C. P. DEYOE.

Railway-Switch.

No. 167,313. Patented Aug. 31, 1875.

FIG. I.

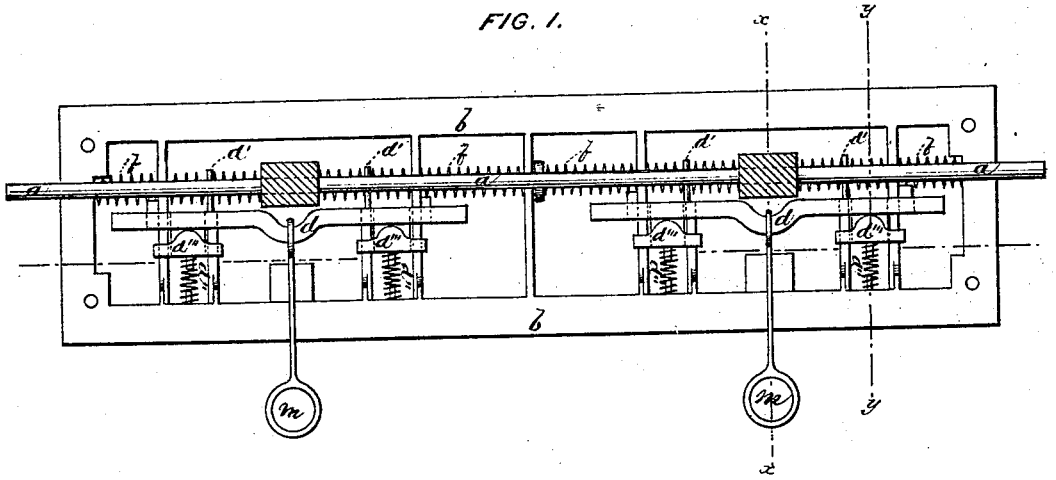


FIG. II.

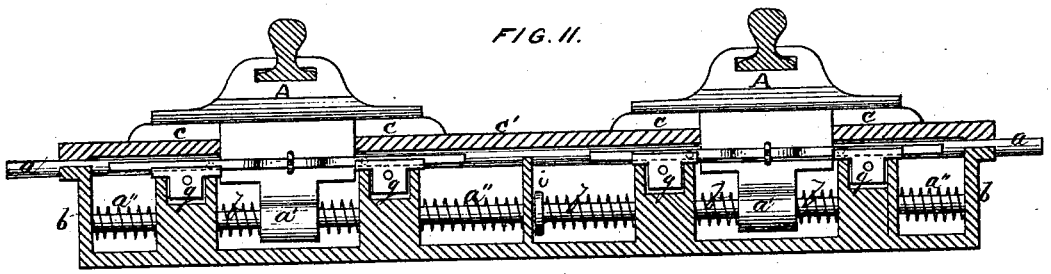


FIG. III.

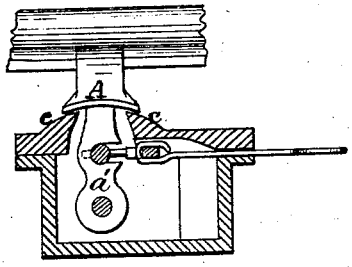
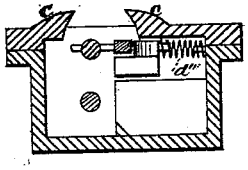


FIG. IV.



WITNESSES:

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J. F. Payne.

INVENTOR:

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by B. F. James.

atty.

UNITED STATES PATENT OFFICE.

CLIFFORD P. DEYOE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO DANIEL R. PRATT, OF SAME PLACE.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **167,313**, dated August 31, 1875; application filed May 10, 1875.

To all whom it may concern:

Be it known that I, CLIFFORD P. DEYOE, of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in certain improvements in the devices shown and claimed by me in Letters Patent granted me on the 17th November, 1874, No. 156,988—to wit, in inclosing the operative mechanism employed in operating the movable ends of the switch-rails within a box below such rails, and in the construction and arrangement of slides which receive the movable ends of the switch-rails upon the switch-rod, and the method of securing them in position thereupon; also, in the projections formed upon such sliding plates, through which projections a spring-bar passes, the springs upon which effect and control the lateral movements of such sliding plates when the latter occupy different positions upon such spring-bar.

In order to enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the annexed drawing and the figures thereof, making part and parcel of this my specification.

Figure 1 shows a top view with rails and top of box removed, and Fig. 2 a cross-section showing the box containing the several parts and devices inclosed therein. Fig. 3 is a cross-section, and Fig. 4 a cross-section.

