

(No Model.)

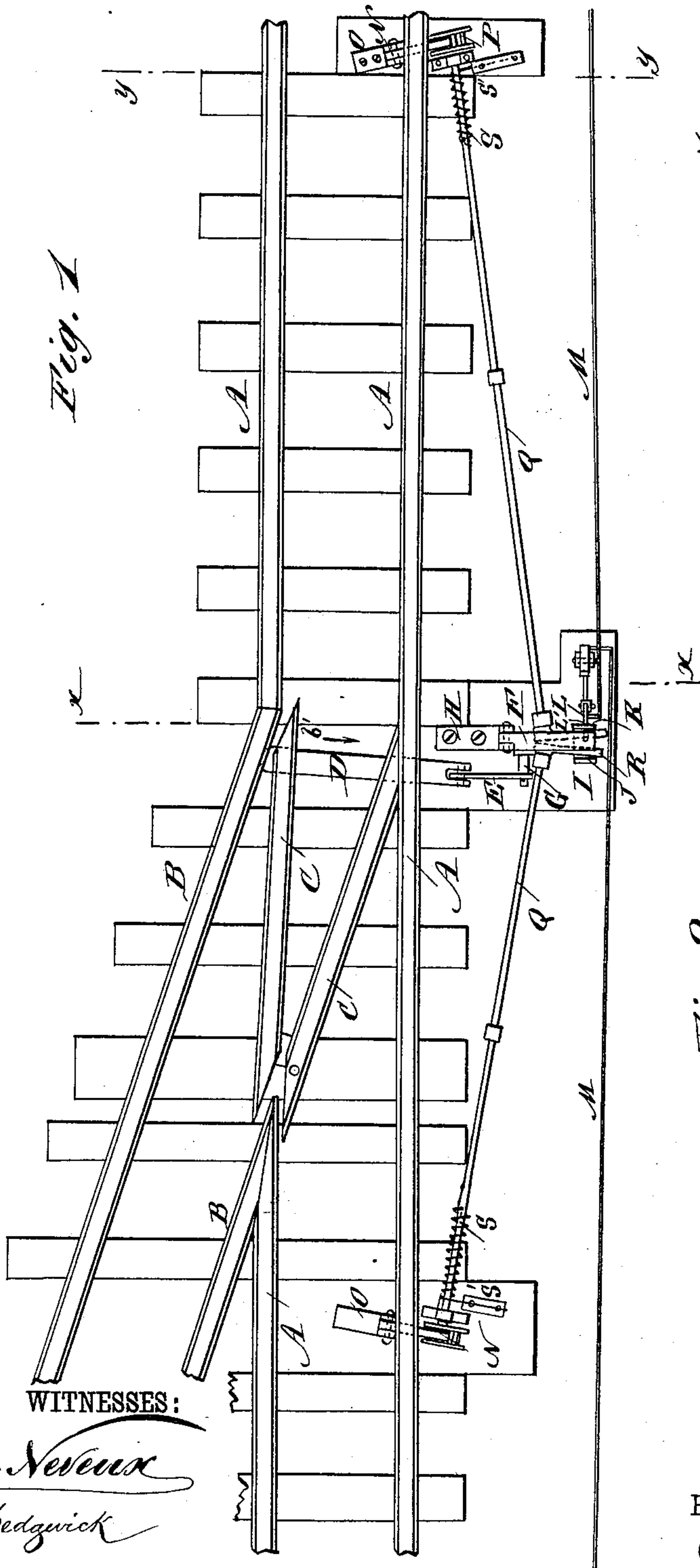
2 Sheets—Sheet 1.

J. T. RIDER.
RAILWAY SWITCH.

No. 336,348.

Patented Feb. 16, 1886.

