J. C. WILHELM.

Railway-Switch.

No. 165,287. Patented July 6, 1875.

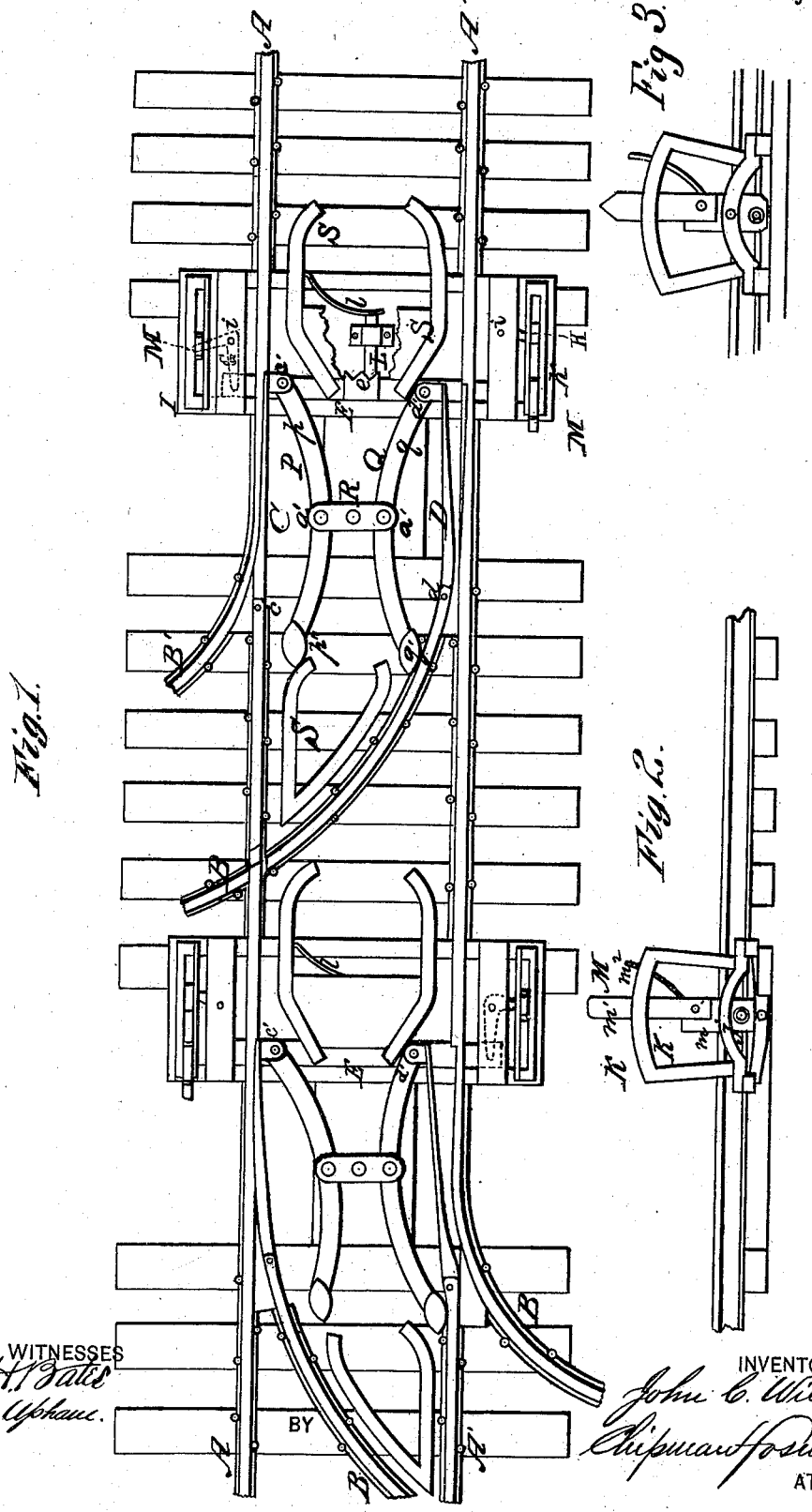

Fig. 1.

Fig. 3.

Fig. 2.

WITNESSES

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JOHN C. WILHELM, OF PETERSBURG, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **165,287**, dated July 6, 1875; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, JOHN C. WILHELM, of Petersburg, in the county of Huntingdon and State of Pennsylvania, have invented a new and valuable Improvement in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my railroad-switch, and Fig. 2 is a side view.

