SWITCH FOR STREET-RAILWAYS.

Application filed September 2, 1902. Serial No. 131,781. (No model.)

To all whom it may concern:

Be it known that we, SHELBY S. ROBERTS, residing at Louisville, in the county of Jefferson and State of Kentucky, and ARTHUR H. MAN of Evansville, Indiana, have invented a new and useful Improvement in Switches for Street-Railways, of which the following is a specifica-

cation.

Our invention relates to switches to be operated by means of a rod; and the object of our invention is to provide a switch which is firmly fixed when set and cannot be reversed or partly opened except in the mode provided, while at the same time cars may be backed past the switch in the direction opposite that of the switch, which at once resumes its original position. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the contrivance, with the position of the switch, which is removed, in Fig. 2. Fig. 2 is a longitudinal section through the rails, tongue, and framework of the contrivance, showing an elevation of the rest of the mechanism; an elevation of the contrivance. Fig. 3 is a longitudinal section of the bar and piston D E F G H in Figs. 1 and 2, showing in elevation the piston, piston-rod, and spring. Fig. 4 is a top view of so much of the contrivance as is visible when the cover is on. In all figures the same letters refer to the same parts.

A A' are diverging rails, being, as it here happens, on the left-hand side of the track looking in the direction of the arrow in Fig. 1. B is the wedge-shaped movable rail, commonly called a "tongue." In street-railways switching is effected simply by shifting the narrow end of this one tongue. When it is in the position shown in Fig. 1, the car would pass to the left, while if it were against the rail A it would pass to the right. The passage of the inner flange of the wheels on one side through the open space regulates the direction of the car.

D is a bar which passes through the rail A to the tongue, to which it is rigidly attached, preferably, by the nut N at its outer side. Said bar expands into the shoulder E, which is rigidly attached to the cylinder F, terminating in the other shoulder G. Within the cylinder is the piston O, attached to the piston-rod H and actuated in either direction by the springs P P'. The piston ends in gooseneck I, which (when the piston is first withdrawn) passes somewhat more than half-way around the center of the horizontal disk K. Said piston is attached to said disk approximately at the terminus of said gooseneck by the pivot L. The disk is at its center connected with the framework S of the machine by the axle R. Projecting up from the surface of the disk near its outer edge and attached rigidly to it is the pin T, which is placed over the contrivance for protection. It can readily be removed when necessary for repairs. It has a slot U extending over somewhat more than half the periphery of a circle, directly over the possible positions of the pin M, so as render it accessible from above. The pin extends upward into said slot, and its movements are limited by the length of the disk W. A lug on the cover directly above the axle R for the purpose of fitting a rod so to move the pin M by a horizontal branch.

Our contrivance operates as follows: When the motorman (or other person) desires to change the switch, he, with an appropriate rod, moves the pin around the arc U of a circle, as permitted by the axle R and the slot in the cover, to the point M'. (Shown on Fig. 4.) This movement carries the disk around in a corresponding direction along with the gooseneck I, by reason of which the piston attached thereto is pushed to the left—that is, outward. The gooseneck is then in the position indicated by dotted lines in Fig. 4. The spring within the cylinder offers sufficient resistance to the piston to carry the cylinder along with it, and the bar attached to the latter pushes the tongue over against the rail A. Of course to reverse the operation the pin M must be brought around from the position M' to its original position.

There are two especial advantages to our contrivance. In the first place it is constructed in such a manner that when the pin M is in either of its terminal positions the ax L and the end of the gooseneck are brought...
Having now described our contrivance what we claim as our invention, and devise to secure by Letters Patent, is:

1. In switches for street-railways, the combination of a cylinder terminating in a b attached to the tongue-rail, along with a spring-actuated piston within said cylinder, a piston-rod ending in a gooseneck pivoted to a horizontal revoluble disk, bearing a projecting pin, together with a cover having a circular slot, substantially as described.

2. In switches for street-railways, the combination of a cylinder terminating in a b attached to the tongue-rail, along with a spring-actuated piston within said cylinder, a piston-rod ending in a gooseneck pivoted to a horizontal revoluble disk, bearing a projecting pin, substantially as described.

3. In switches for street-railways, the combination of a cylinder terminating in a b attached to the tongue-rail, along with a spring-actuated piston within said cylinder, a piston-rod ending in a gooseneck pivot to a horizontal revoluble disk, together with a cover having a circular slot, substantially as described.

SHELBY S. ROBERTS.
ARTHUR H. MANN.

Witnesses:
JNO. W. LOGSDEN,
H. K. CARRINGTON.