T. K. HUBBELL & G. H. GREGORY.

Self-Closing Railroad Switches.

No. 144,848. Patented Nov. 25, 1873.

Fig: 1.

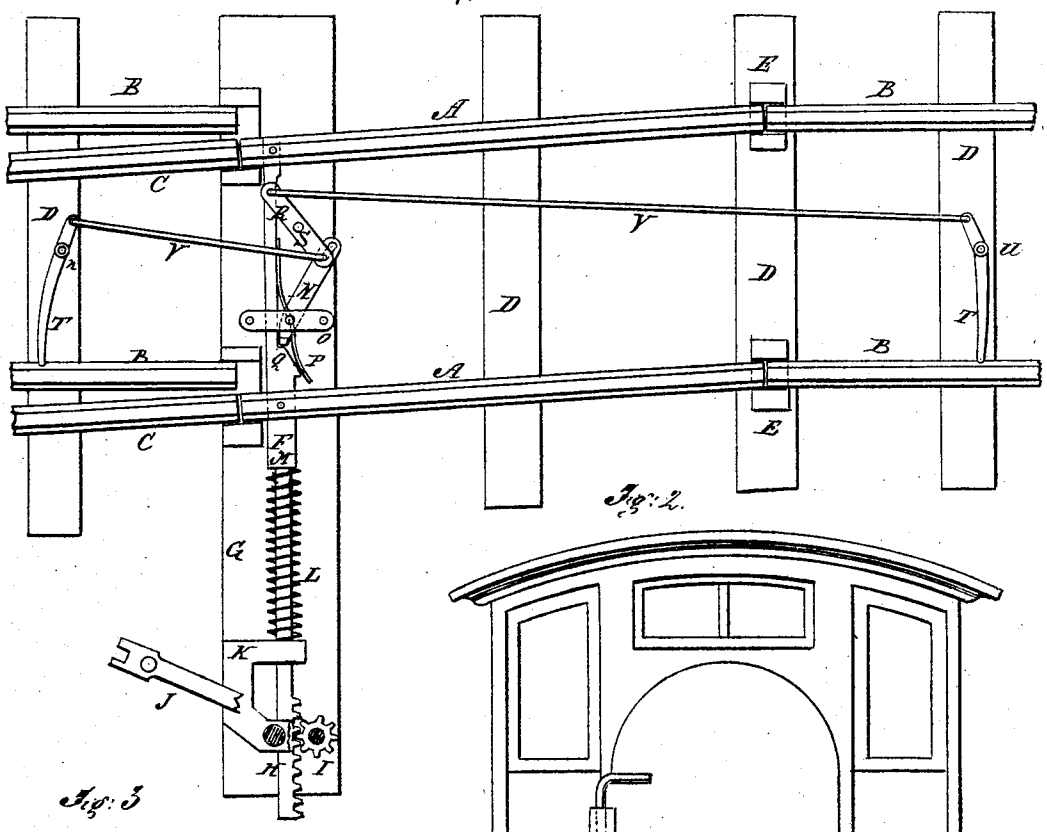


Fig: 2.

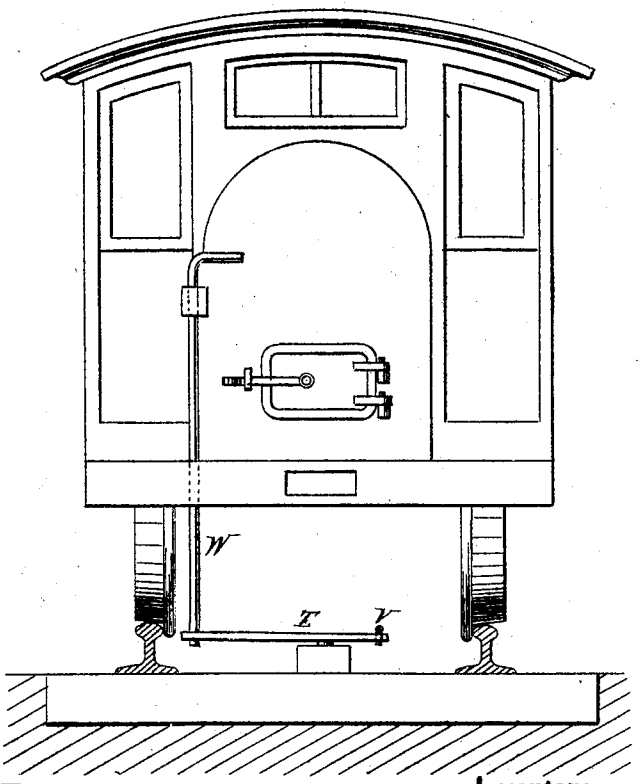
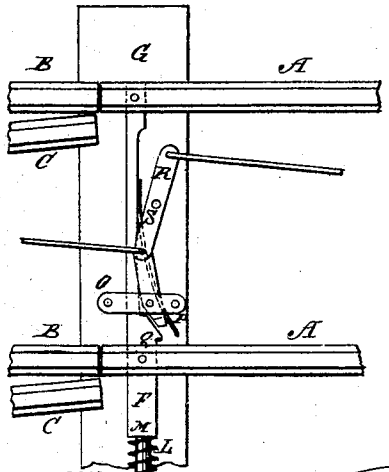


