

C. W. REINOEHL & M. W. LONG.

RAILROAD SWITCH.

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925,228.

Patented June 15, 1909.

Fig. 1

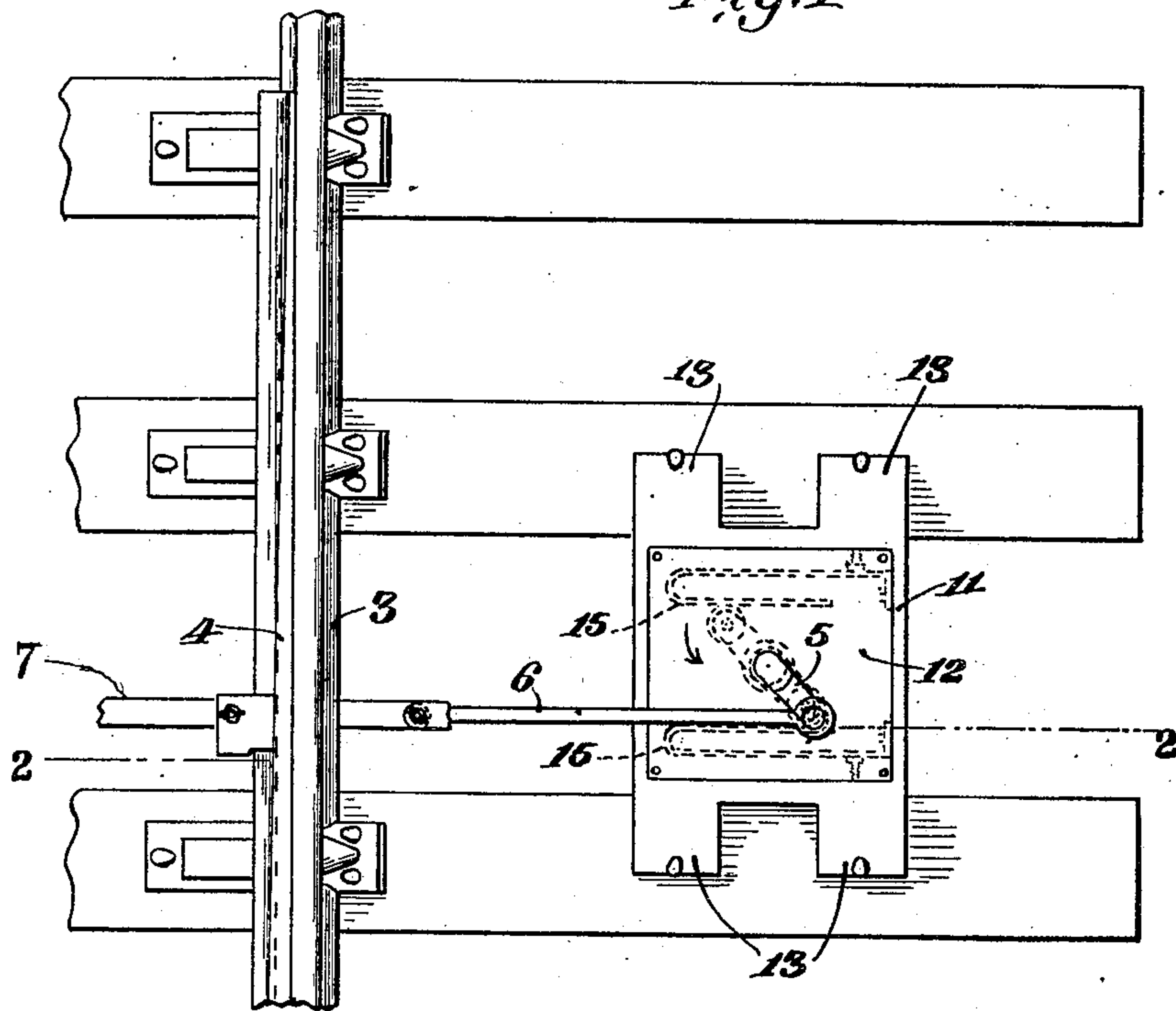


Fig. 2.

