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UNITED STATES PATENT OFFICE.

CHARLES L. LINCOLN, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF
TO ROBERT A. DAVISON, OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 526,978, dated October 2, 1894.

Application filed September 27, 1893. Serial No. 486,622. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. LINCOLN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Railroad-Switch, of which the following is a full, clear, and exact description.

My invention relates to improvements in switches and especially such as are used on street railways; and the object of my invention is to produce a switch which may be very conveniently and easily operated, and which has means for holding the switch point or rail steadily in position without actually locking it.

A further object of my invention is to construct and arrange the switch rail in reference to a car track in such a manner that it will lie normally in closed position, and when opened by mechanism on the car will be automatically shifted back by contact with the car wheels.

To these ends my invention consists of certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the switch with its guide rail and shows the shift wheel of the car mechanism in position on the guide rail and about to shift the switch rail. Fig. 2 is a cross section on the line 4—4 of Fig. 1. Fig. 3 is a detail longitudinal section on the line 4^a—4^a of Fig. 1; and Fig. 4 is a detail plan view of the switch, showing another means of returning it to its normal position.

In Fig. 1 of the accompanying drawings I have shown my improved mechanism as operated by an ordinary street car having a vertically movable shift wheel or projection 21, and mounted on wheels 11, these being adapted to run on the usual track rails 12, the main line rails being shown in the accompanying drawings in connection with the usual siding 13. The switch rail 14 is arranged in substantially the usual way at the junction of the siding 13 and main line 12, and is fulcrumed, as shown at 15, and has a tail piece 16 which extends well behind the

fulcrum, riding on a bed plate 16^a made integral with the rails 12 and 13, and this tail piece is provided on its upper side with ribs 17 which are adapted to engage corrugations or grooves 18 in the spring locking plate 19, which plate is secured to the track bed between the rails 12 and 13 and is firmly fastened to the rails. The spring plate 19 presses down on the tail piece 16 hard enough to lock the switch rail, but when the rail is struck by a car wheel the tension of the spring plate is overcome, and the rail is moved, the ribs on the spring plate and tail piece slipping meanwhile over each other. The tail piece 16 is cut away at its rear end at the point where it is ribbed, so that the top of the spring plate may lie flush with the top of the switch rail.

Parallel with the main track 12 and at a point just in advance of the switch rail 14, is a grooved guide rail 20, which is adapted to receive the shift wheel 21, and the guide rail is arranged in relation to the switch rail so that it will steer the shift wheel to one side of the point of the switch rail, so as to swing the rail to one side and open the switch in order that the car may take the siding. It will be understood that there is a shift wheel and means for working it on each side of the car, so that a switch may be operated in connection with a siding which branches from either side of the track. As the car travels upon the siding, the wheels, bearing as they do against one side of the switch rail, will hold the latter in position until the rear wheel is opposite the switch rails when the front wheel strikes the tail piece and the side pressure of this wheel moves the tail piece and swings the switch rail back to its normal position, thus leaving the main line clear.

It will be seen from the foregoing description that when a switch is approached and it is desired to take a siding, all that is necessary for the driver to do is to depress the shift wheel 21, and this causes the latter to swing the switch rail 14 so that the car wheels 11 will follow the switch rail and carry the car to the siding.

The construction above described is especially intended for roads on which single cars are run, but where cars are coupled together, means must be provided which will enable

the last car to take the switch before the switch rail is thrown back. To this end the mechanism shown in Fig. 4 is employed. As here shown the switch 14 is provided with a tail piece 16^b which may be provided with a locking plate as described above and to which is pivoted a bell crank or triangular lever 34, this being fulcrumed at its elbow, as shown at 35, and the third corner of the lever is pivoted to a connecting rod 37, which connects with a second bell crank or triangular lever 38, this being arranged alongside of the track 13 and it is fulcrumed at its elbow, as shown at 39, and is pivotally connected with a contact block 40 which slides in a slideway 41 arranged at the side of the track 13, and the contact block has a conoidal face 42 which is adapted to be engaged by the flange of a car wheel and which, when so engaged is pushed outward, thus tilting the bell crank 33, pulling on the rod 37, tilting the bell crank 34, and actuating the tail piece 16^b so as to swing the switch rail 14 back to its normal position.

It will be seen that when several cars are coupled together and pass the switch 14, they will move along the siding without actuating the switch. When the wheel of the first car

reaches the contact block 40 it will crowd the block outward and, by means of the lever mechanism described, swing the switch rail back to its normal position, but the rod 37 is long enough so that by the time the front wheel of the first car strikes the contact block the hind wheel of the last car will have taken the switch.

Having thus fully described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination, with the switch rail having the rearwardly extending ribbed tail piece, of the locking plate having corrugations to engage the ribs, substantially as described.

2. The combination, with the switch rail having a tail piece, as described, of the contact block held to slide at right angles to one of the siding rails, and a lever connection between the contact block and the tail piece, whereby the pressing out of the block actuates the tail piece and moves the switch rail, substantially as described.

CHARLES L. LINCOLN.

Witnesses:

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