

(No Model.)

A. AYRES.
RAILROAD SWITCH.

No. 275,115.

Patented Apr. 3, 1883.

Fig. 1.

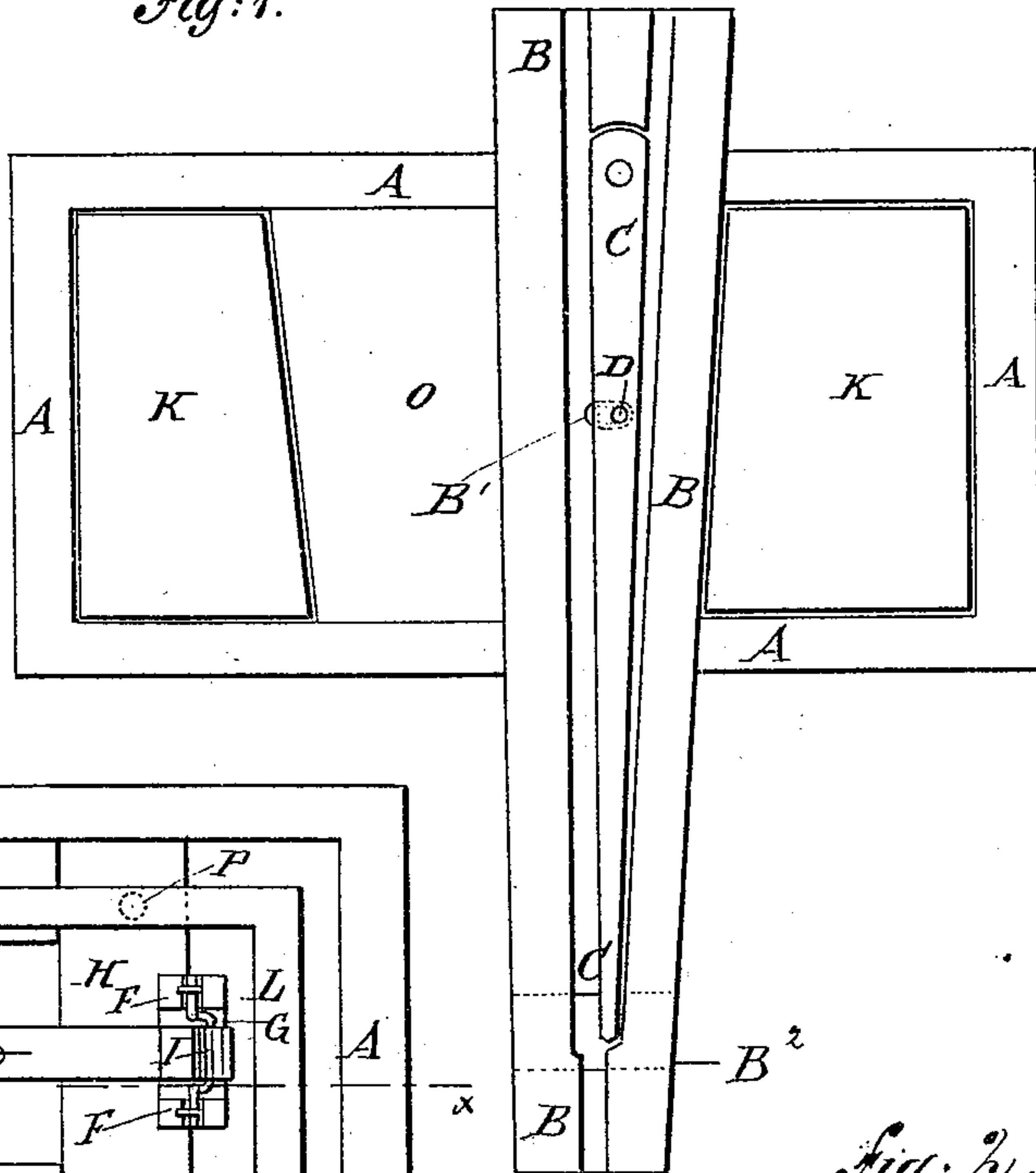


Fig. 3.