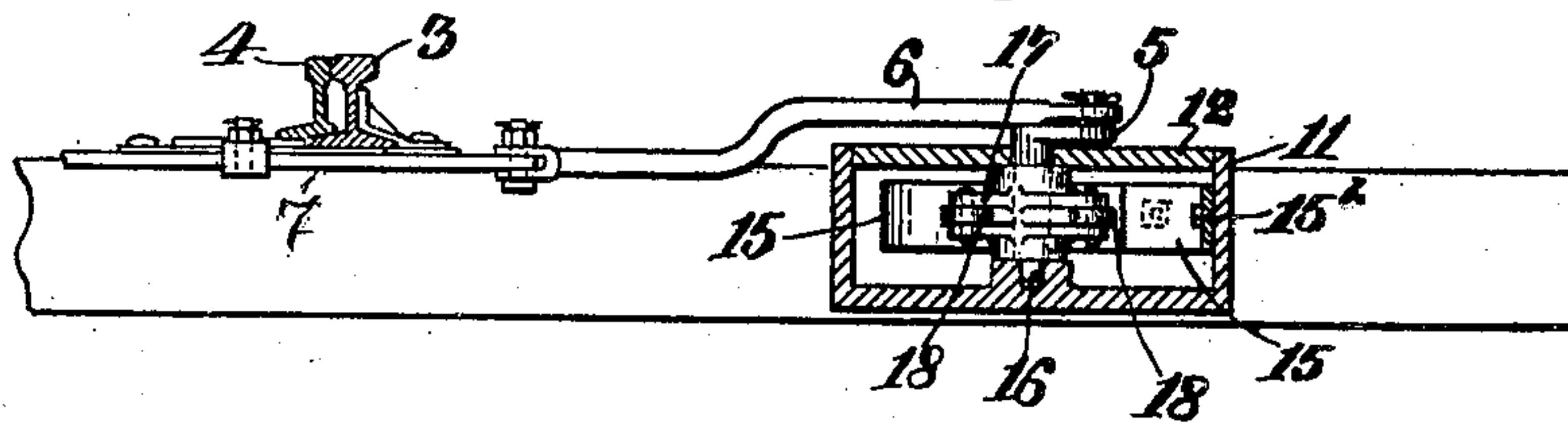
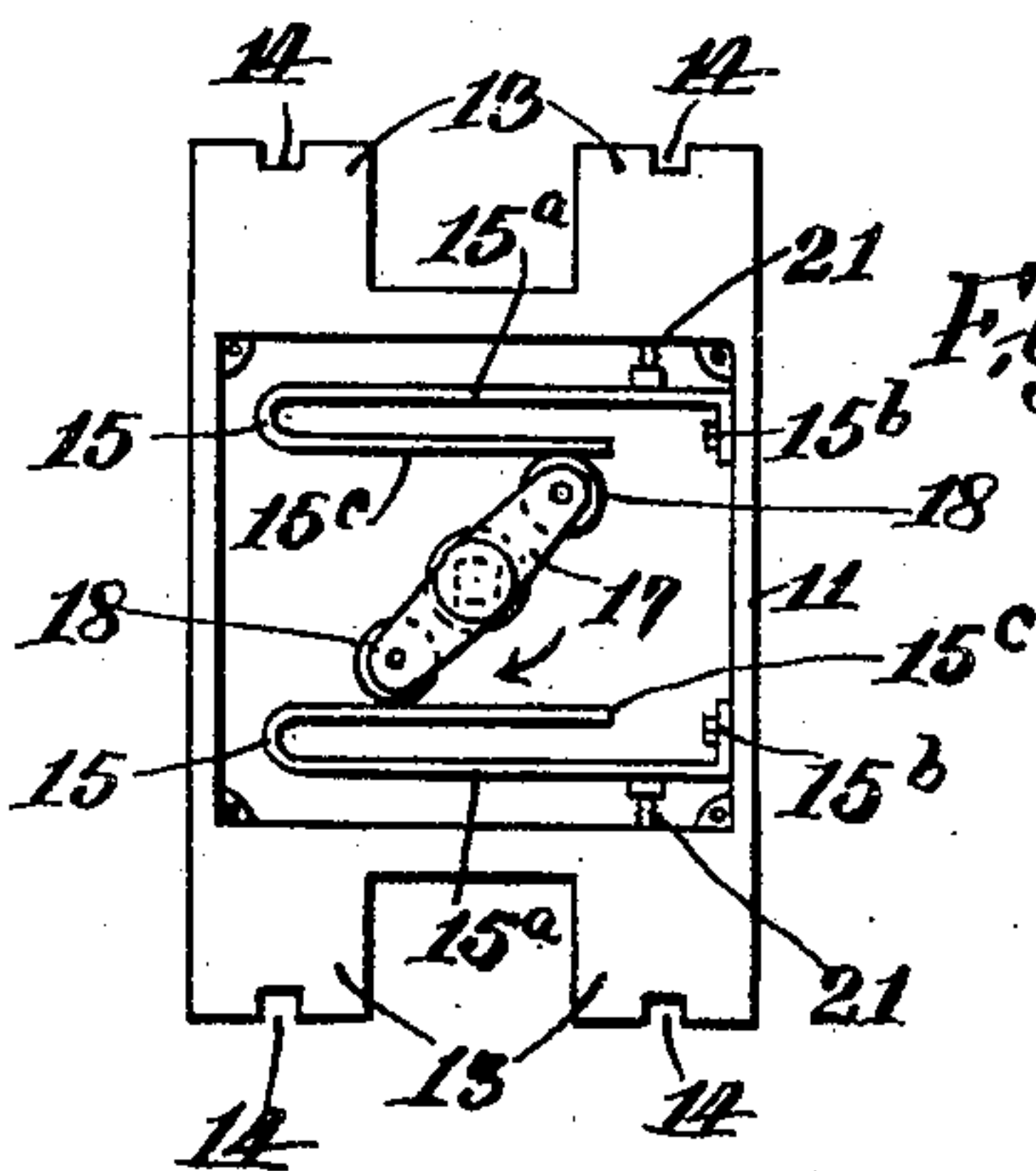


