C. B. PAYSON & C. H. FOWLER.

Street Railway-Switch.

No. 208,263. Patented Sept. 24, 1878.

Fig. 1.

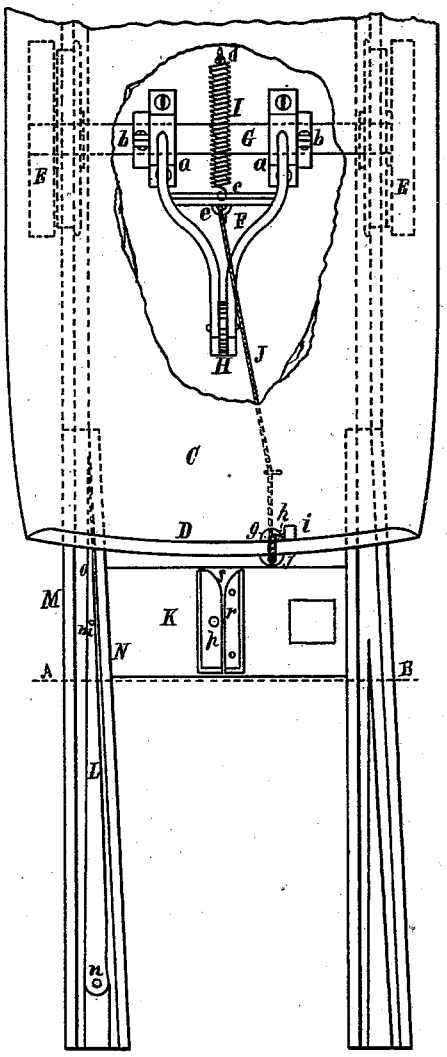
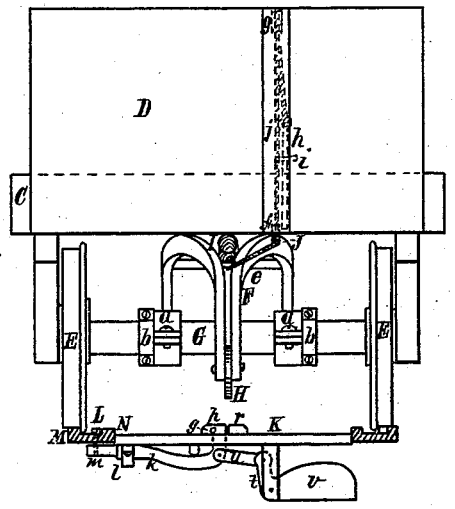


Fig. 2.



Witnesses;

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UNITED STATES PATENT OFFICE.

CALVIN B. PAYSON AND CHARLES H. FOWLER, OF BOSTON, MASS.

IMPROVEMENT IN STREET-RAILWAY SWITCHES.

Specification forming part of Letters Patent No. **208,263**, dated September 24, 1878; application filed June 20, 1878.

To all whom it may concern:

Be it known that we, CALVIN B. PAYSON and CHARLES H. FOWLER, both of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Switches for Street-Railways, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing.

Our invention relates to street-railway switches; and it consists, first, in a wheel so attached by a lever to the car that by a step and rope or chain it may be pressed downward to the road-bed, and by suitable mechanism in the road-bed move the switch-rail; secondly, in a slide guided on the under side of a plate set in the road-bed, having a rib attached which projects slightly above the plate, so that the said wheel, passing between the rib and a cleat fixed to the plate, shall move the slide and swing the switch-rail, the rail being returned to its former position after the passage of the car by a weight, which moves the slide in a direction opposite to the direction of motion given to it by the wheel.

In the drawing, Figure 1 is a plan view of so much of a street-car and railway embodying our invention as serves for illustration, a part of the platform of the car being broken away. Fig. 2 is a section of the railway, taken on line A B in Fig. 1, and a front view of the car.

C is the platform of the car, and D is the dash-board for one end of the car. Only two car-wheels, E, are shown. A lever, F, is pivoted at the two portions *a* of one end to any suitable part of the car, near an end thereof.

We prefer to pivot the lever F to the axle G, since thus the pivoted end will always be held at the same distance from the road-bed, and for this reason is a desirable feature of our invention. By spreading the lever F, and having the two bearings *a* some distance apart, greater exactness in position and greater strength is given to the lever, while it may be made lighter than it should otherwise be. The lever F may be kept in position and adjusted on the axle G by the collars *b*. At the other end of the lever F is a wheel H, having bearings and held in the lever, as shown. To the lever F is fastened one end, *c*, of a spring, I, which is fastened at the other end, *d*, to some part of the car, the spring being positioned to raise the lever F and wheel H.

To some portion of the lever F, as the crossbar *e*, is fastened one end or a rope or chain, J. This rope or chain passes about a pulley, *f*, and over a pulley, *g*, and is fastened at the other end to the upper end of a rod or slide, *h*, which is guided by a suitable bearing in the platform. This rod or slide *h* has joined thereto, in a convenient position, a step, *i*, for the foot. The pulleys *f* and *g* are suitably pivoted to stands on the dash-board D, and may, with the rope or chain J, be protected by a covering, *j*.

In the road-bed is securely fixed a plate, K. On the under side of the plate K is a slide, *k*, which may move in one or more guides, as *l*. The slide *k* is pivoted at the outer end to the switch-rail L, on the under side thereof, at *m*. The switch-rail L is pivoted at *n*, so that the free end *o* may be brought to the rail M or N to direct the wheels of the car on either turn-out, as will readily be understood.

The slide *k* has fixed to it at the inner end a rib, *p*, which projects above and is partly over the plate K, there being an opening in the plate for the necessary motion of the slide *k*. On the under side of the rib *p* are rolls *q*, which decrease the friction between the rib and the plate K. To the plate K is fixed a cleat, *r*, which projects the same distance above the plate K as the rib *p*. The rib *p* and cleat *r* are of the necessary length to have the long tapering opening *s* between them part way when they are together.

A lever, *t*, is pivoted to a stand on the under side of the plate K. One end of this lever is connected by a link, *u*, to the slide *k*, and has at the other end a weight, *v*. Now, the weight *v* will act to keep the slide *k* in such position that the rib *p* will meet the cleat *r*, and the switch-rail will be swung to meet the rail N, and the wheels of the car will be directed on the corresponding turn-out. When the foot is pressed on the step *i* the wheel H will be brought to the road-bed, and will pass into the tapering opening *s*, and will press the rib *p* from the cleat *r*, moving the slide *k* in

the direction to swing the switch-rail L to meet the rail M, and the wheels of the car will be directed on the other turn-out.

As street-railway cars are drawn from either end, our device, as far as the parts on the car are concerned, should be placed on both ends of the car.

We claim as our invention—

1. The combination of the lever F, wheel H, rope or chain J, and step *i*, substantially as hereinbefore set forth.

2. The wheel H, situated and operated substantially as described, in combination with the slide *k*, having the rib *p*, and pivoted to the switch-rail L, substantially as and for the purpose hereinbefore set forth.

3. The combination of the plate K, slide *k*, rib *p*, and cleat *r*, substantially as hereinbefore set forth.

4. The combination of the slide *k*, plate K, lever *t*, and weight *v*, substantially as hereinbefore set forth.

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Witnesses:
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