Fig: 3



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UNITED STATES PATENT OFFICE.

THADDEUS K. HUBBELL AND GEORGE H. GREGORY, OF WILTON, CONN.

IMPROVEMENT IN SELF-CLOSING RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **144,848**, dated November 25, 1873; application filed March 22, 1873.

To all whom it may concern:

Be it known that we, THADDEUS K. HUBBELL and GEORGE H. GREGORY, of Wilton, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Self-Closing Railroad-Switch, of which the following is a specification:

The object of this invention is to provide means for operating railroad-switches automatically, and thus render accidents from misplaced switches less frequent; and it consists in the construction, arrangement, and combination of parts hereinafter described.

In the accompanying drawing, Figure 1 is a plan view. Fig. 2 is a view of the rear end of a locomotive on the track. Fig. 3 is a plan detail.

Similar letters of reference indicate corresponding parts.

A are the movable rails of the switch; B B, the permanent rails of a straight track. C C are branch rails. D represent the ties; E, the chairs. The rails A A are connected by the horizontal bar F. This bar is supported on the bed-timber G. The outer end of this bar is a rack, H, and it is moved longitudinally by means of a pinion, I, which meshes into the rack. The pinion is on the lower end of an upright shaft. Upon the upper end of the shaft is a crank, J. K is a frame firmly attached to the timber G, which guides the rack and supports the upper end of the pinion-shaft. The crank works over the top of this frame, and may be locked thereto when it is desired to secure the switch in a fixed position. L represents a spring on the bar F, one end of which bears against the frame K, and the other against the shoulder M. This spring is compressed when the bar is drawn outward or toward the pinion, and the switch-rails A A are made to correspond with the branch rails, as seen in Fig. 1. The reaction of the spring would throw the bar back were it not locked in this position by the lever N, whose fulcrum-pin is on the fixture O. The short end of this lever has a pin projecting from its under side, which is forced toward the bar F by the spring P, which pin catches the shoulder Q on the bar F, and holds the bar in that position. This lever N is connected with a sway-bar, R, which turns on the pin S. T T are detent-levers raised above the ties on their fulcrum-pins U U, so as to be a little below the top of the rails. V V are rods, by which the short ends of these detents are connected with the ends of the sway-bar R, as seen in the drawing. Attached to the locomotive, and within reach of the engineer, is an adjustable tripping-bar, W, which extends down beneath the locomotive, so as to strike the detent-lever, as seen in Fig. 2.

The tripping-bar W slides up and down, and is adjusted by the engineer to strike the lever or not, as the case may be.

If the engineer wishes to follow the straight track he lets the tripping-bar drop. When this bar strikes the detent-lever the effect on the switch-rails will readily be seen.

The lever N and the sway-bar form a knuckle-joint or angle, but they are brought on a line, or made to form an angle in the other direction, by the contact, and this liberates the lever N from the shoulder of the bar F, and the recoil of the spring L throws the bar, so that the switch is instantly changed.

A large percentage of fatal accidents on railroads are caused by misplaced switches. By this invention such accidents may, to a great extent, be avoided.

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

1. The detent-levers T T, rods V V, tripping-bar W, sway-bar R, lever N, shoulder Q, springs P and L, bar F, arranged substantially as and for the purposes described.

2. The spring P, in combination with the bar F, as and for the purposes described.

3. The arrangement of the sway-bar R and lever N, as and for the purposes described.

THADDEUS K. HUBBELL.
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Witnesses:
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