

No. 731,952.

PATENTED JUNE 23, 1903.

E. ROBBINS.

DEVICE FOR OPERATING STREET RAILWAY SWITCHES.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.

Fig. 1.

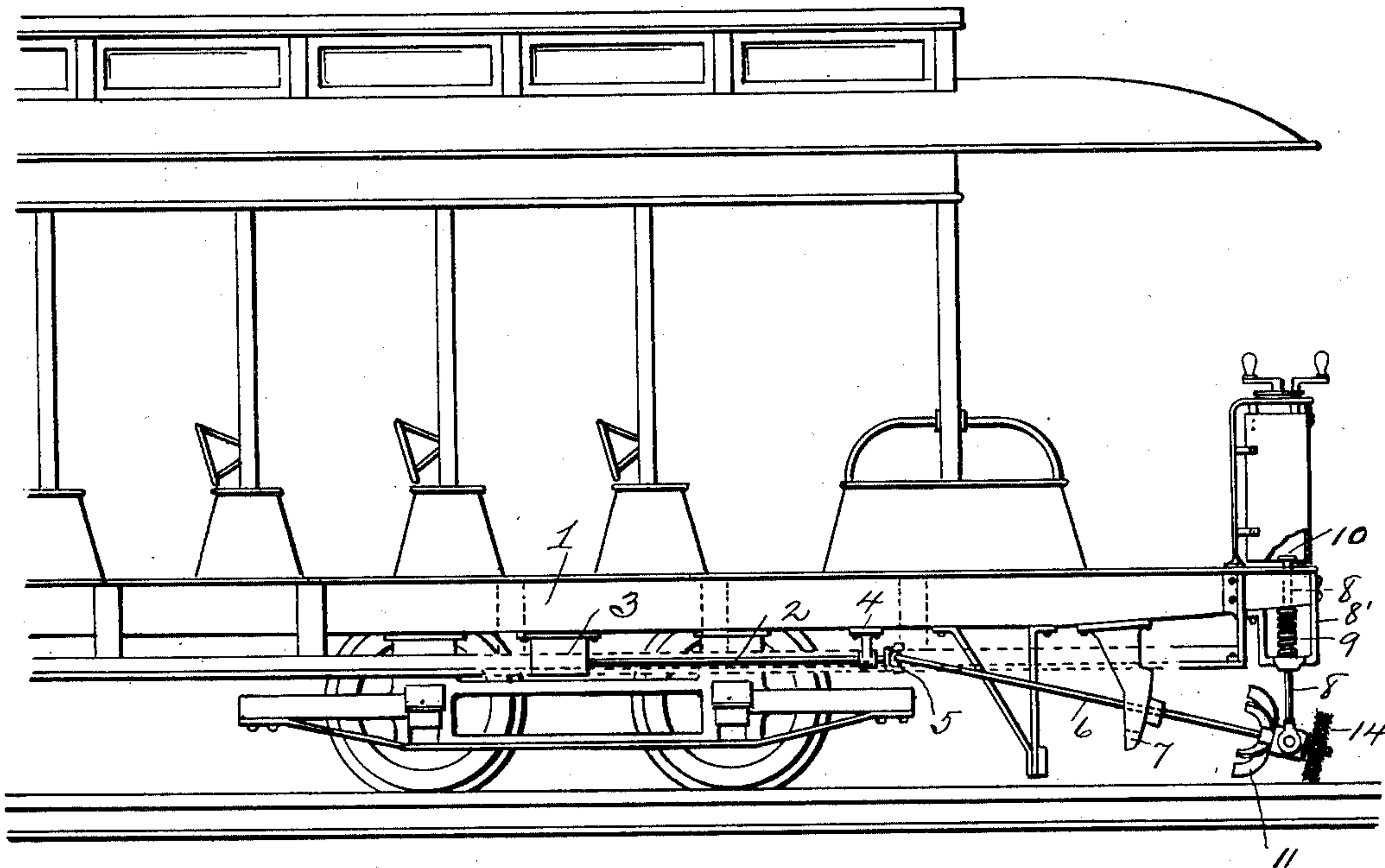


Fig. 2.