Fig. 1



WITNESSES:

C. Neveu

C. Sedgwick

Fig. 3

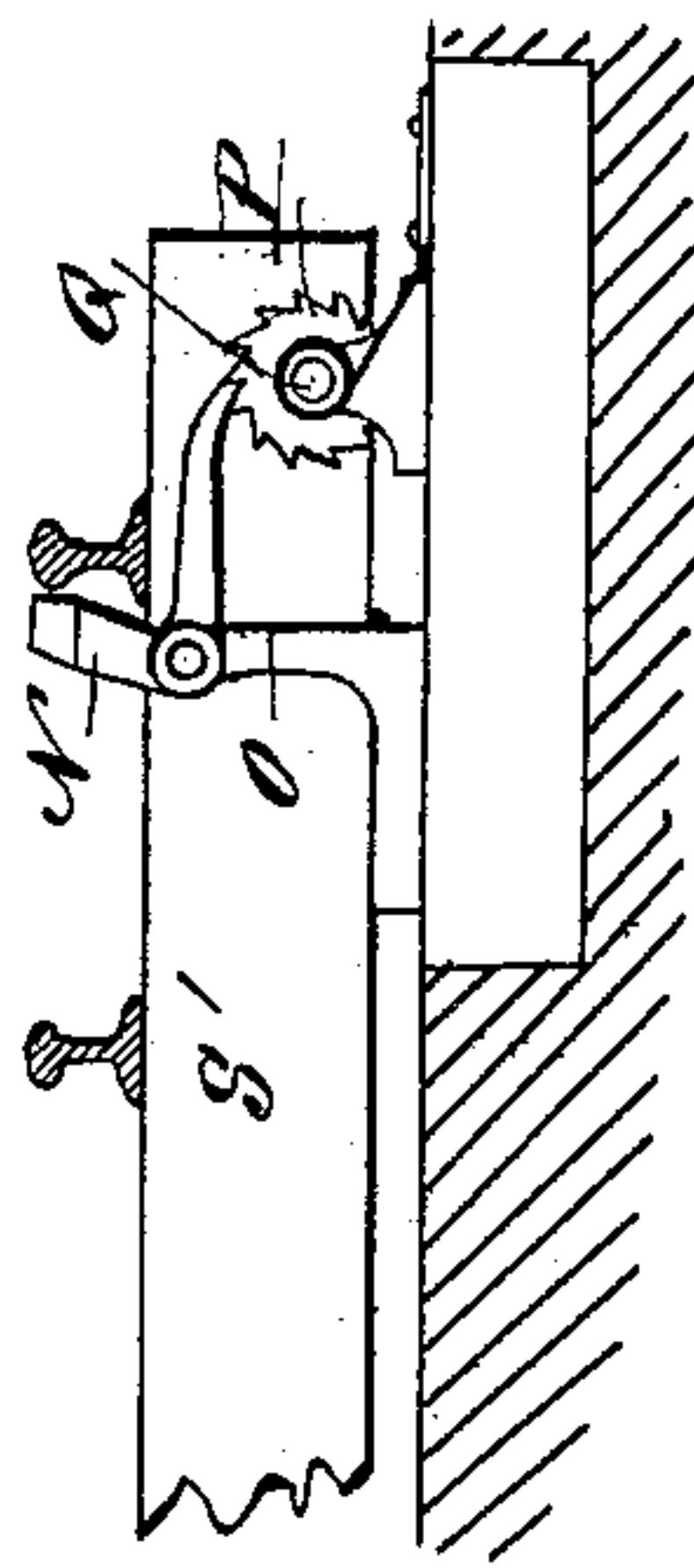
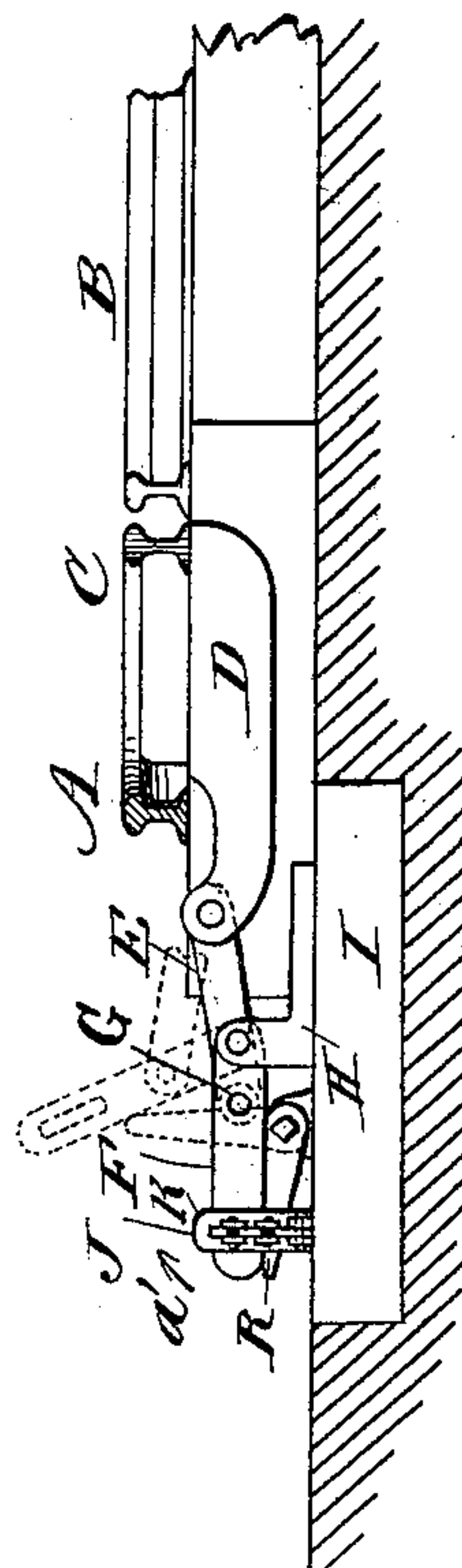


