

(No Model.)

O. E. SWARTZ.
RAILROAD SWITCH.

No. 363,348.

Patented May 17, 1887.

Fig. 1.

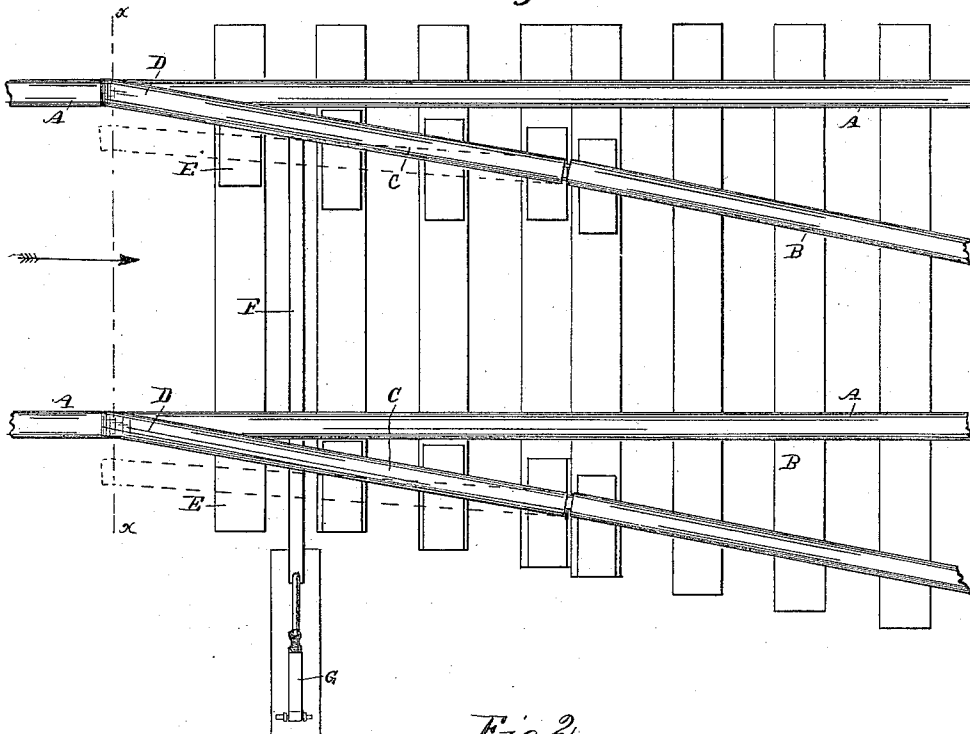


Fig. 2.

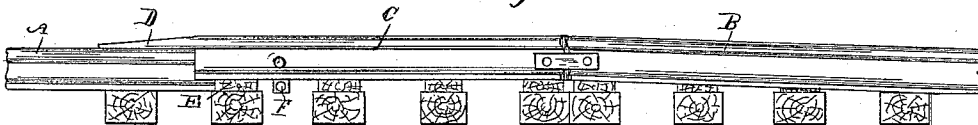


Fig. 3.

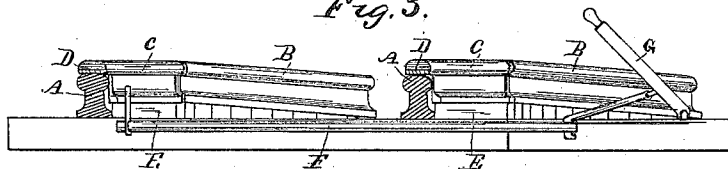
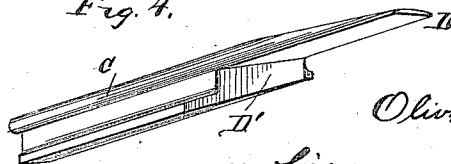


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

OLIVER EDWIN SWARTZ, OF BIRMINGHAM, ALABAMA, ASSIGNOR OF ONE-HALF TO H. HOUP, OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 363,348, dated May 17, 1887.

Application filed September 25, 1886. Serial No. 214,544. (No model.)

To all whom it may concern:

Be it known that I, OLIVER EDWIN SWARTZ, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Improvement in Railroad-Switches, of which the following is a specification.