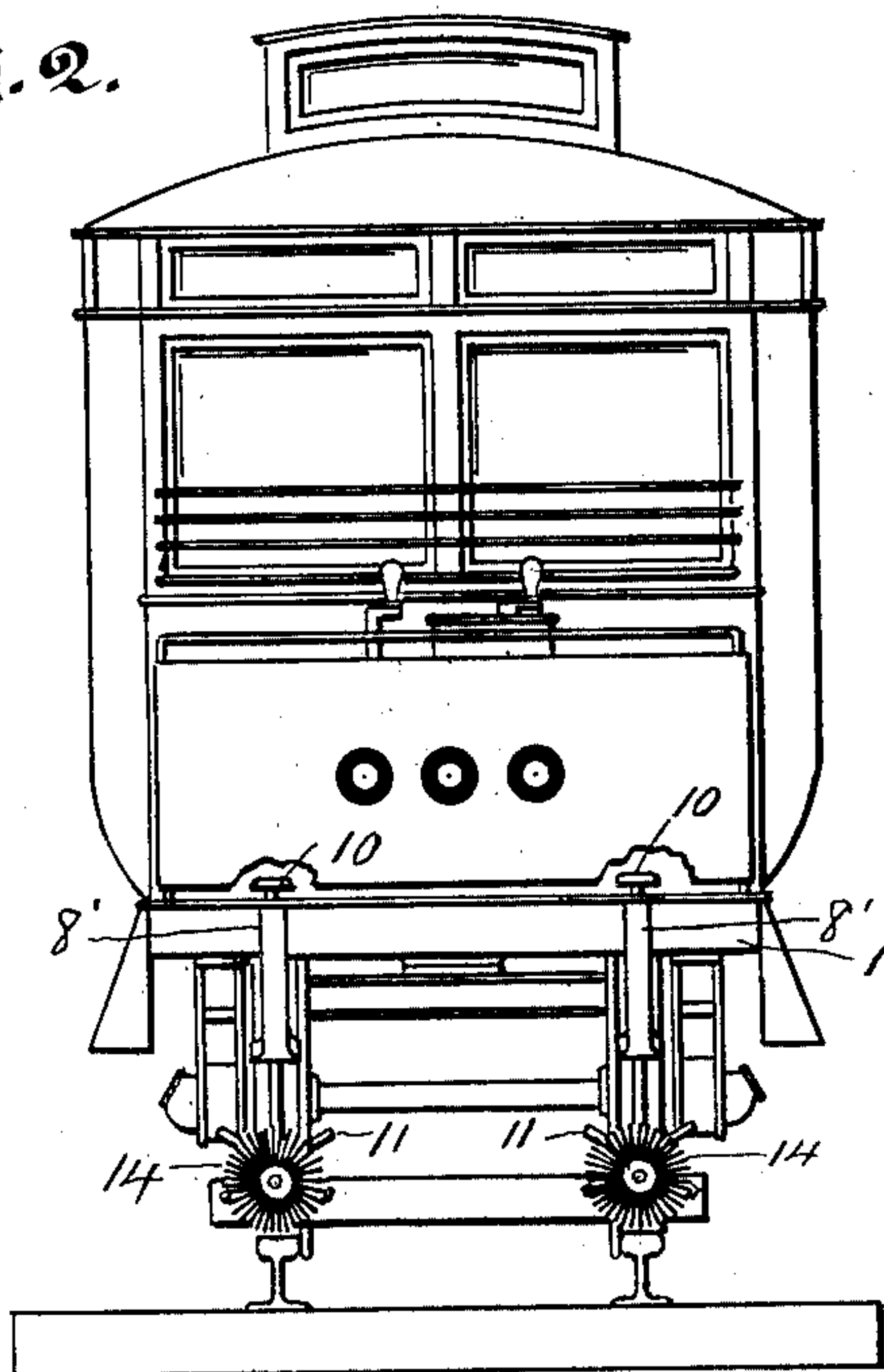
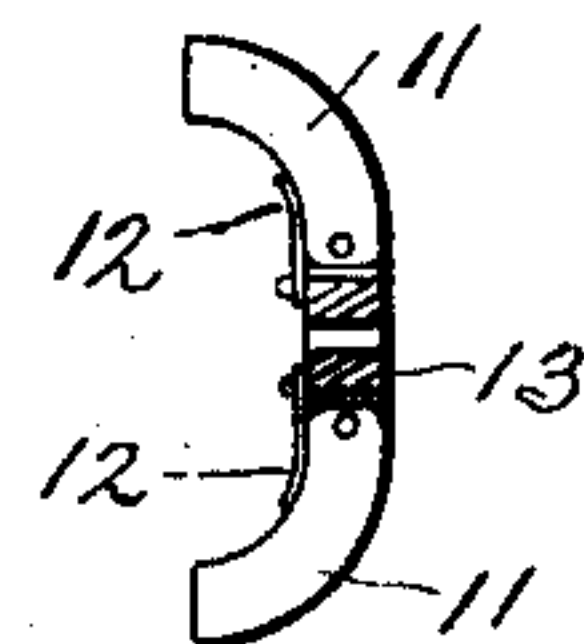