Fig. 2



INVENTOR:

J. T. Rider

BY

Munn & Co

ATTORNEYS.

(No Model.)

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Fig. 4

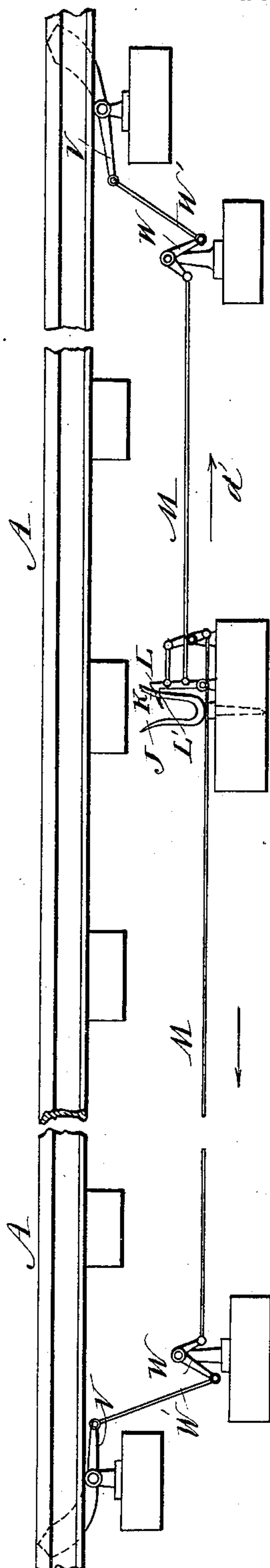
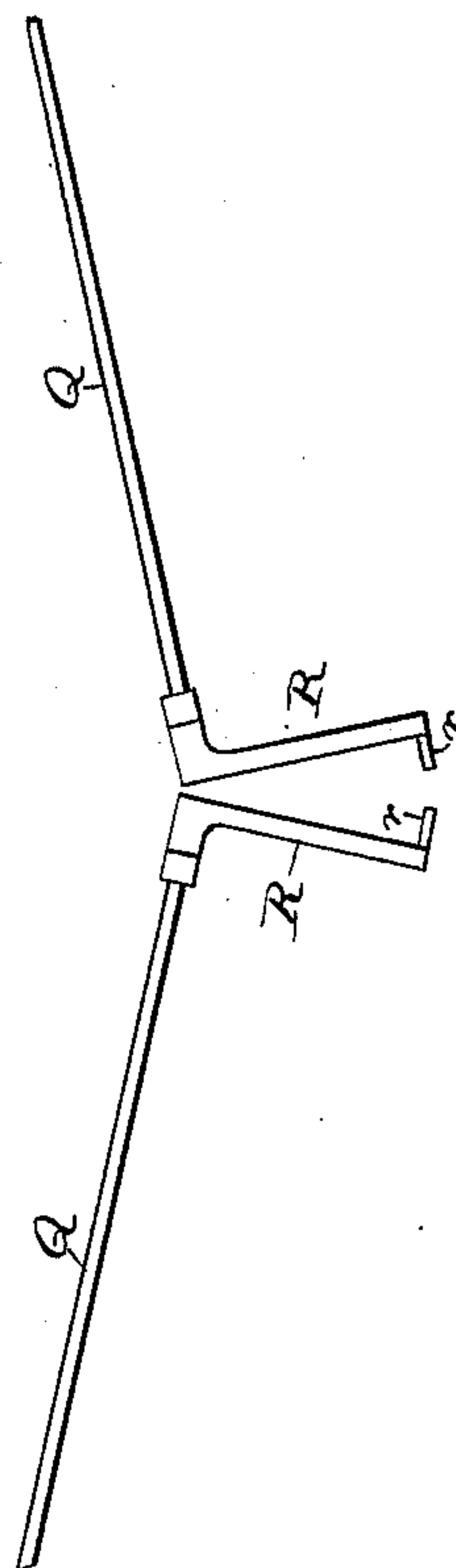