My invention relates to an improvement in railway-switches; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a top plan view of a railway-switch embodying my improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical transverse sectional view taken on line *xx* of Fig. 1. Fig. 4 is a detailed perspective view of one of the switch-rails.

A represents the rails of the main track. B represents the rails of a siding or branch track, and C represents the pivoted switch-rails, which are adapted to connect the side or branch track with the main track. The said switch-rails have their free ends cut away on their under sides for a considerable distance, thereby leaving only the head of the switch-rails at their free ends intact, and forming projecting arms D upon the upper sides of the free ends of the switch-rails. The shanks of the said switch-rails at their free ends are beveled on one side at D', and thereby adapted to bear closely against the sides of the main rails. The free ends of the switch-rails are supported upon slide-plates E, which are elevated above the ties that support the main rails a distance equal to the thickness of the heads of the switch-rails, so that when the said switch-rails have their free beveled ends moved inwardly against the sides of the main rails the arms or extended heads D of the said switch-rails will bear upon the upper sides of the main rails, as shown in solid lines in the drawings.

It will be readily understood that a train proceeding along the main track in the direction indicated by the arrow in Fig. 1 will be switched off onto the sides or branch track when it reaches the free ends of the switch-rails. The latter are connected together by the usual rod, F, operated by a lever, G, fulcrumed to

the switch-stand in the usual manner. When the said lever is thrown so as to cause the free ends of the switch-rails to be moved from the main rails, the main track is unobstructed. By thus providing the switch-rails with extended arms that are adapted to bear upon the upper sides of the main rails it will be readily understood that the switch-rails are not subject to much wear, as the wheels of a train roll easily from the main rails onto the said switch-rails, and thus a switch thus constructed is very durable, besides being cheap and simple.

I am aware that prior to my invention railway-switches have been provided with movable switch-rails which are beveled on the inner sides adjoining the main track; and I am also aware that the under side of the free ends of the movable switch-rails have been cut away, the sides of the cut-away portions lying at right angles. In this form of switch the free ends of the movable switch-rails, which overlap the main-track rails, present a square shoulder or abutment, against which the wheels of a passing train strike or abut, which thereby soon wears the rail away and mashes it out of shape.

In my improved railway-switch I first cut away the web and foot of the switch-rail at the free end of the latter to leave the head of the rail intact, and thereby provide an integral arm which projects beyond the end of the rail for a considerable distance. The lower side of this projecting arm is gradually beveled or inclined downwardly from the outer free end thereof toward the point where it joins the rail, and as the switch-rail is inclined longitudinally on the chairs the beveled or tapered arm of the said rail is adapted to fit very snugly and closely over the top or upper side of the main-track rails, the free end of the tapered arm lying very close to the main-track rails and presenting a comparatively thin end, which offers a minimum objection and obstruction to the passage of the wheels of the train. By making this tapered arm of considerable length, so that it will lap over the main-track rails for some distance, the safety of the switch is very materially increased, as the wheels of the locomotive ride upon the extreme ends of the switch-rails while still in line with the main track and before turning to the side track.

I make no claim, broadly, to the switch-rails having the projecting arms at their free ends to ride over the main-track rails.

Having thus described my invention, I
5 claim—

In a railway-switch, the combination of the main track, the side track, the fixed guide-plates E, having the inclined upper surfaces and arranged in gradually-ascending series
10 from the ends of the rigid rails of the side track to the main track, and the switch-rails C, flexibly connected to the side track and resting on the guide-plates, and thereby gradually ascending to the main-track rails, the free
15 ends of the switch-rails having their shanks entirely cut away for a considerable distance

to leave the heads intact and thereby form integral arms D, projecting from the rails, the shanks of the latter being beveled at their free ends on the sides contiguous to the main-track rails at D', and the arms D being gradually inclined downward on their upper sides, and thereby tapered to their points at their outer ends, all combined and arranged to operate substantially as described. 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses. 25

OLIVER EDWIN SWARTZ.

Witnesses:

W. H. JOHNSTON,
J. T. RICHARDSON.