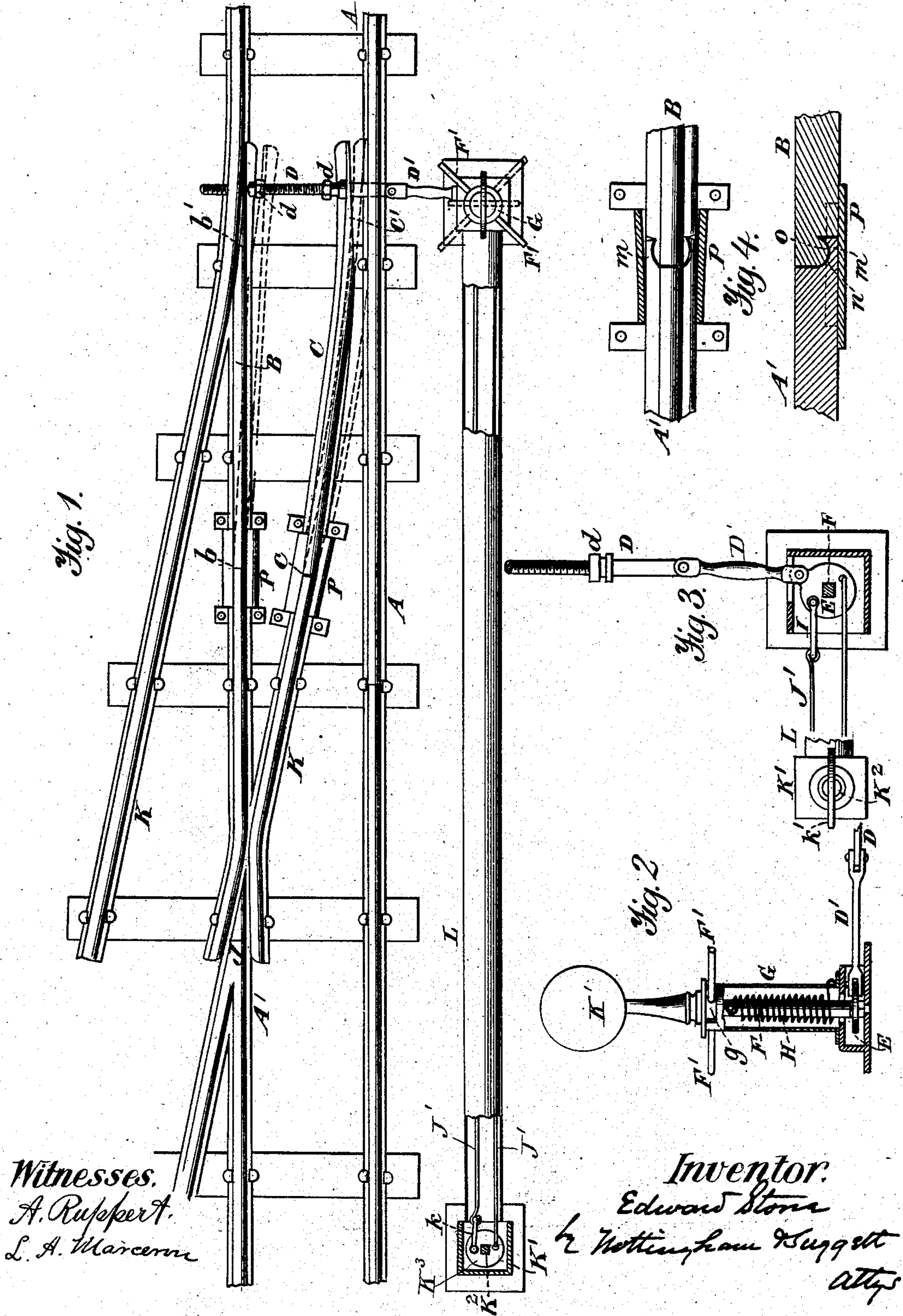


(No Model.)

E. STONE.
RAILWAY SWITCH.

No. 292,144.

Patented Jan. 15, 1884.



UNITED STATES PATENT OFFICE.