Fig. 5.



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INVENTOR:

BY *J. T. Rider*
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UNITED STATES PATENT OFFICE.

JOHN T. RIDER, OF SOUTH OIL CITY, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 336,348, dated February 16, 1886.

Application filed June 12, 1885. Serial No. 168,555. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. RIDER, of South Oil City, in the county of Venango and State of Pennsylvania, have invented a new and Improved Railway-Switch, of which the following is a full, clear, and exact descrip-

The object of my invention is to provide a new and improved railway-switch which is so constructed that it is always thrown automatically by an approaching train in either direction to present a clear main line.

The invention consists in the construction and combination of parts and details, as will be fully set forth hereinafter, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved railway-switch. Fig. 2 is a cross-sectional view of the same on the line *xx*, Fig. 1. Fig. 3 is a cross-sectional view of the same on the line *yy*, Fig. 1. Fig. 4 shows the locking device. Fig. 5 is a detail view.

A A are the main rails; B B, the siding-rails, and C C the tongues, which are united by the bar D, all in the usual manner. The bar D is connected by a bar, E, with a pin, G, on a lever, F, pivoted to jaws H on a sleeper, I, the bar E being pivoted to the lever F a short distance above the fulcrum of the same. The lever F is adapted to swing within a forked piece, J, projecting upward from the sleeper I, and having an aperture, K, in one prong, which aperture serves to receive the hook end L' of a latch, L, pivoted on the sleeper I, adjacent to the outer sides of the said prongs. The lower end of the latch L is connected above the fulcrum or pivot with a wire, M, which runs parallel with the tracks in opposite directions for a quarter or half mile, the other or farther end of the wires M being connected with one end of a pivoted elbow-lever, W, having its other end connected by a wire, W', with an angular dog, V, pivoted below the rail, and having its upper shorter end adjacent to the inner side of a rail, A. Several hundred feet (more or less) from the switch in each direction an angular dog, N, is pivoted on a standard, O, the shorter inner arm

of the dog being adjacent to the inner side of the rail A, and the longer lower end of each dog N is adapted to engage the teeth of a ratchet-wheel, P, on the outer end of a rod, Q, journaled to turn on its longitudinal axis, and extending to the forked piece J, where it is provided with an arm, R, which can be swung into the forked piece J below the lever F. In Fig. 5 the arms R are shown provided with lateral projections *r*. A spiral spring, S, is coiled around each rod Q at the outer end, and has one end secured on a sleeper, S', and the other on the rod, which spring serves to turn the rod Q in such a manner as to swing the arms R upward when the said spring is released.

