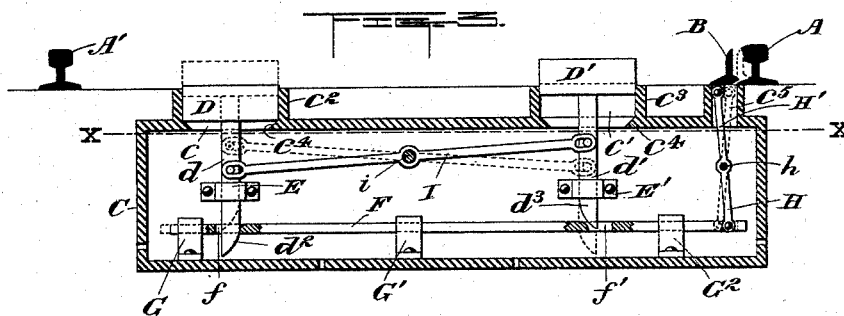
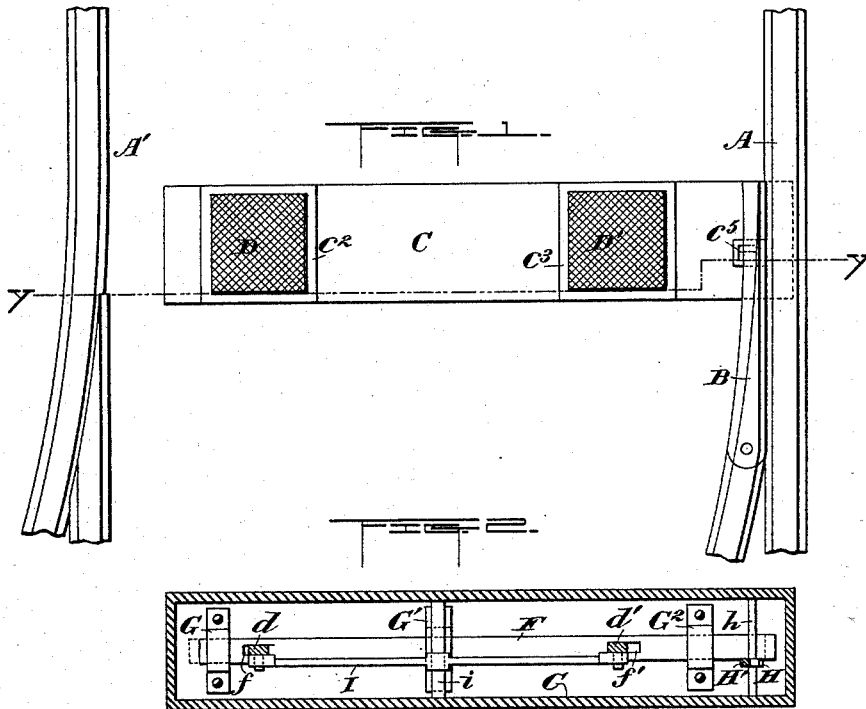


(No Model.)

S. F. CLOUSER.
RAILWAY SWITCH.

No. 522,780.

Patented July 10, 1894.



Witnesses,
A. Edward,
George Barry,

Samuel F. Glauert,
by attorneys
Brown & Teward

UNITED STATES PATENT OFFICE.

SAMUEL F. CLOUSER, OF BROOKLYN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE NEW YORK CAR SWITCH COMPANY, OF NEW YORK, N. Y.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 522,780, dated July 10, 1894.

Application filed January 26, 1894. Serial No. 498,069. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. CLOUSER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful
5 Improvement in Railway-Switches, of which the following is a specification.

My invention relates to an improvement in railway switches in which a movable switch rail is arranged to be moved toward and away
10 from one of the track rails by means of operating treadles under the control of some suitable device connected with the car moving along the track.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a top plan view of a portion of a track at a point where the switch or switch operating mechanism is located. Fig. 2 is a
20 horizontal section taken in a plane just below the surface, along the line x, x of Fig. 3, and Fig. 3 is a vertical section, taken in the plane transverse to the track along the position indicated by the line y, y of Fig. 1.

25 The track rails are denoted respectively by A and A' and B is the movable switch rail or tongue for directing the car along the main or onto the switch track, as may be desired.

