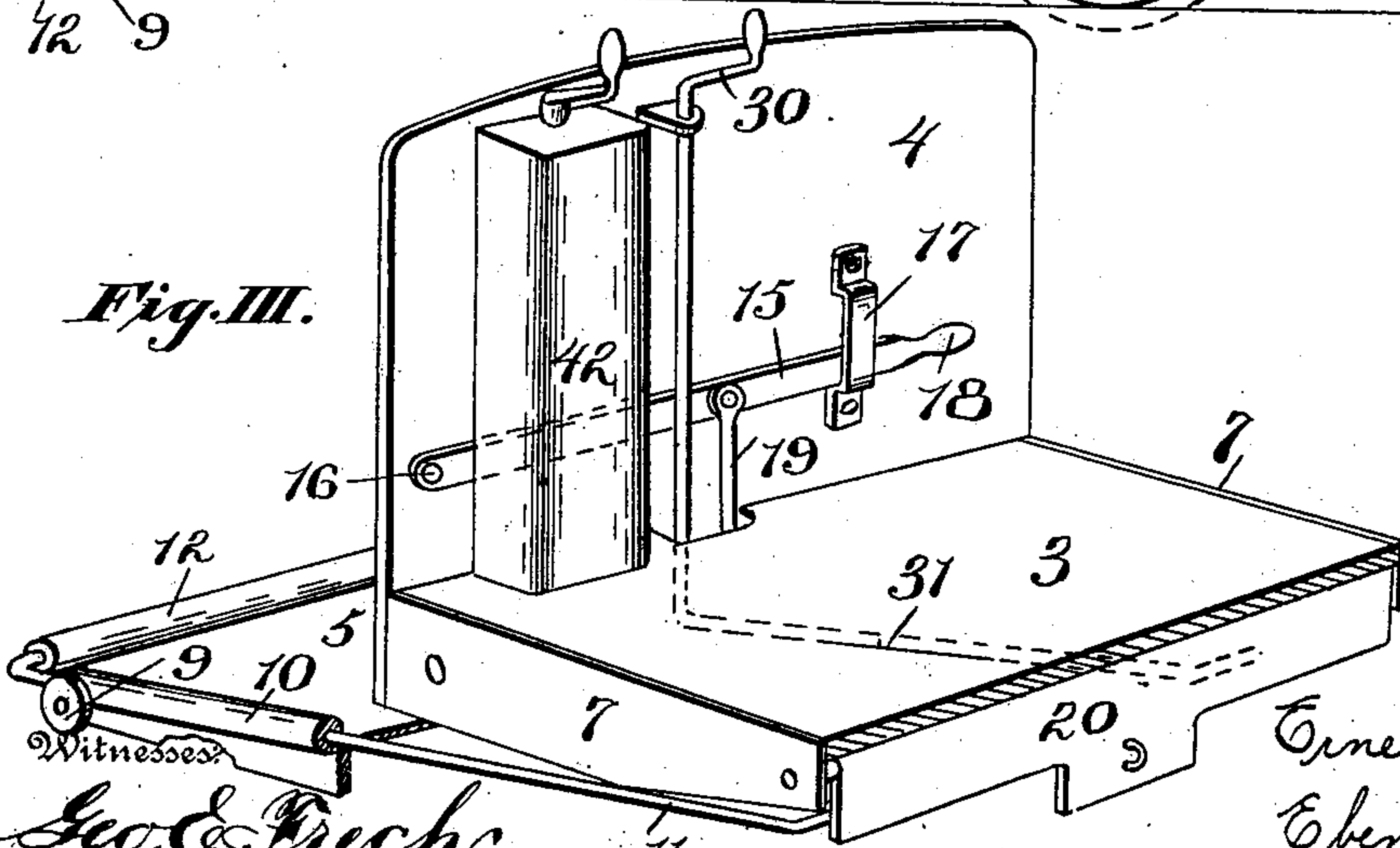


Fig. III.



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ERNEST E. CLARK, OF ST. LOUIS, AND EBEN E. CLARK, OF SEDALIA,
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FENDER.

SPECIFICATION forming part of Letters Patent No. 701,682, dated June 3, 1902.

Application filed April 12, 1901. Serial No. 55,498. (No model.)

To all whom it may concern:

Be it known that we, ERNEST E. CLARK, residing at St. Louis, and EBEN E. CLARK, residing at Sedalia, in the county of Pettis, State of Missouri, citizens of the United States, have invented certain new and useful Improvements in Fenders; and we do 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to railway rolling-stock, and more especially to that class of devices used therein which are known as "fenders;" and the object of the same is to produce a fender adapted more particularly to the trolley-road (although it is useful elsewhere) and intended to travel normally just above the road-bed, but to be automatically dropped upon the same or onto the rails when an obstruction is reached.

To this end the invention consists, broadly, in the construction set forth in the claims, and the following specification describes one manner in which such construction can be carried out.

In the accompanying drawings, Figure I is a side elevation of a portion of a car embodying our improvements, the fender being in its normal position and standing slightly above the road-bed. Fig. II is a central longitudinal section showing the fender as dropped onto the rails. Fig. III is a perspective view showing the devices on the inner face of the dashboard, the platform being broken away to illustrate parts to which these devices lead.

In the drawings, 1 is the car, mounted on wheels 2 and having a front platform 3 and dashboard 4.

5 is the fender, having ears 6, pivoted to similar ears 7, depending from the platform, and the fender extends some little distance in the rear of such pivot.

We do not limit ourselves to the precise construction of the fender; but as herein illustrated it has side flanges 8 to prevent persons or objects getting beneath the fender from the sides, and it preferably also has rollers or

wheels 9 at its front corners to run or slide upon the track, thus preventing the fender from dropping too low.