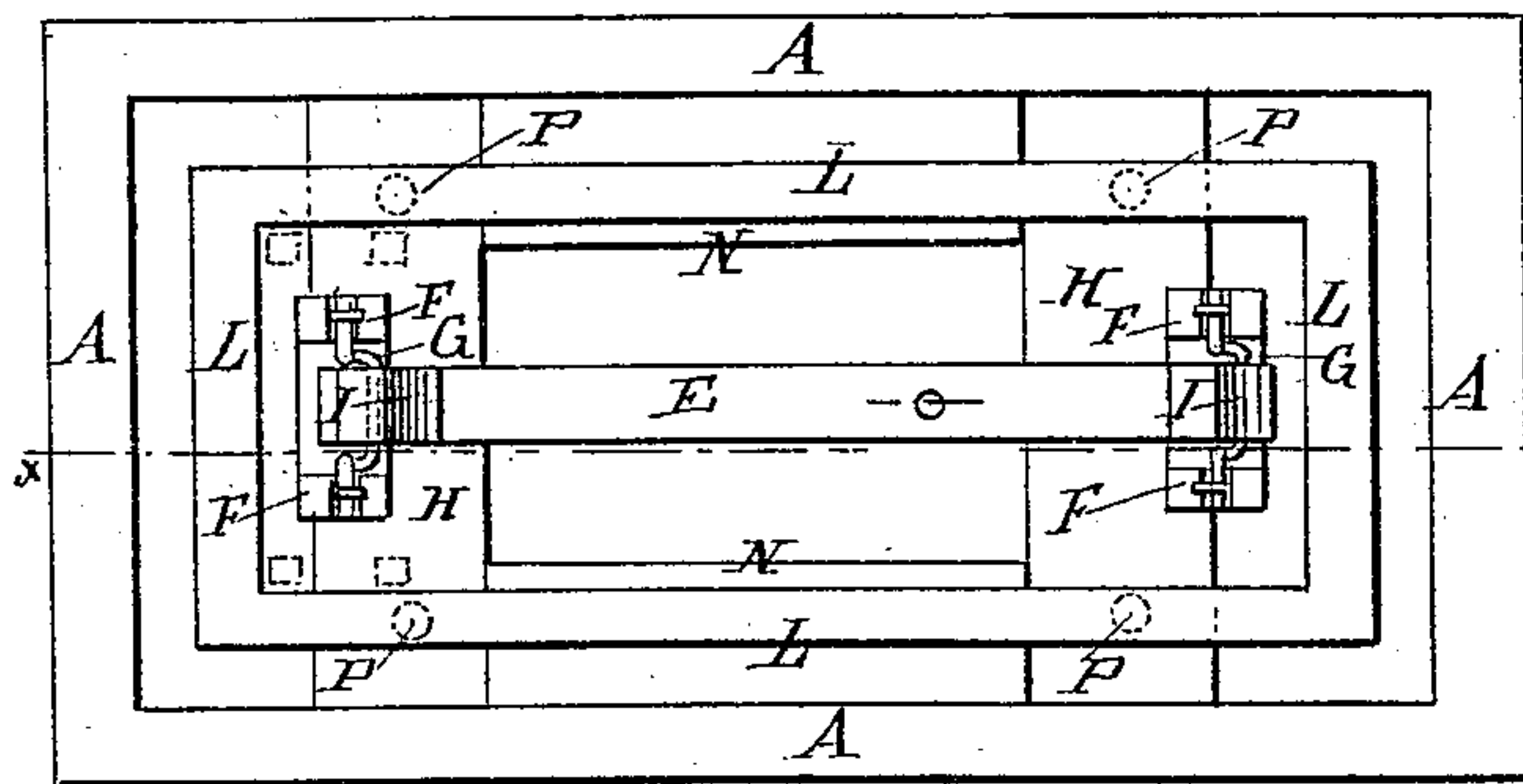


Fig. 2.