EDWARD STONE, OF CORTLAND, NEW YORK, ASSIGNOR OF ONE-HALF TO
JOHN HODGSON, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 292,144, dated January 15, 1884.

Application filed July 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD STONE, a citizen of the United States, residing at Cortland, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to railway-switches; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The objects of the invention may briefly be said to be, among others, first, to provide a switch which shall be safe, inexpensive, simple, and durable; second, to provide means which shall signal in either direction the position of the switch, and which shall be operated automatically and simultaneously with the switch-operating mechanism; and, third, to provide a novel and useful pivotal connection for the switch-rails.

To these ends the invention consists in the mechanisms fully illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view, showing the main track open in full lines and the side track open in dotted lines, parts of said figure being broken away to show the signal-connections; Fig. 2, a vertical section of the switch box and standard; Fig. 3, a detail showing the connections between the switch-standard, the rod which operates the switch-rails, and the rods which operate the signal; and Fig. 4, a detail showing pivot-bearings of the movable switch-rails.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A represents the continuous rail of the main track, the other rail, A', having the frog J, side rails, K, and the pivoted rail B. I have illustrated but one main track; but it will be understood that another is contemplated,

similar, except in reverse positions, as regards the main rails, frog, and movable switch-rail, the rail A' on one track connecting with the frog-piece on the adjacent track, and vice versa. The switch-rail B forms a part of the main track when the main track is open, and has a beveled portion, b', to make a close joint with said main rail A' at the bend. It is pivoted at b by the joint shown in Fig. 4, which will hereinafter be described.

C designates the other switch-rail, similarly pivoted at c, and having a similar bevel, c'. The free ends of these switch-rails are adjustably secured by jam-nuts d to a threaded bar, D, which operates loosely through both the tracks A and A', and this rod D is connected with a disk, E, by a loosely-pivoted link, D'. The disk E has a square or polygonal connection with the oscillating standard F, which has one or more horizontal hand-levers, F', rigid therewith and working in segmental slots g, formed in the box G. This box G is stationary, and of sufficiently larger dimensions than the standard to allow the play of a spring, H, between the two. One end of this spring is secured to the standard F and the other end to the box G, and it exerts a constant force to hold the main track open, as shown in Fig. 1, except when its force is overcome by the manipulation of the levers F'. To the disk E, about ninety degrees distant from the connection of the link D', is pivoted a link, I, the other end of which connects with a long rod, J', which rod extends for a sufficient distance from the switch to make a signal serviceable, and is there connected by an arm, k, with a disk, K³, on a standard, K², working in a box, K', and carrying a signal, k'. This rod J' is protected by a covering, or works in a box, L, so that its free movements will not be interrupted or interfered with. It will be seen that when the main track is open the signals are presented edgewise; but when the switch is open the signal faces one-quarter around and designates the condition of the track.

Referring to Fig. 4, the stationary tracks which connect with the switch-tracks are each provided with a portion, m, which extends under the pivotal ends of the switch-tracks, and

these portions *m* are each provided with concave sockets or bearings *n*. The switch-rails are cut away to correspond with the projections *m*, and have each a convex portion, *o*, which operates in the sockets *n*. The chair P at this joint is made sufficiently flaring at one end to admit the necessary oscillations of the switch-rails, as described; and I attach much importance to the construction of this pivot-joint.

Modifications in details of construction may be made without departing from the principle or sacrificing the advantages of the invention, the essential features and operation of which will be readily understood by those skilled in the art to which it relates.

I have shown two rods, as *J'*, connecting the disks *E* and *K*³, such rods being attached to the disks at opposite points of connection. I may, if desired, use flexible ties with a spring,

or single rods without a spring, these modifications being considered equivalents.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with the rails having projections *m* with sockets *n*, the switch-rails B and C, having cut-away portions and convex bearings *o*, and the chair P, having flaring mouth, as set forth, for the purposes specified.

2. In combination with the switch-rails B and C, pivoted, as shown, to the rails A' K, the standard F, box G, spring H, and connections E, D, and D', as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD STONE.

Witnesses:

J. W. SUGGETT,
H. L. ROGERS.