(No Model.)

J. SHUTT.

SWITCH FOR CITY RAILWAYS.

No. 519,741. Patented May 15, 1894.

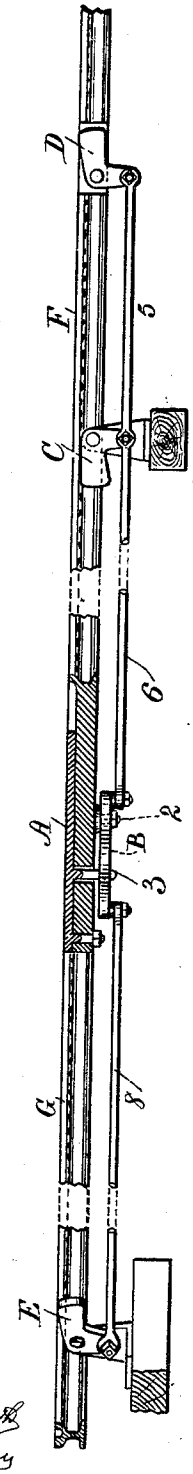

Fig. 2.

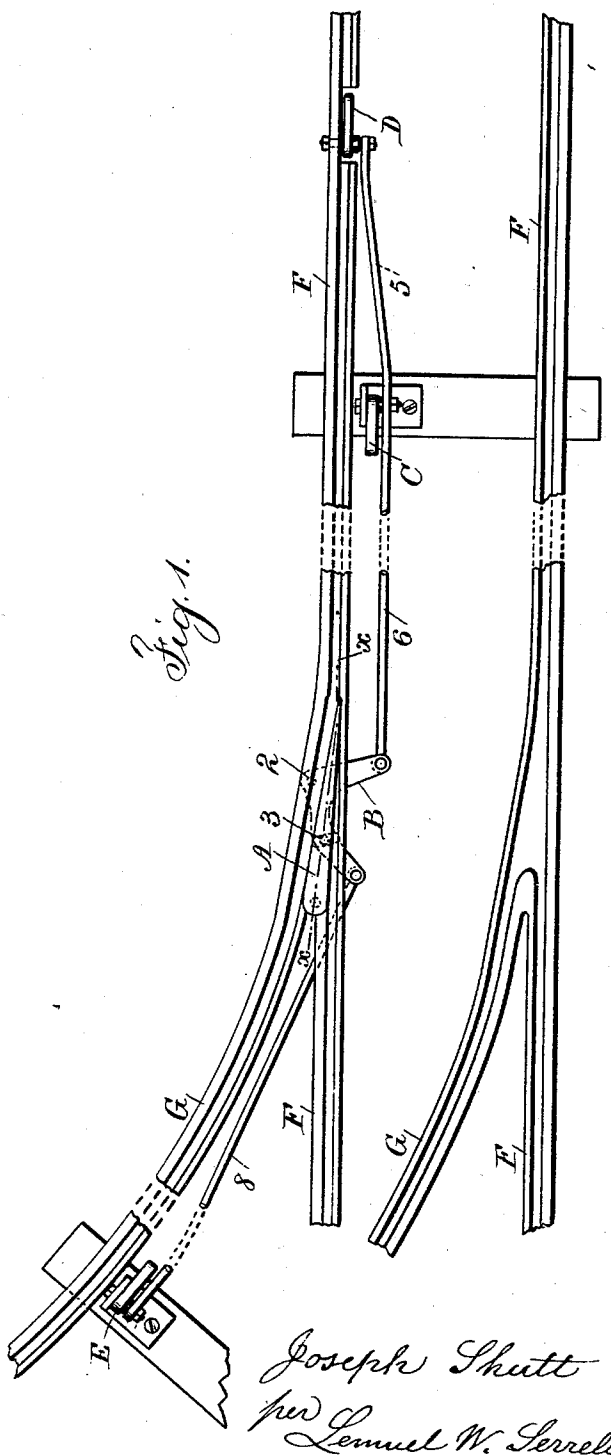

Fig. 1.

Witnesses
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JOSEPH SHUTT, OF EAST NEW YORK, NEW YORK.

SWITCH FOR CITY RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 519,741, dated May 15, 1894.