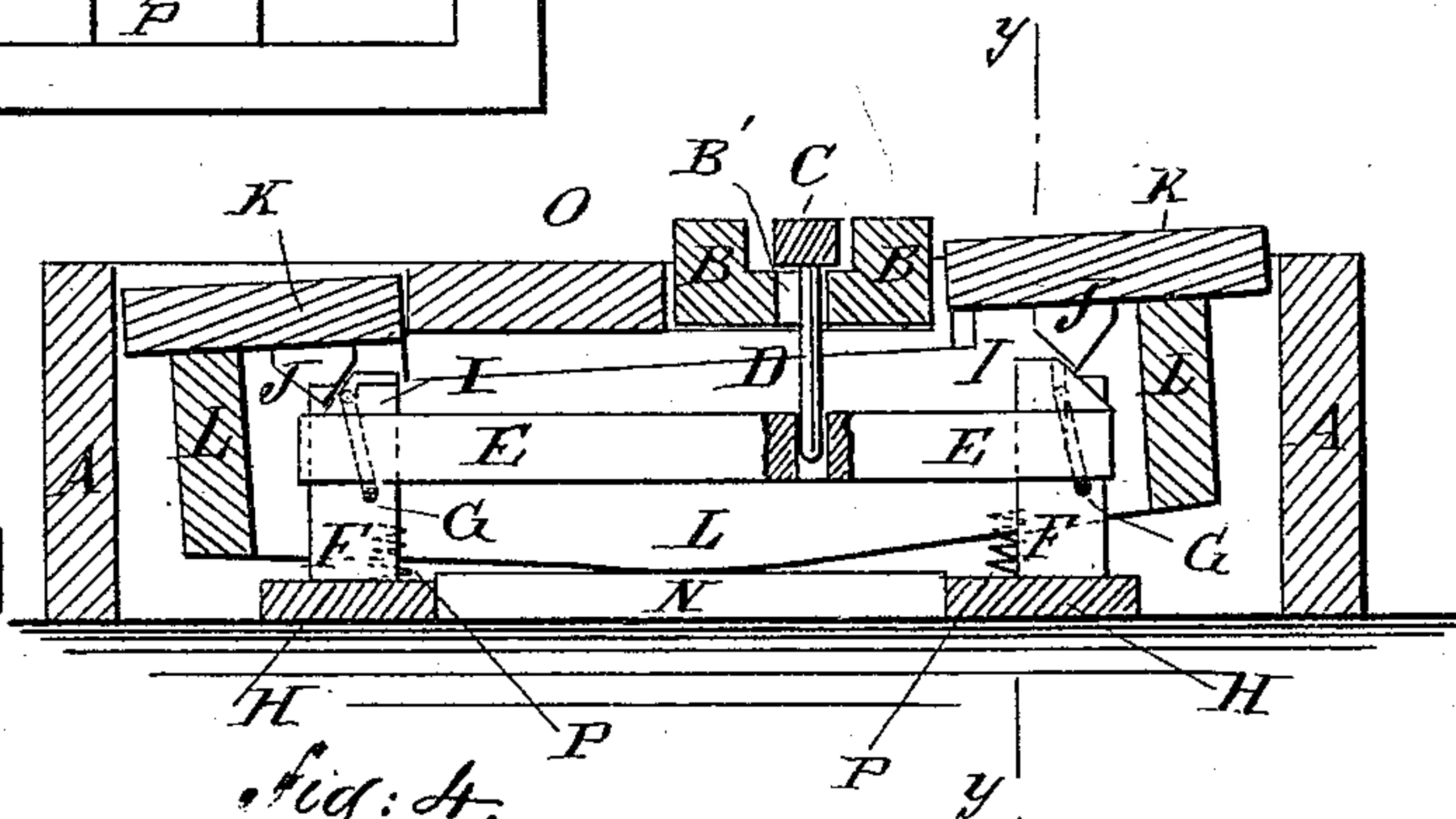


Fig. 5.

