

C. D. TISDALE.
Railroad Switches.

No. 139,279.

Patented May 27, 1873.

Fig. 1.

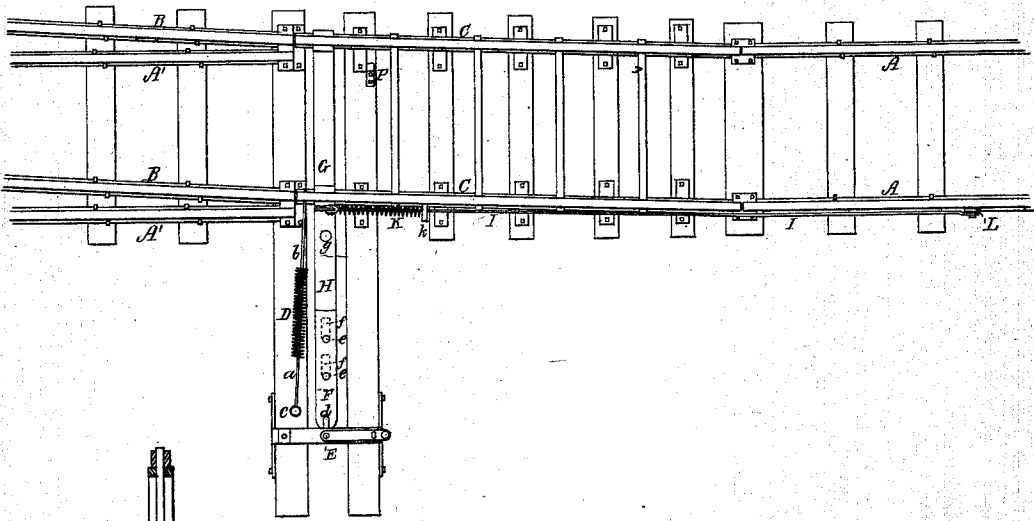


Fig. 2.

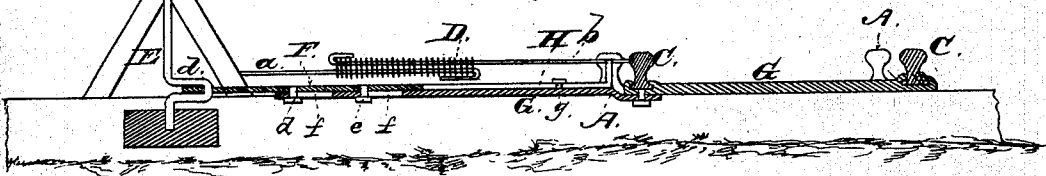
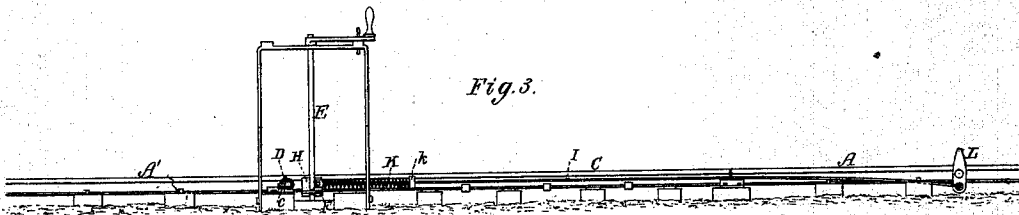


Fig. 3.



Witnesses

S. W. Piper.
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UNITED STATES PATENT OFFICE.

CHARLES D. TISDALE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN RAILROAD SWITCHES.

Specification forming part of Letters Patent No. **139,279**, dated May 27, 1873; application filed December 27, 1872.

To all whom it may concern:

Be it known that I, CHARLES D. TISDALE, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Safety Mechanism for Railway Switches; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view of a switch, main track, and turnout with my invention applied to the said main track and switch. Fig. 2 is a transverse section taken through the switch and its operative cranked shaft. Fig. 3 is an elevation, showing the switch and its appliances.

The object of my invention is to cause the switch to be moved from alignment with the turnout into alignment with the main track, should the switch-tender neglect or accidentally forget to do so at a period when it should be done by him, to enable a train or carriage on the main track extending from one end of the switch to pass over the switch to and upon that part of the main track which is beyond the other end of the switch. My invention is designed as a preventive of such an accident as may be due to the switch not being returned to alignment with the main track after it had been moved therefrom to switch a train upon the turnout.

With my invention an engine, train, or carriage on approaching upon the main track a misplaced switch will, before reaching the switch, so actuate a tripping mechanism as to set free the switch and enable a spring to draw or force the switch into alignment with the main track.

In the drawings, A A A' A' denote the rails of the main track, and B B those of a turnout, while C C are the switch-rails pivoted to or near to the rails A A in the usual manner. The switch is to be supposed to be provided with the usual connection-bars to its rails. A retractive helical spring, D, has two rods, *a b*, extended through it, such rods being hooked about the spring at its opposite ends, in order that when such rods are pulled lengthwise in

opposite directions the spring may be contracted longitudinally. One of these rods is fixed to a post or stud, *c*, and the other to one of the switch-rails, the arrangement of the spring, the rods, and the post being as represented. The crank-shaft for actuating the switch by manual power is shown at E, its lever-crank *d* being pivoted to a bar, F, applied to the regular push-bar G of the switch so as to slide or be capable of sliding lengthwise thereon, the two bars being connected by headed pins *d e*, extended from the upper and going through slots *f f* in the lower of said bars. In advance of the bar F and upon the bar G is a stop-lever, H, which is pivoted to the bar G, its pivot or fulcrum being shown at *g*. From the inner end of the stop-lever H a rod, I, is extended alongside of the switch-rail through a helical spring, K, which at one end bears against the inner arm of the stop-lever, and at the other against a stud or bracket, *k*, extended from the switch. The rod I at its other end is pivoted to the lower arm of a short lever, L, arranged alongside of and pivoted to the main track-rail, as shown, and at a suitable distance from the switch. The spring K tends to keep the stop-lever H in alignment with the bar F, and when the end of the lever is against the next adjacent end of the bar F the push-bar G will be prevented from moving backward; or, in other words, the stop-lever and the bar F will prevent the switch from being moved laterally by the retractive spring D. When the stop-lever and the bar F are in line the switch can be moved to the turnout against the retractive power of the spring D. If we suppose the switch to be in alignment with the turnout, and the stop-lever to be in line with the bar F, and a train or carriage on the main track to be approaching the switch, and to have a projection or arm that will, as the train may pass the upper arm of the lever L be forced against such arm so as to turn the said lever on its fulcrum and cause the lever to pull upon the rod connecting it with the stop-lever, it will follow that on the lever L being so moved the stop-lever will be turned out of line with the

bar F to such extent as to enable the bar G to slide back upon the bar F, and the retractive spring D to draw the switch into line with the main track before the carriage or train may enter upon the switch, the latter bringing up against a stop, P, arranged as shown.

From the above it will be seen that the essential elements of my invention are, first, the spring D, or its equivalent; second, mechanism for moving the switch by manual power from alignment with the main track to alignment with the turnout, and for holding it there; third, a tripping-mechanism device or devices, which, when put in move-

ment by an approaching train on the main track, shall set free the switch so as to allow the spring D to draw or free the switch out of alignment with the turnout and into line with the main track.

I therefore claim as my invention—

The combination of the spring D, the cranked shaft E, bars F G, lever H, the spring K, rod I, and lever L, all applied to or combined with a switch and its turnout and main-track rails, as and for the purpose set forth.

CHAS. D. TISDALE.

Witnesses:

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J. R. SNOW.