In eyes or tubular guides 10 along the side edges of the fender are mounted the side arms of a frame 11, which constitutes a "feeler," and its cross-bars stand farther from each other than the length of said tubular guides 10, whereby the feeler has a certain longitudinal play relatively to the fender. The front cross-bar of this feeler may be covered with rubber tubing 12 or otherwise made soft so as not to injure the victim.

13 represents springs secured beneath the platform in any suitable manner and having a tendency to throw the front end of the fender downward, so that the wheels 9 shall rest on the rails.

15 is a lever, pivoted at 16 inside the dashboard and moving within a suitable guide 17. When the handle 18 of this lever is raised, the link 19, which connects the lever with the fender, causes the front end of the latter to be elevated.

Where we speak herein of the raising mechanism or the lever, we desire to be understood as covering any suitable devices for lifting the front end of the fender.

20 is a trigger pivoted at its upper end beneath the platform and having its lower end pressed normally forward by a spring 21. When the front end of the fender is raised and the rear end descends, this trigger as it is pressed forward by its spring passes over the rear end of the fender and holds it depressed.

22 is a stop which we may employ to prevent the front end of the fender from rising too high. As herein shown, it depends from the dashboard, and this serves the further purpose of preventing a victim upon the fender from getting beneath the platform and becoming entangled with the mechanism.

30 is a trip intended to be struck by the motorman for the purpose of quickly moving the trigger to the rear so as to permit the fender to descend. As herein illustrated, this trip is a crank-handle standing near the motorman and extending downwardly through the platform, and its lower end has a rod projecting to the rear and bearing against the

front side of the trigger 20. When the crank-handle is properly turned, this rod pushes the trigger to the rear.

32 is a rod extending from the trigger 20 to an emergency-brake 33, which latter is located at any desired point beneath the car-body and may be of any suitable type which will accomplish the desired end, although we have herein illustrated it as a cylinder forming part of an air-brake mechanism. The connection between the trigger and this mechanism is such that the former operates the latter, or when the emergency-brake is applied the rod 32 is drawn upon so as to automatically trip the trigger and permit the fender to drop.

34 designates an electric terminal carried by and insulated from the car-frame, and 35 is another terminal mounted on the rod 32. These terminals are wired into the circuit 40, leading from the trolley 41 to the controller 42, and it is obvious that when the trigger moves to the rear the terminals will positively break the circuit, and hence shut off the electric energy, no matter what the wish of the motorman. While we have shown this circuit-breaker on the rod leading from the trigger to the emergency-brake, it will be clear that by proper wiring the same may be located elsewhere so long as the two terminals are connected with parts which separate when the fender drops automatically.

In use the handle 18 of the lever 15 is raised by the motorman and through the link 19 elevates the front end of the fender, which the trigger holds in its normal position. The forward movement of the trigger closes the contact at 34 35 and the car proceeds on its journey. When an obstruction is struck by the front cross-bar of the feeler, the latter moves to the rear within the guides 10 and its rear cross-bar pushes the trigger out of place, after which the springs 13 throw the fender downward, so that the wheels 9 travel on the rails and the victim is scooped up. The same result would have occurred if the motorman had struck his knee or pressed his hand against the trip 30; or, again, the same result would have occurred had the emergency-brake been suddenly and forcibly applied; but we desire it to be distinctly understood that the construction is such that the usual movements of the ordinary air-brake will not trip the trigger. Obviously, the circuit-breaking mechanism can be entirely omitted, as also, in fact, could the emergency-brake connection; but we consider it advisable that either or both should be employed in this connection on account of the fact that the imminence of an accident makes it desirable to cut off the power and to apply the emergency-brake whenever the fender is automatically dropped. We reserve the right to alter the details of construction as far as

lies within the scope of the invention thus disclosed.

What we claim as new is—

1. The combination with a fender traveling normally above the track, a trigger for holding it in that position, and means for automatically tripping the trigger; of a rod connected with said trigger and leading to emergency-brake mechanism whereby the tripping of the trigger will cause the application of said brake, a circuit-breaker having one terminal carried by said rod and the other by a relatively stationary part, and an electric circuit leading from the source of energy through these terminals to the controller.

2. In a fender, the combination with the fender proper pivoted beneath the car-platform, depending flanges along the sides of the fender, rollers at its front corners, and a feeler comprising a frame whose side bars move longitudinally in the fender proper and whose front cross-bar projects beyond said rollers and is made soft; of a trigger pivoted beneath the platform with its lower edge engaging the rear end of the fender when said end is depressed, said lower edge being adapted to be pushed out of engagement by the movement of the feeler.

3. In a fender, the combination with the fender proper having ears pivoted beneath the car-platform, guides along the sides of the fender, and a feeler comprising a frame whose side bars move longitudinally in the guides and whose cross-bars are free; of springs throwing the front end of the fender normally downward, manual means for raising the front end of the fender against the tension of said springs, a trigger pivoted beneath the platform with its lower edge engaging the rear end of the fender when said end is depressed, said lower edge being adapted to be pushed out of engagement by the movement of the feeler, and a positive trip engaging the trigger and adapted to be manipulated by the motorman.

4. In a fender, the combination with the fender proper pivoted beneath the car-platform and extending to the rear of said pivot, a trigger pivoted beneath the platform with its lower edge adapted to engage the rear end of the fender when depressed, and a spring throwing the trigger normally forward; of a stop depending from the dashboard forward of the pivot of the fender for the purpose set forth; means for manually raising the front end of the fender into contact with this stop, and means for tripping the trigger.

In testimony whereof we affix our signatures in presence of two witnesses.

ERNEST E. CLARK.
EBEN E. CLARK.

Witnesses:

CHARLES L. BATES,
RICHARD SCHWEICKHARDT.