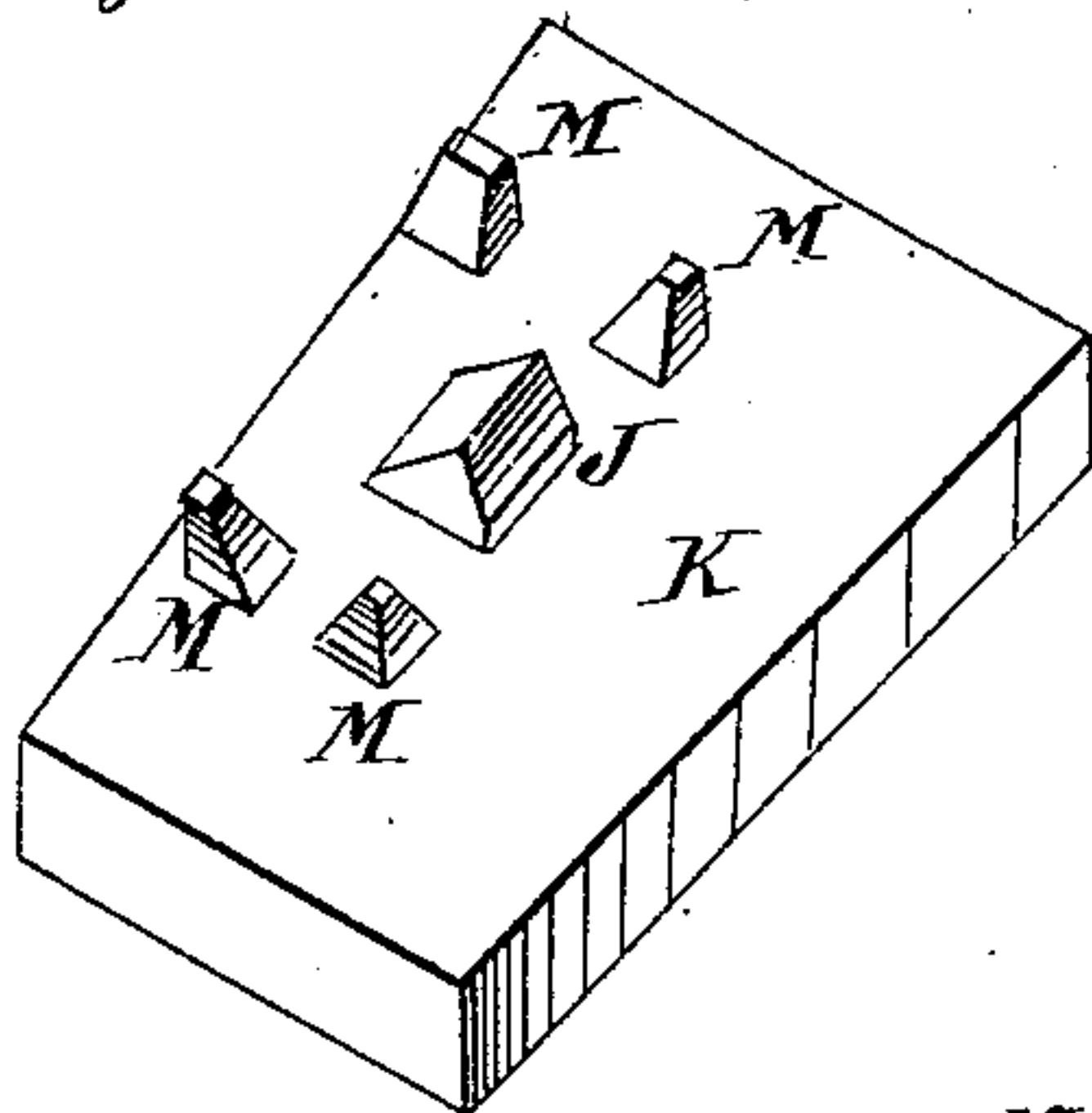
