

(No Model.)

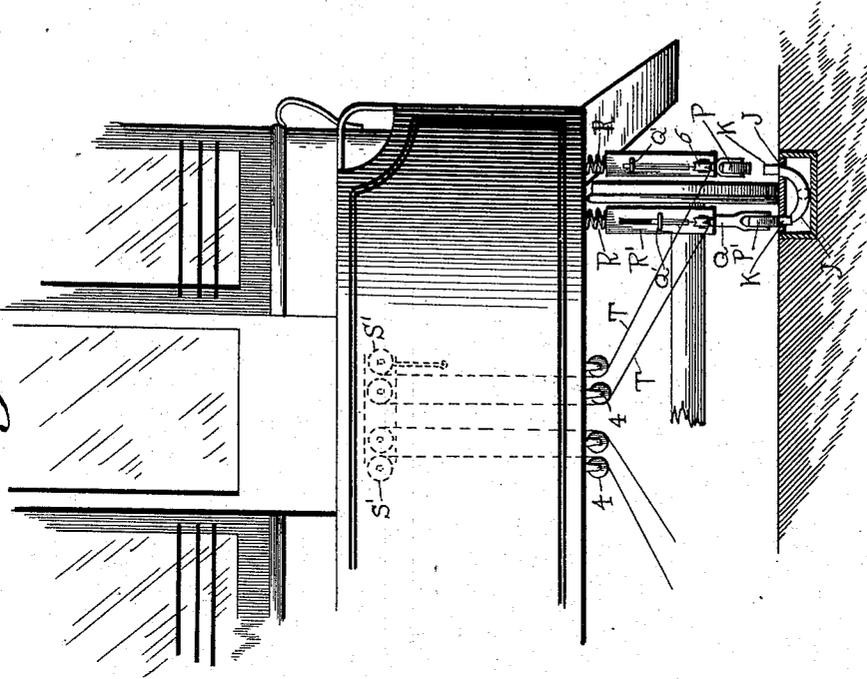
2 Sheets—Sheet 1.

H. HOFSTRA.  
STREET RAILWAY SWITCH.

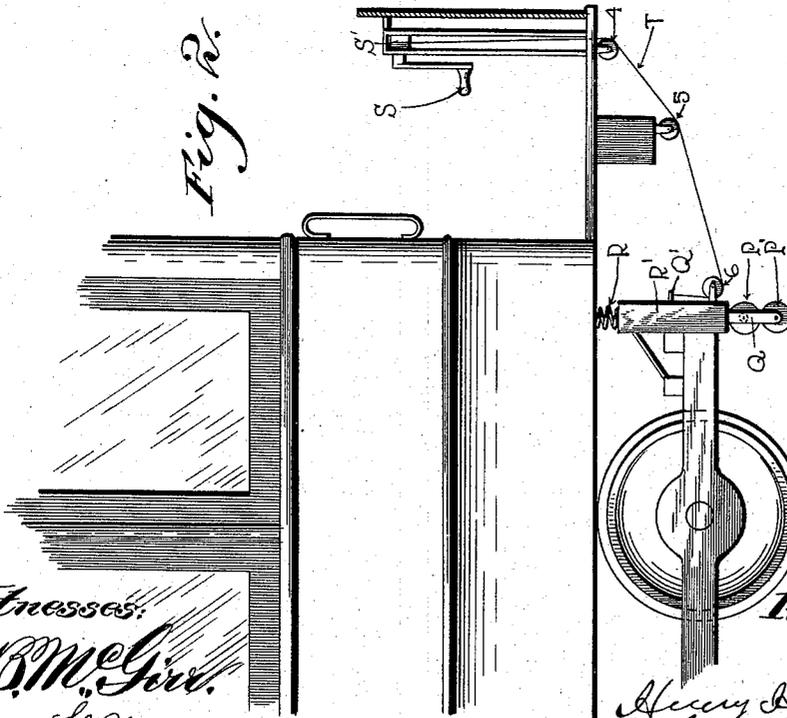
No. 568,140.

Patented Sept. 22, 1896.