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ELIAS ROBBINS, OF PITTSBURG, PENNSYLVANIA.

## DEVICE FOR OPERATING STREET-RAILWAY SWITCHES.

SPECIFICATION forming part of Letters Patent No. 731,952, dated June 23, 1903.

Application filed January 2, 1903. Serial No. 137,452. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS ROBBINS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Devices for Operating Street-Railway Switches, of which improvement the following is a specification.

This invention relates to an improved device for operating street-railway switches; and it consists in a means arranged at each end of the car operated by the motorman whereby the switch-bar may be moved in either direction without stopping the car, together with the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a street-railway car provided with my improved device for operating the switch-bar, the said device being constructed and arranged in accordance with my invention. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged side sectional elevation of the spring-arms adapted to engage with the switch-bar.

To put my invention into practice with an ordinary street-railway car 1, I arrange beneath the floor of the same a shaft 2, mounted in suitable bearings 4 and operated by a small motor 3 or by the motor used for operating the car. This shaft 2 is fitted at its forward end with a universal joint 5 of any well-known construction and the said joint connected to a second shaft 6, confined in a slotted bearing 7, and the forward end inclined downward to a point immediately above and in line with the rails of the track. Fitted upon the outer end of this shaft 6 is a brush 14, the rotatable movement of which cleans the rails during the forward movement of the car. Arranged at the rear of this brush 14 are a series of spring-actuated arms 11, pivoted to a hub 13 and projecting radially therefrom, adapted to be rotated by the motor 3, above mentioned.

Loosely connected to the shaft 6 is a vertically-arranged bar 8, which extends upward through the platform of the car and is fitted with a tread-piece 10. This bar 8 is supported in bearings 9 and is provided with two springs 9, one of which is for the purpose of keeping

the brush and spring-arms elevated above the rails and the other weaker spring to prevent jarring or vibration to the foot of the motorman. This vertical movement of the arms 11 and shaft may be accomplished in other ways, such as a lever connected to suitable crank mechanism.

Mechanism substantially as above described is placed at each end of the car and at each side, as will be seen by reference to Fig. 2 of the drawings.

In operation it is only necessary to give the shaft 6 a rotary movement by means of the motor above described and upon approaching the switch-bar depress the tread 10 by the foot, which will bring the spring-arms 11 in contact with the said bar and move the same in the direction of the rotation of the arms. When the switch-bar has been moved, the foot is taken from the tread 10 and the parts elevated to the position shown at Fig. 1 of the drawings.

The object of pivoting the arms 11 and providing the same with springs is to permit the said arms to ride over any obstacle or uneven portion of the street.

It is obvious that various slight modifications and changes may be made in the details of construction without departing from the spirit of the invention.

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

The herein-described device for operating switch-bars on street-railways, consisting of the rotatable shafts 2 and 6, and means for operating the same, the radial spring-arms 11 arranged on the forward end of the same, the rotatable brush 14 forward of the said spring-arms, the vertical tread-bar 8, loosely connected to the shaft 6, suitable springs 9 to hold the shaft 6 suspended, and a means for moving the bar 8 downward, all arranged and combined, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ELIAS ROBBINS.

In presence of—

M. E. HARRISON,  
JOHN GROETZINGER.