In the drawings, A represents the sliding plate or chair, within which the movable ends of the switch-rails are secured in any convenient or usual manner. This sliding plate has a prolongation, a', upon its under side, through which a hole is made, in order to allow it to slide freely upon the spring-bar a''. A coiled or other suitable spring, $f\ f$, envelops said spring-bar, and impinges against the ends of the box b and a central hub, i, and also the two sides of the projection a', formed upon the sliding plate or chair. $c\ c\ c\ c$ are raised and curved plates, cast upon or otherwise secured to the top or cover of the box b, and conform to the shape and configuration of the under side of the sliding plate or chair A. The sliding plates or chair may be controlled in their lateral movements by means of the switch bar or rod a, located within and near the top of the box b, and passing through the prolongation formed upon the sliding plate or chair. The latter may be retained in position upon such switch bar or rod by means of the projections $d'\ d'$, formed upon the bars $d\ d$, as seen in Fig. 1, such projections fitting into holes or openings in the switch bar or rod a on either side of the sliding plate or chair. The bars $d\ d$ are curved at or near their centers, as shown in Fig. 1, and are retracted by means of the rods $m\ m$ running to the opposite ends of the switch-rail, and operated upon in substantially the same manner, as shown and described in my former patent of November 17, 1874. Thus, when the switch-rails, confined in the sliding plate or chair A, are out of line with the main track, the approaching train will cause the bar d to be withdrawn from contact with the switch-bar a, and the springs $f\ f$ will force back to their proper position the sliding plates or chairs, in which the switch-rails are placed. Recesses $g\ g$ are formed within the box b, within which are secured the springs $d''\ d''$ and their followers $d'''\ d'''$, the latter being in contact with the bars $d\ d$, and which tend to keep such bars in contact with the switch-bar a, as seen in Fig. 1.

Thus it will be seen that the principal part of the mechanism employed in operating the switch-rails is contained within a closed metallic box beneath the road-bed, so that there is little liability of injury to the same, or its operation impeded by an accumulation of snow, ice, dust, &c., upon the mechanism used; and, further, by this arrangement of the several devices, it presents a simple and compact arrangement that can be utilized upon any road, and placed in position with very little delay

or trouble. The cover of the box is made in two parts, closely fitting together, and under the sliding plates or chairs.

The switch-rails can be moved in the usual manner by an ordinary switch-lever, to which the rod *a* is secured, the switch-rails being held in position upon rod *a* by means of the projections *d'*, formed upon the bar *d;* and when the rails aforesaid are so moved laterally to turn-out or siding rails, the springs upon the spring-bar *a''* are compressed upon the side of the switch-rails in the direction toward which they are moved, so that when the lever of switch is released, the reaction of the compressed springs will cause the switch-rails to return to the exact line of the main rails. Provision is also made to effect the release of the switch-rails, when in line with the turn-outs or sidings, by connecting the rods *m* to inclined or hinged plates firmly secured to the tie upon the inner sides of the main rails, at a suitable distance from the switch-rails, by means of bent levers, as shown in my former patent herein referred to. These inclined plates are depressed and operated upon by the flanges of the truck-wheels of the locomotive, when the switch-rails are not in line with the main track, causing the rod *m* to retract, and withdrawing its projections *d'* from the bar *a*, when the springs *f f* upon the spring-bar cause the switch-rails instantly to resume their position in line with the main rails before the locomotive or driver can enter upon the switch-rails.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The sliding plate A, with its projection *a'*, in combination with the spring-bar *a''*, switch-bar *a*, and box *b*, in the manner and for the purpose herein described.

2. The raised and curved plates *c c c c*, formed upon the cover *c'* of the box *b*, in combination with the sliding plates A, in the manner and for the purpose herein described.

3. The bars *d d*, curved at or near their center, having formed upon them the projecting points or lugs *d'*, in combination with the switch-bar *a*, springs *d''*, follower *d'''*, and retracting-rods *m*, in the manner and for the purpose herein described.

4. The recesses *g g*, formed within the box *b*, to receive the springs *d d*.

5. The box *b*, when constructed and arranged as herein described, so as to contain within the same the spring-bar *a''*, switch-bar *a*, bars *d d*, springs *d'' f f*, and recesses *g g*, in the manner and for the purpose herein described.

In testimony that I claim the foregoing as my own invention, I affix my signature in presence of two witnesses.

CLIFFORD P. DEYOE.

Witnesses:

A. C. TUTTLE,

WILLIAM N. CLEM.