*Fig. 1.*



*Fig. 2.*



Witnesses:

*J. M. Giv.*  
*Grace L. Chapman*

Inventor:

*Henry Hofstra*  
*By Geo. A. Perkins*  
*his atty*

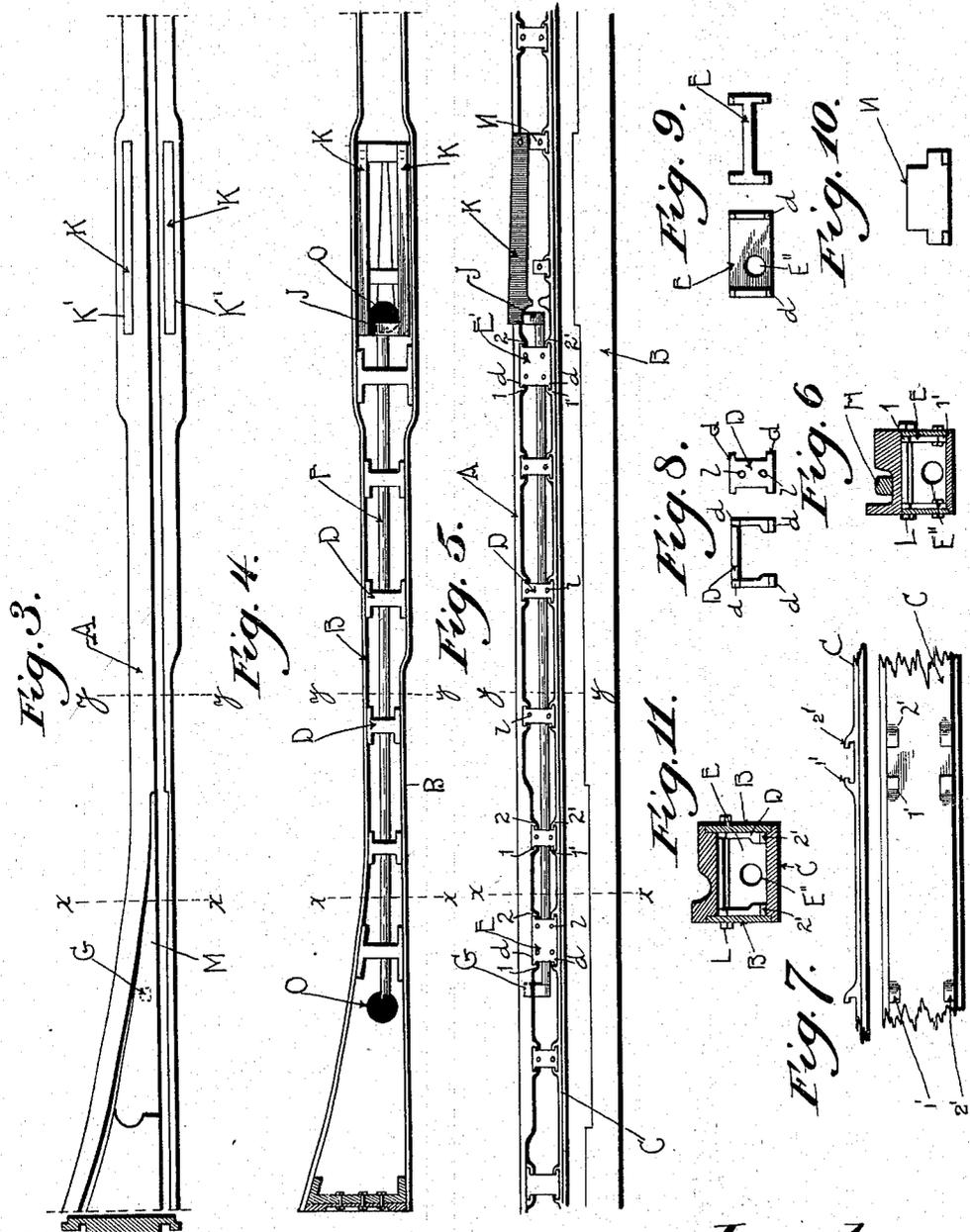
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*By James E. Perkins*  
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# UNITED STATES PATENT OFFICE.

HENRY HOFSTRA, OF GRAND RAPIDS, MICHIGAN.

## STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 568,140, dated September 22, 1896.

Application filed June 29, 1896. Serial No. 597,466. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY HOFSTRA, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Street - Railway Switches; and I 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 letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in street-railway switches, and particularly to that kind in which the switch is operated by devices connected with the car.