The switch operating mechanism is conveniently located within a box C here shown as
30 of oblong rectangular form and provided at its top with a pair of openings c and c' surrounded by upwardly extending rims c^2 and c^3 for the reception of switch operating treadles D and D'. The downward movement of the treadles D and D' is determined by inwardly and downwardly inclined surfaces c^4
35 at the lower ends of the openings c and c' . The treadles D and D' are fitted with an easy sliding fit within the rims c^2 and c^3 . Their downward movement is arrested as soon as they reach the upper extremity of the inclined surfaces c^4 and at the same time the downward inclination of the surfaces c^4 and the absence of
40 any abrupt shoulder to limit the movement of the treadles, serve to keep the openings c and c' at all times free from any dust, gravel or other foreign substances that may possibly work down between the treadle and the inner
45 face of the rim, since such substance will

straightway slide off the inclined surface c^4 down into the box out of the way. From the treadles D and D' plungers d and d' depend, passing through suitable guide sockets E and E', here shown as fixed to the side of
55 the box C. The lower ends of the plungers d and d' are provided with beveled faces d^2 and d^3 which, as the plungers descend, through slots f and f' in a longitudinally sliding bar F, engage respectively the walls at the ends
60 of the slots f and f' and thereby crowd the bar F longitudinally in one direction or the other, depending upon which one of the plungers is depressed.

The sliding bar F is supported in suitable
65 bearings, in the present instance in brackets G, G' and G² attached to the bottom of the box C and, at one end the said bar F is connected with one arm H of a vibrating lever pivoted, as at h , to a suitable support within
70 the box C, the opposite arm H' of said lever being connected with the under side of the movable switch rail or tongue B. In the present instance I have shown the arm H' of the vibrating lever extended up through a small
75 opening c^5 in the top of the box C, the lower portion of the movable switch rail or tongue being provided with a flange of ordinary form, sufficient to substantially cover the top of the opening c^5 to prevent the entrance of wa-
80 ter or other foreign matter.

For the purpose of causing one of the plungers to move upwardly out of engagement with the bar F simultaneously with the downward movement of the other plunger, I connect the two plungers by means of a vibrating
85 lever I pivotally secured to a suitable support within the box at i . The connection of the opposite arms of the lever I with the plungers is given sufficient play to account for
90 the slight arc in which its ends swing.

In operation, suppose the switch to be open and the treadle D' lifted, as shown in Fig. 3, with its plunger out of engagement with the sliding bar F. If now, it be desired to close
95 the switch, all that is required will be to depress the treadle D', either by some suitable device attached to the car, or by horses drawing the car, or it might be done by hand. In so doing, the plunger d will gradually be with-
100

drawn from its engagement with the bar F as the plunger *d'* is depressed into engagement with it and the bar F will be slid longitudinally, thereby throwing the arm H' of the lever connected with the switch rail over toward the rail A and carrying with it the switch rail B into the position shown in dotted lines, while the switch operating mechanism will assume the position indicated in dotted lines in Fig. 3. To open the switch will require a simple reversal of the procedure just described, the pressure for such purpose being exerted upon the treadle D.

It will be observed that when the switch is thrown by the above described mechanism, either into closed or opened position, it will be absolutely locked in that position by the engagement of the one or the other of the plungers with the sliding bar F, so far as the strain upon the movable switch rail or tongue is concerned, while at the same time it may be readily operated by pressure upon the treadle which is up.

If the friction of the plunger with the sliding bar F is found in practice insufficient to hold the treadles in position during the short interval between the operation of the switch and the entrance of the wheel onto or past the switch rail, any well known or approved

frictional device may be applied to one or more of the movable parts to secure the desired retention of the adjustment.

What I claim is—

1. The combination with a movable switch rail or tongue, of a longitudinally sliding bar connected at one end with the switch rail or tongue, guides for holding the longitudinally sliding bar against lateral displacement, vertically reciprocating treadles, inclined faced plungers fixed to the treadles and extended into position to engage bearings on the longitudinally sliding bar, guards for preventing the plungers from lateral displacement, a vibrating lever connecting the plungers and bearings located above the sliding bar and on opposite sides of the plungers in position to receive the treadles and limit their downward movement, substantially as set forth.

2. The combination with a vertically movable treadle and the wall surrounding it and forming a guide therefor, of a downwardly and inwardly inclined surface in position to form a stop for the downward movement of the treadle, substantially as set forth.

SAMUEL F. CLOUSER.

Witnesses:

FREDK. HAYNES,
GEORGE BARRY.