Fig. 3.



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CHARLES W. REINOEHL, OF STEELTON, AND MALCOLM W. LONG, OF HARRISBURG,
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RAILROAD-SWITCH.

No. 925,228.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES W. REINOEHL and MALCOLM W. LONG, citizens of the United States, said REINOEHL residing at Steelton, Dauphin county, State of Pennsylvania, and said LONG residing at Harrisburg, Dauphin county, State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Our invention relates to railroad switches, the object being to provide a simple, durable and efficient means whereby the switch rail may be maintained yieldingly in its positions of adjustment.

The invention consists in the novel features and combinations of parts which will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a plan view of a railroad switch embodying our invention. Fig. 2 is a vertical section, enlarged, as on the line 2—2 of Fig. 1. Fig. 3 is a plan view of the box or casing containing the spring-operated mechanism, the cover for the casing being removed, and showing the parts in a different position from that shown in Figs. 1 and 2.

3 designates the main rail, and 4, the tapering switch rail movable from and into engagement with the main rail 3 to open and close the switch in the usual well known manner.

Adjacent the main rail 3 is a box or casing 11, provided with a suitable cover 12, and projecting flanges 13 which are adapted to rest upon suitable cross-ties, as shown, which cross ties are adapted to support the box or casing 11 and also the main rail 3 and the switch rail 4. The flanges 13 are provided with suitable openings 14 therein for the reception of spikes for securing the box 11 to the underlying cross-ties.