The operation is as follows: To set the switch for the siding-rails B, the lever F is swung down in the inverse direction of the arrow *a'*, Fig. 2, whereby the switch-tongues C are moved in the direction of the arrow *b'*, Fig. 1. By swinging the lever F in the inverse direction of the arrow *a'* the arms R are swung down in the same direction by the said lever, the springs S are brought in tension, and the rods Q, which are also turned, are locked in place by dogs N, engaging with the teeth of the ratchet-wheels P. When the first wheel of a locomotive or car running in the direction toward the switch arrives at the dog N, the flange of the wheel is forced in between the inner edge of the head of the rail and the upper end of the dog, whereby the upper end of the dog is moved inward—that is, toward the central line between the two rails—and the outer end is raised from its ratchet-wheel P and releases the same, permitting the spring S to uncoil and turn the rod Q and draw its arm R in the direction of the arrow *a'*, whereby the said arm R throws the lever F in the direction of the arrow *a'* and moves the switch-tongues in the inverse direction of the arrow *b'*—that is, sets the tongues for a clear main line. In some cases—for instance, when cars are to be shunted or switched—it is desirable to lock the switch, so that it is not thrown by wheels acting on the angular dogs, and yet so that an approaching train can throw it. To accomplish this, the hook L' of the latch L is passed through the aperture in the prong of the forked piece J, so as to prevent the lever F from swinging in the direction of the arrow

a'. The front wheel of an approaching train presses down the inner end of a dog, V, and thus a wire M, is pulled in the direction of the arrow *d'* and the latch L withdrawn. When the wheels then act on the nearest dog N, the switch is automatically thrown in the manner set forth, and yet the switch is locked for switching or shunting trains moving about the switch.

10 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with railway main-line and siding rails, the switch-tongues, a bar connecting them, and a switch-lever connected with the said bar, of rods having arms upon which the switch-lever can be folded, springs acting on the rods, dogs adjacent to main-line rails, and means for holding or releasing said rods by the action of the dogs, substantially as herein shown and described.

2. The combination, with railway main line and siding rails, the switch-tongues, a bar connecting them, and a switch-lever connected with said bar, of rods having arms upon which the switch-lever can be folded, springs acting on the said rods to turn them on their longitudinal axis, a ratchet-wheel on the outer end of each rod, and an angular dog pivoted adjacent to the rail and engaged with the ratchet-

wheels on the ends of the rods, substantially as herein shown and described.

3. The combination, with railway main-line and siding rails, switch-tongues, a bar uniting them, and a switch-lever connected with the bar, of a forked piece into which the switch-lever can be swung, a latch pivoted at the sides of the forked piece for locking the switch-lever in the same, a wire secured to each latch, and an angle-lever connected with the outer end of each wire some distance from the switch, substantially as herein shown and described.

4. The combination, with the railway main-line rails A, the siding-rails B, the switch-tongues C, the bar D, uniting them, and the switch-lever F, connected with the bar D, of the forked piece J, into which the lever F can be swung, the latch I, the wires M, the angle-levers W, to which the outer ends of the wires M are fastened, the rods Q, having arms R within the forked piece J, the ratchet-wheels P on the outer ends of the rods Q, the angle-dogs N, pivoted adjacent to the rails and engaging with the ratchet-wheels P, substantially as herein shown and described.

JOHN T. RIDER.

Witnesses:

J. J. BRODHEAD,
F. W. HAYS.