



# UNITED STATES PATENT OFFICE.

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## RAILWAY-SWITCH.

**SPECIFICATION** forming part of Letters Patent No. 522,884, dated July 10, 1894.

Application filed January 8, 1894. Serial No. 496,065. (No model.)

*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 particularly to such switches as are adapted for use on street rail-ways.

The object of my invention is to produce an extremely simple switch and switch-working mechanism, which may be easily applied to an ordinary railway and to the usual swinging switch rail or point; which has its parts arranged beneath the road-bed in such a manner that they cannot well get out of order or become clogged, and which may be operated from a moving car so as to throw the switch point in either direction.

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 a railway provided with my improved switch. 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 similar section, showing a modified arrangement of the shifting arms.

The track has the usual rails 10, and at their junction with a siding 11, is arranged the usual switch point 12 which swings on the customary grooved face plate 13, this being perforated, as shown at 14, so that dirt and dust may drop through into the chamber 15 below the road-bed, which chamber may be drained in any customary manner to prevent it from filling up with water. Arranged in the chamber 15 is a lever 16 which extends substantially parallel with the track rails and is adapted to swing horizontally, it being fulcrumed on a suitable support, as shown at 17 in Fig. 1, and one end of it is bent upward, as shown at 18, and is pivoted to a connecting rod 19 which is connected with the switch point 12, so that the swinging of the lever 16

actuates the switch point. The other end of the lever 16 is, preferably, somewhat wider at the top than at the bottom, see Fig. 3, and is clasped by rollers 20 on the ends of the bent arms 21 which are arranged on opposite sides of the lever 16 and are carried by a vertically tilting lever 22 which is arranged transversely in the chamber 15 and is pivoted at the center on a supporting post 23.

The ends of the lever 22 are bent upward, as shown at 24, and terminate at the top in plates 25 which are adapted to lie flush with the road-bed and to move vertically in slots 26 in the top of the chamber 15. These plates are adapted to be engaged by a depressible wheel or any other light object on the car, and when either plate is depressed it tilts the lever 22 and causes one of the rollers 20 to push against the lever 16, thus swinging the lever on its fulcrum and throwing the switch point 12 to one side. It will be seen that whether the switch point is opened or closed will depend on which plate 25 is depressed.

Instead of having the arms 21 arranged as in Fig. 3, curved arms 27 may be used, as shown in Fig. 4, each arm curving upward from the lever 22 over the top of the lever 16 and having, at its ends, a roller 20 which is adapted to engage the lever 16 on the opposite side from the fastened end of the arm 27, and it will be seen that this arrangement causes the lever 22, when tilted, to impart a movement to the lever 16 just the same as that imparted to it by the tilting of the lever 22 when provided with the arms 21, but by the opposite arms 27. In Fig. 4 the crossing of the arms 27 and their receiving between them the upper wider side of lever 16 render accidental displacement of the said lever impossible.

It will be seen from the above description that the mechanism described affords no obstruction whatever to the passage of vehicles over the track, and that the switch may be worked by means of any kind of a depressible object on the car, such as a wheel or lever.

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

A switch mechanism, comprising the switch point, a longitudinally extending lever 16 piv-

oted between its ends and pivotally connected at one end with said point; the opposite shorter end of the lever having its opposite sides inclined downwardly and inwardly, a support beneath said inclined end, a transverse lever 22 pivoted centrally to said support and provided with arms on its upper side at opposite sides of its pivot, said arms projecting toward the said inclined sides and provided with anti-friction rollers in engagement therewith; one roller to run up one incline to operate the lever while the other roller runs down the opposite lever to permit such operation, arms projecting up from the ends of the lever 22 and provided at their upper ends with contact plates working in openings in the road bed, substantially as described.

WILLIAM C. DILLMAN.

Witnesses:

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