

UNITED STATES PATENT OFFICE.

WILLIAM C. DILLMAN, OF BROOKLYN, NEW YORK.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 522,885, dated July 10, 1894.

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To all whom it may concern:

Be it known that I, WILLIAM C. DILLMAN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Railway-Switch, of which the following is a full, clear, and exact description.

My invention relates to improvements in railway switches and especially to such as are adapted for use on street railways.

The object of my invention is to produce a very simple switch, and working mechanism therefor, which has its operative parts arranged beneath the road-bed so as to be protected from snow, dirt, &c.; which is arranged in such a manner that it may be conveniently worked from a passing car, and which has few parts and these arranged in such a way that they are not likely to get out of order.

To these ends my invention consists of certain features of construction and combinations of parts, which 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 my switch and switch-working mechanism. Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 1; and Fig. 4 is a cross section on the line 4—4 of Fig. 1.

The track has the usual rails 10, and at the junction of one of the main rails and the siding rail 12 is placed the usual switch point 11, which swings in the customary manner on the grooved bed plate 13, which is perforated, as shown at 14, to permit snow, water and dirt to drop through out of the way of the switch point, these perforations leading to the chamber 15 beneath the plate 13, this chamber connecting with the main chamber 16 which is arranged beneath the road-bed and contains the switch-working mechanism.

A shift bar 17 is connected with the switch point 11 and extends transversely beneath the road-bed, sliding in a suitable guide 18 on the top wall of the chamber 16, and this shift bar is bent downward at its inner end, as shown at 19, and has on the bottom a roller 20 which runs on the floor of the chamber 16 and serves to steady the shift bar. The vertical portion

19 of the shift bar has, on its opposite sides and near its upper and lower end, oppositely inclined lugs 21 in which are journaled anti-friction rollers 22, these being adapted to engage the prongs or members of a fork 23, the prongs being beveled, as shown at 23^a, at the edges, which come in contact with the rollers 22, so that the fork may strike the rollers and move the shift bar without excessive shock.

The fork 23 is formed on one end of a vertically tilting lever 24, which is arranged longitudinally in the chamber 16 and is fulcrumed on a post 25, as shown best in Fig. 1. This lever swings in a suitable guide 26 and has, on opposite sides of its fulcrum and projecting laterally from opposite sides, upwardly-extending bent arms 27 which carry at their upper ends contact plates 28 and 28^a, these swinging in slots 29 in the top of the chamber 16 and being depressible by means of some object such as a wheel on the car, which may be made to press on either of the plates according as the switch is to be opened or closed.

The operation of the switch is as follows:— If the switch is to be closed, the plate 28^a is depressed, and this swings down the end of the lever 24 next the switch, thus bringing one member of the fork 23 into contact with one of the rollers 22 and this slides the shift bar 17 to one side and closes the switch. If, however, the switch is to be opened, the plate 28 is depressed, thus raising the end of the lever 24 next the switch, and this brings one member of the fork 23 against the other roller 22 and the shift bar 17 is moved in the opposite direction so as to open the switch.

In constructing the apparatus any suitable means may be employed for draining the chambers 15 and 16, and the rollers 22 may be dispensed with, although these are preferably employed as the apparatus works easier with them.

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

1. In a railway switch, the combination of the track, the switch point, the forked tilting lever fulcrumed beneath the road-bed, the contact plates carried by the lever and arranged in the road-bed, the sliding shift bar connected with the switch point, and the in-

clined lugs on the shift bar arranged in the path of the members of the fork, substantially as described.

2. In a railway switch, the combination of
5 the vertically tilting lever, the swinging
switch point, the sliding shift bar connected
with the switch point and extending beneath
the road-bed, the shift bar having a bent in-
ner end with a roller at the foot, inclined lugs
10 on opposite sides of the bent end of the shift
bar, and a fork on the tilting lever to engage
said lugs, substantially as described.

3. In a railway switch, the combination with

the vertically tilting forked lever having the
members of its fork beveled, as specified, of 15
the swinging switch point, the sliding shift
bar connected with the switch point and pro-
vided with a bent inner end, and the rollers
arranged on opposite sides of the bent end of
the shift bar and in the path of the fork mem- 20
bers, substantially as described.

WILLIAM C. DILLMAN.

Witnesses:

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