Application filed August 26, 1893. Serial No. 484,095. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SHUTT, a subject of the Queen of Great Britain, but a resident of the United States for more than one year last past, and having declared my intention of becoming a citizen of the United States, residing at East New York, in the county of Kings and State of New York, have invented an Improvement in Switches for City Railways, of which the following is a specification.

In city railways a switch point is usually provided where one track diverges from another, and this switch point is frequently moved by the conductor or driver of a car, so as to adapt such point to the direction of travel of the car, and in some instances such switch point has been moved by the action of the horses passing over depressible platforms; and in other instances the switch point has been moved by the action of levers and connections to movable rails or sections at suitable distances upon the track, so that the switch may be set by the car or by a movable device on the car, these arrangements being specially available in connection with electric cars.

In my present improvements I employ a peculiar arrangement of levers by which the switch is moved, by the passage of a car, into the correct position for the car travel upon the main track, or to be directed upon a turn-out or branch, and as the car passes upon such turn-out or branch, the switch is restored to its normal position in line with the main track.

In the drawings Figure 1, is a plan view illustrating the present improvements, and Fig. 2, is an elevation of the switch moving levers, the switch point and track being represented in section at the line *x. x.*

The rails of the main track are represented at F and the rails of the turn-out or branch are shown at G; and A represents the switch point of ordinary character located at the intersection of the main and turn-out tracks for directing the cars in one way or the other. This switch A is supported upon a suitable plate or box, there being space below the plate for the reception of the switch moving lever B which is a bent lever pivoted at 2, and having a projection 3, to connect the lever with the switch point, such connection 3, passing through a slot in the plate that supports the switch point; and along upon the main track are levers D and C at suitable distances to allow for a car passing such levers before reaching the switch, and these levers C and D are connected by a rod 5, and there is a rod 6, extending from the lever C to one end of the switch lever B, and these levers C and D occupy reverse positions. The lever D is close adjacent to one rail F of the main track and the lever C is sufficiently distant from such rail to be out of the way of the device upon the car that actuates the lever D. I prefer to place the lever D in such a position that it will be acted upon either by the flange or tread of the car wheel, and to place the lever C in such a position that it will be out of the way of the car wheel and will be acted upon by an incline or roller upon the end of the said car, and it will be noticed that in consequence of the levers C and D standing in opposite positions, the lever D when depressed, will act to swing the switch point into line with the rails F of the main track, and that when the lever C is depressed, the switch point will be swung into the opposite position so as to direct the car upon the branch or turn-out rails G. These levers C and D are to be suitably supported, preferably by boxes connected with the track or with the cross ties, and the rods 5 and 6 are to be passed either through tubes or boxes, so as to be unaffected by ice or snow.

Upon the switch or turn-out G at a suitable distance from the switch point A a lever E is introduced, which lever E is similar to the lever C and is so placed as to be acted upon by the same device that is employed to act upon the lever C, and from this lever E a connection 8, passes to the end of the switch lever B and the position of these parts is such that when the lever E is depressed by the car running upon the turn-out or branch track, the rod 8 draws upon the switch lever B and returns the switch point A to its normal position in line with the rails of the main track. It will be observed that this arrangement of levers for moving the switch point is very simple. The parts are not liable to injury or

to obstruction under the ordinary conditions of travel and all the connections are of the most direct and substantial character, and should a passing vehicle act upon the lever C to displace the switch point, a car coming along upon the main track restores the switch point to its normal position coinciding with the main track immediately before the car reaches such switch, and the lever C being nearer to the switch point than the lever D, such lever C is acted upon by the roller or incline at the forward part of the car and properly places the switch for the car to run upon the branch or turn-out immediately before such car reaches the switch point. Hence these improvements are especially available upon electric railways, because the switch point is correctly and automatically placed by the car itself and the speed of the car need not be lessened, and the switch does not require attention by either the motor man or the conductor.

I claim as my invention—

The combination with the switch point of the bent lever B, the plate supporting the bent lever and the switch, and the connection 3 between the switch point and the lever, the levers C and D upon the main track standing in reverse positions and the rods 5 and 6, connecting the levers together and to one end of the lever B, the lever E upon the turn-out or branch and the rod 8, connecting the same to the other end of the lever B, substantially as set forth.

Signed by me this 24th day of August, 1893.

JOSEPH SHUTT.

Witnesses:
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