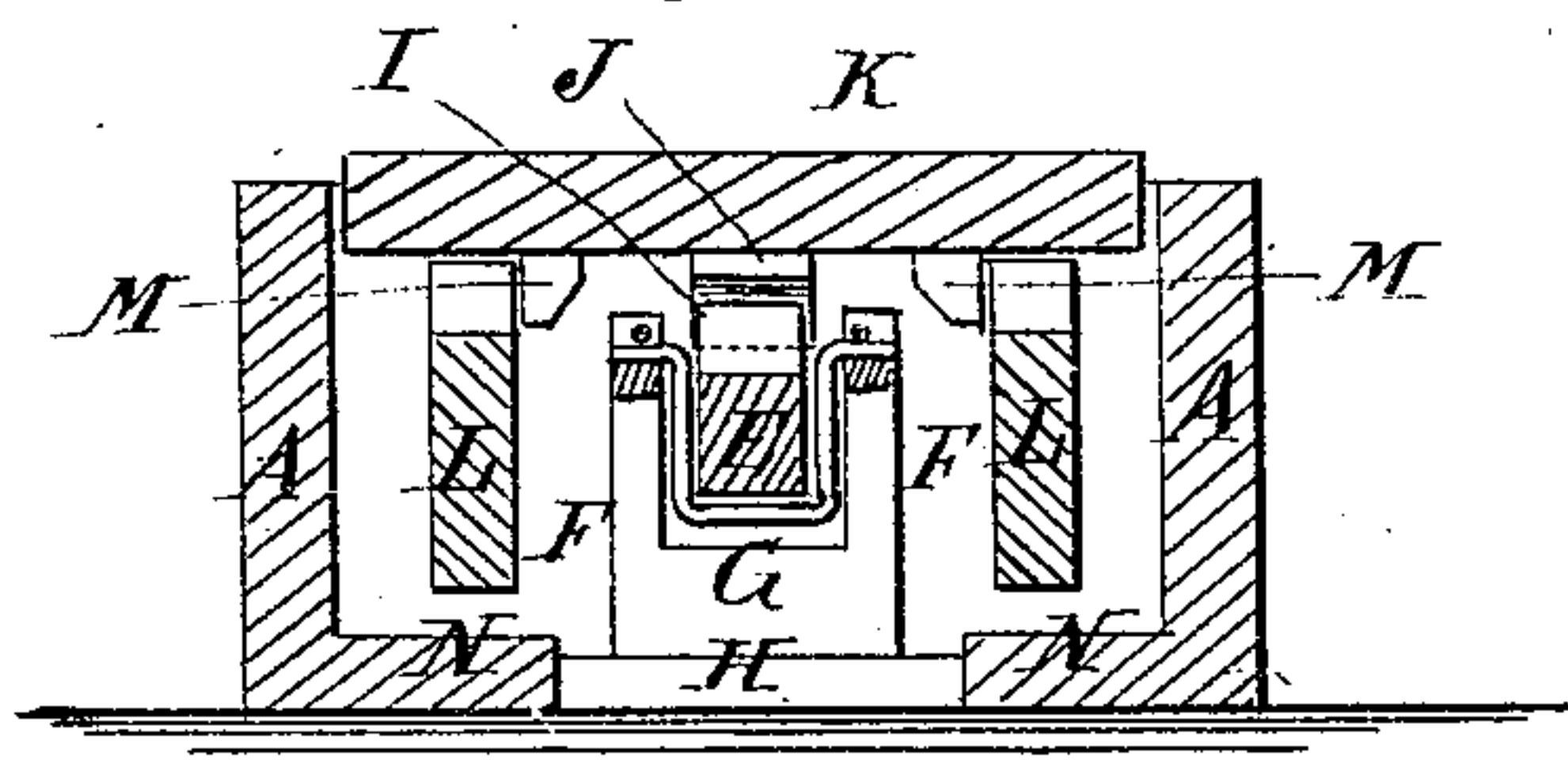