The invention consists of an improved construction of a box-rail for containing the parts of the switch that are placed upon the track, as herein described, and particularly pointed out in the claims.

In the drawings referred to, Figure 1 is a front view of the devices attached to the car. Fig. 2 is a side view of the same. Fig. 3 is a top view of the box-rail. Fig. 4 is a top view of the box-rail with the top or cover removed. Fig. 5 is a side view of the same with one of its sides removed. Fig. 6 is a sectional view taken on the line *xx* of Figs. 3, 4, and 5. Fig. 7 is a view showing lugs on the bottom plate of the box-rail. Fig. 8 represents views of one of the cross-stays. Fig. 9 represents views of a combined cross-stay and bearing for the switch-tongue-operating shaft. Fig. 10 is a view of a combined cross-stay and block to which the treadles are pivoted; and Fig. 11 is a sectional view taken on the line *yy* of Figs. 3, 4, and 5.

In the figures of the drawings like letters and figures of reference designate corresponding parts.

In order that the box-rail may be economically constructed and more easily and cheaply repaired, I construct it of separable parts, all of which are fitted snugly together and firmly braced by means of cross-stays and bolts, that also serve as a firm and reliable support for the top or covering rail of the box.

A is the top rail of the box, which is grooved on its upper side to form a continuation of

the rail and to receive a switch-tongue M, and it is also provided with openings or slots K' K', through which the treadles K K project. B B are the side and C the bottom plates of the box. The top A and bottom C are each provided with a number of angular or bent lugs 1 2 1' 2' on their lower and upper sides, respectively, to removably receive correspondingly-shaped lugs *d d*, formed on the cross-stays or braces D E E'. It will thus be readily seen that when the top rail, bottom plate, and stays are put together the top and bottom plates will be securely held from lateral and longitudinal separation, thereby avoiding the passing of bolts through the top rail. The side plates B B are secured in place by bolts L, passing through holes *l* in the cross-stays.

At or near the ends of the box-rail are the cross-stays E E', each formed with an opening or bearing E'' for the rock-shaft F, having an upwardly-extending arm G, that engages a hole or recess in the under side of the switch-tongue to operate the same. The other end of the shaft has laterally-extending arms J J, that are engaged by the treadles K K, pivoted to the brace-block N.

The device for operating the treadles K K consists of two rollers P P', one for each treadle. These rollers are journaled in the ends of rods Q Q, that slide in tubular boxes R' R', secured to the under side of the car, the upper ends of the rods being connected to springs S S. At the lower end of the boxes R' are fixed pulleys 6 6, and cords T T, fastened to eyes or projections on the rods Q above the point of the pulleys, pass down under the pulleys 6 6 and forwardly over pulleys 4 4, attached to and under the front end of the platform. The cords then pass up to drums S' S', and may be wound or unwound thereon by turning cranks S. In arranging the pulley 6 below the eye Q' the spring R is brought under tension only when the rollers are lowered to operate the switch. It will readily be understood that the winding of the cords on the drums lowers the rods, and thus brings the rollers into position to depress the treadles to operate the switch.

As shown in Fig. 2, I may employ an additional pulley 5, but this may be dispensed with.

The letter O designates drain-holes at each end of the bottom plate.

What I claim, and desire to secure by Letters Patent, is—

- 5 1. The herein-described box-rail composed of top plate A formed with a rail, grooved to receive a switch-tongue, having openings K' K' for treadles, and provided along its under side with angular or bent lugs 1 2, the bot-  
 10 tom plate C having similar lugs 1' 2', the cross-stays or braces D having lugs *d d* to removably engage lugs 1 2 1' 2', and the removable side plates B B, substantially as described.
- 15 2. In a switch, the combination with the herein-described box-rail composed of top plate A formed with a rail, grooved to receive

a switch-tongue, having openings K' K' for treadles, and provided along its under side with angular or bent lugs 1 2, the bottom  
 20 plate C having similar lugs 1' 2', cross-stays or braces D having lugs *d d* to removably engage lugs 1 2 1' 2', and the removable sides B B, of the stays E E' each having lugs *d* and an opening or bearing for rock-shaft F, the  
 25 said rock-shaft F having arm G and laterally-extending arms J J, and the treadles K K, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY HOFSTRA.

Witnesses:

JOHN HENDRIKSMA,  
 GRACE G. CHAPMAN.