This invention has relation to railroad-switches; and it consists in the devices for holding the switch in any desired position, and also in certain improvements for changing the switch by the movement of the train in either direction, as will be hereinafter more fully set forth.

In the annexed drawings, A A′ are the two main-track rails, and B B′ are the two rails for the switch-track or siding. C D designate two tapered switch-tongues, one of which (C) is pivoted to the main-track rail A, and the other (D) is pivoted to the switch-rail B. The free ends of the tongues are movable laterally, so that they can be moved for the main track, as shown in Fig. 1, or for the siding. E designates a horizontal coupling-bar, to which the free ends of the tongues C D are connected by ears and pivots c' d'. This bar lies beneath the rails, and is connected by its extremities to two angular levers, G H, which have their fulcrums at i beneath platforms arranged outside of the track. The outer ends of the angular levers G and H are loosely connected to the lower ends of two levers, M M, which have their fulcrums at j, Fig. 2, and are guided by switch-stands I K, rising from the platform-frame of the switch. Each one of the levers M is composed of a lower section, m, and an upper section, m^1, connected together by a kind of rule-joint, which will allow the upper section m^1 to be flexed in one direction only, for a purpose hereinafter explained. The upper section m^1 of each lever M is provided with a curved spring, m^2. It is by means of these two levers that the bar E can be moved endwise, carrying with it the free ends of the switch-tongues C D. The coupling-bar E is provided at the middle of its length with a piece having angular notches e, adapted to receive the pointed end of a bolt, L, which is acted on by a spring, l, fastened to one of the road-sleepers. At every change of the switch the bolt L passes from one notch e to the other. This device prevents back action, and consequently it prevents all danger of the bar E being jarred from its proper position.

The switch-levers for the left-hand siding are constructed like the switch-levers for the right-hand siding, with the single exception that the former levers are pivoted at their lower ends to their stands, as shown in Fig. 2, and as the switch-levers are all constructed with jointed upper sections m^1 they can only be operated in one direction, and yet they can be moved in opposite directions. The movements of the switch-levers will be effected by a cross-bar or striker on a car or locomotive, which bar is applied in suitable guides, so that it can be thrust out laterally from either side of the car or locomotive far enough to strike either one of the switch-levers. When one of the switch-levers is thrust forward, the other will be caused to assume an upright position, and vice versa. If the switch-tongues C D are in the wrong position for a train approaching from the rear, they are righted by the horizontal levers P and Q, pivoted at a' on a cross-piece, R, by the striking of the wheel-flanges on the thrust-blocks p' and q', which causes the legs P and Q to move the coupled switch-tongues C and D either right or left, and accordingly open either the switch-track or the main track. The curved guards S S are to prevent a loose wheel from riding the thrust-blocks p' q' and the points of the tongues C D. The road-bed will be excavated under the working parts of the switch, to allow the passage through of snow, or anything which would clog or prevent the free action of the switch.

The summary description of the operation is as follows: A train approaching from the right and to be switched off, the brakeman on the train moves the switch-bar to the right, so that its projecting end, in passing over the switch-stand, moves a lever, M, and thereby

closes the switch-tongue D against the rail A′, and moves the tongue C away from the curved portion of the rail A. The lever on the opposite side of the track, or nearest the rail A′, is thereby moved in an upright position, and is ready for the reversal, or for clearing the main track, and shutting the switch-track, if a train approaching from the right should have occasion to use the main track altogether. A train approaching from the left on the switch-track would strike the thrust-block q' and move it out of the way, thereby moving the switch-tongue D against the rail A′, and the switch-tongue C away from the rail A. If the switch-bar on the locomotive should, by neglect, not have been righted, it would strike a lever, M, without moving the switch-tongues, as the lower portion of such lever would remain stationary, and the upper portion be flexed. If the switch-tongues are set for the right-hand siding, and a train approaches the switch from the left, the flange of the front truck-wheel on the left-hand side of the locomotive would strike the block p', and properly adjust the said tongues.

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

1. In a railroad-switch, a bar, E, with the doubly-sloped bearing e, and the bolt L, with the spring b, substantially as specified.

2. The switch-levers M, springs m^2, bell-crank levers G H, and coupling-bar E, in combination with the levers P Q, having thrust-blocks p' q', connecting-piece R, and switch-tongues C D, all operating in the manner substantially as described.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JNO. C. WILHELM.

Witnesses:
A. RENNER,
I. P. HARSHLARGER.