Within the box 11 is a pair of spring arms 15, and within the box 11 and between the arms 15 is a lever 17, fixed to a shaft 16 which is adapted to be partially rotated in a bearing in the bottom of the box. One end of the lever 17 is acted upon by one spring arm 15, and the other end of the lever 17 is acted upon by the other spring arm 15, the lever 17 being provided with anti-friction rollers 18, interposed between the ends of the lever 17 and the spring arms 15. The

upper end of the shaft 16 extends through the cover 12 and is provided with an arm 5 extending from the shaft 16 parallel to the lever 17. The arm 5 is connected to one end of a rod 6, the other end of which is connected to a bar 7 which is connected by a bracket to the tapering switch rail 4.

Each spring arm 15 is made U-shaped, as shown, and one leg 15^a of each spring arm 15 is secured, as at 15^b, to the inner wall of the box 11, while the other leg 15^c of each spring arm is engaged with one of the anti-friction rollers 18. Fitted to screw-threaded openings in the side walls of the box 11, are adjustable screws 21, which are engaged with the legs 15^a of the springs 15, and are adjustable toward and from each other in a manner to engage and adjust the spring arms 15 toward and from the lever 17, for the purpose of varying the pressure of the spring arms 15 against the lever. We have found that these U-shaped springs give a wide range of flexibility, and that they may be adjusted to a nicety to insure the proper operation of the parts.

When the parts occupy the positions shown in Figs. 1 and 2 of the drawings, the spring arms 15 are pressing toward each other, and acting upon the lever 17, tending to turn it in the direction indicated by the arrow in Fig. 1, thus drawing the switch rail 4 into close contact with the main rail 3, and maintaining the switch tongue yieldingly in the closed position. When the switch tongue 4 is moved from its closed position against the main rail 3, to its open position away from the main rail, the lever 17 is moved from the position shown in Figs. 1 and 2 to the position shown in Fig. 3. In this position of the lever 17, the spring arms 15 acting thereon will tend to move the lever 17 about the pivot 16 in the direction of the arrow in Fig. 3, thus forcing the switch rail 4 into its open position away from the main rail and holding it yieldingly therein. Should it be desired to automatically return the switch rail 4 to the closed position after the pressure moving it from engagement with the main rail 3 has been removed, or to automatically return the switch rail 4 to the open position after the pressure moving it into engagement with the main rail 3 has been removed, the spring arms 15 may be so arranged with relation to the lever 17 and its pivot 16, that the arms of the lever will not

pass the center of the force of the spring arms against the lever 17 toward the pivot 16; or, in other words, so that the center line of the lever 17 will not pass a line passing
5 through the pivot 16 at right angles to the spring arms 15.

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

10 1. In a railroad switch, the combination with the main rail and the movable switch rail, of a pair of spring arms, a lever pivotally mounted between and acted upon by said
15 arms, and connections between said switch rail and said lever, substantially as described.

2. In a railroad switch, the combination with the main rail and the movable switch rail, of a pair of spring arms, a lever pivotally mounted between and acted upon by said
20 arms, connections between said switch rail and said lever, and means for adjusting said arms and varying the pressure thereof against said lever, substantially as described.

25 3. In a railroad switch, the combination with the main rail and the movable switch rail, of a pivoted lever, connections between said switch rail and said lever, and a U-shaped spring arm acting upon said lever and

having one leg secured to said structure, substantially as described. 30

4. In a railroad switch, the combination with the main rail and the movable point rail, of a pivoted lever, connections between said switch rail and said lever, a U-shaped spring arm acting upon said lever and having
35 one leg secured to said structure, and means for adjusting said arm and varying the pressure thereof against said lever, substantially as described.

5. In a railroad switch, the combination 40 with the main rail and the movable point rail, of a pivoted lever, connections between said switch rail and said lever, a U-shaped spring arm acting upon said lever and having one leg secured to said structure and a screw
45 adjustable toward and from said lever and engaged with said arm, substantially as described.

In testimony whereof, we have hereunto affixed our signatures.

CHARLES W. REINOEHL.
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Witnesses:

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