Fig. 4.



WITNESSES:

Chas. Nida.
E. Sedgwick

INVENTOR:

A. Ayres
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ABRAHAM AYRES, OF NEW YORK, N. Y.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 275,115, dated April 3, 1883.

Application filed December 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM AYRES, of the city, county, and State of New York, have invented a new and useful Improvement in Railroad-Switches, of which the following is a full, clear, and exact description.

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 improvement, showing one of the top plates depressed and the switch-tongue moved to the side opposite to the plate depressed. Fig. 2 is a sectional elevation of the same, taken through the line *x x*, Fig. 3, showing the position the several parts which operate the switch-tongue assume when one of the trip-plates is depressed. Fig. 3 is a plan view of the same, the top plates being removed. Fig. 4 is a sectional elevation of the same, taken through the line *y y*, Fig. 2. Fig. 5 is a perspective view of one of the trip-plates inverted.

The object of this invention is to promote efficiency in the working of railroad-switches of the kind that are operated by the weight of the car-horses.

The invention consists in a railroad-switch constructed with trip-plates resting upon a rocking frame and provided with inclined blocks bearing against correspondingly inclined blocks attached to a bar swinging upon cranks and connected with the switch-tongue by a pin. Between the end parts of the rocking frame and its supports are interposed springs to bring the depressed end of the said frame to a stop gradually and assist it in returning to a horizontal position, as will be hereinafter fully described.

A represents a frame open at top and bottom, and which is designed to be sunk in the road-bed, so that its upper edge will be flush with the surface of the said road-bed.

B is the switch-plate, which is let into the upper edges of the sides of the frame A, so that the upper surface of the said plate B will be a little higher than the upper edges of the frame A.

C is the switch-tongue, which is hinged to the switch-plate B, and vibrates in the groove of the said plate in the ordinary manner.

To the tongue C is attached a pin, D, which passes through an opening, B', in the switch-plate B and enters an opening in the cross-bar E, so that the said tongue C will be moved by the movements of the said cross-bar E. The ends of the cross-bar E pass between two pairs of uprights, F, and rest upon cranks G, journaled to the upper ends of the said uprights, so that the said cross-bar E will have an easy longitudinal movement. The lower ends of the uprights F are attached to or formed upon bars or plates H, secured to or formed upon the frame A at or near the lower edges of its sides.

To the upper side of the end parts of the cross-bar E are attached, or upon them are formed, projections or blocks I, having their outer sides inclined or beveled to fit against correspondingly inclined or beveled blocks or projections, J, attached to or formed upon the underside of the middle parts of the trip-plates K, placed in the end parts of the frame A and resting upon the end parts of the frame L, where they are kept in place by the projections or points M, formed upon or attached to the under sides of the said trip-plates K, and which enter the end parts of the said frame L. The lower edges of the side bars of the frame L are rounded, and rest upon the bars, plates, or flanges N, formed upon or attached to the side bars of the frame A and the cross-bars H. With this construction, when a horse steps upon either of the plates K, which are normally in a horizontal position, the frame L rocks, so that the inclined block J will be pressed down against the inclined block I, and will move the bar E, and with it the tongue C, toward the other end of the frame A.

The space between the switch-plate B and the trip-plate K farthest from the said switch-plate is closed by a plate, O, firmly attached to the frame A, so as to be held stationary.

Any dust that may get into the groove of the switch-plate B will be pushed out by the movements of the tongue C through the opening B', through which the pin D passes, and through openings B², formed in the flanges of the said switch-plate.

To the end parts of the rounded edges of the side bars of the rocking frame L, or to the supports N of the said frame, are attached spiral or other springs, P, to prevent the depressed end

of the said frame from coming down with a jar, and to assist in returning the said frame L and the trip-plates K to a horizontal position.

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

10 1. A railroad-switch constructed, substantially as herein shown and described, with trip-plates resting upon a rocking frame, and provided with inclined blocks bearing against correspondingly-inclined blocks attached to a bar swinging upon cranks and connected with the switch-tongue by a pin, as set forth.

15 2. In a railroad-switch, the combination, with the trip-plates K, having inclined blocks J, and the oscillating bar E, having correspondingly-inclined blocks, I, and connected with the switch-tongue by a pin, of the rocking frame L and its supports N, substantially as herein
20 shown and described, whereby the said trip-plates will be supported while being allowed to move up and down freely, as set forth.

3. In a railroad-switch, the combination, with the oscillating bar E, connected with the switch-tongue by a pin and provided with inclined 25 blocks I, of the cranks G and their supports F, substantially as herein shown and described, whereby the said bar is made to move easily when operated upon by the inclined blocks of the trip-plates, as set forth. 30

4. In a railroad-switch, the combination, with the rocking frame L and its supports N, of the springs P, substantially as herein shown and described, whereby the depressed end of the said rocking frame is brought to a stop gradually, and is assisted in returning to a horizontal position, as set forth. 35

ABRAHAM AYRES.

Witnesses:

JAMES T. GRAHAM,
EDGAR TATE.