S. R. KNEELAND.

Railway Switches.

No. 147,655. Patented Feb. 17, 1874.

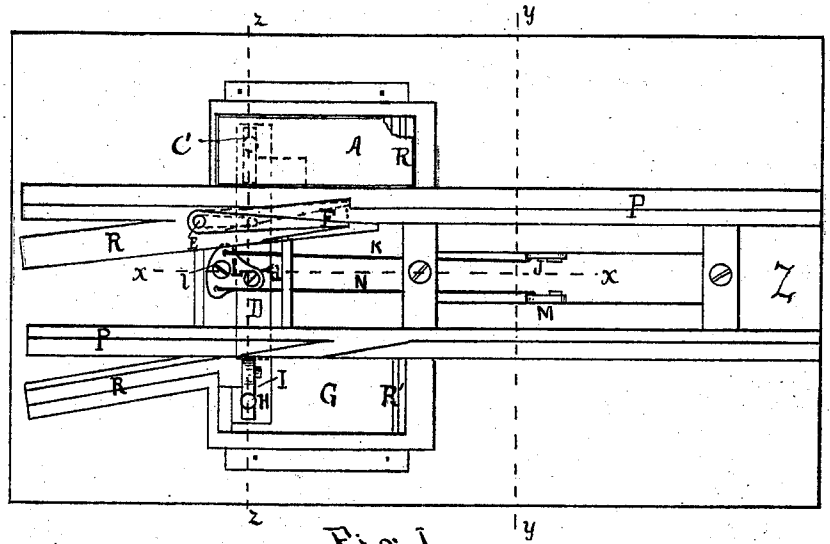

Fig. 1.

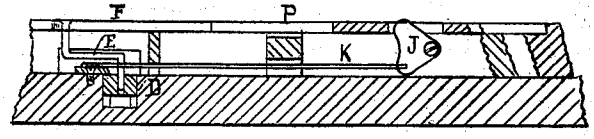

Fig. 2

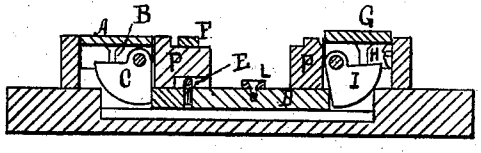

Fig. 3

Witnesses

Chas. Lelts

William P. Kneeland.

Inventor

Sylvanus R. Kneeland,

By C. A. Shaw,

Atty.

UNITED STATES PATENT OFFICE.

SYLVANUS R. KNEELAND, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **147,655**, dated February 17, 1874; application filed November 11, 1873.

To all whom it may concern:

Be it known that I, SYLVANUS R. KNEELAND, of Charlestown, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Railway-Switches for Horse-Railways; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings forming a part of this specification, of which—

Figure 1 is a plan of my improved switch. Fig. 2 is a vertical longitudinal section taken on the line *x x*, Fig. 1. Fig. 3 is a cross-section taken on the line *z z*, Fig. 1.

Like letters refer to like parts in the various figures of the drawings.

My invention relates to that class of switches used in the construction of horse-railways; and consists in a movable-tongue switch combined with devices for operating the same by the horses attached to the car, as hereinafter more fully set forth, the object being to dispense with the services of a switch-tender.

The main track P P and branch R R, with the movable-tongue switch F, are all made and arranged in the usual manner. D, Figs. 1, 2, and 3, is a sliding bar, located under the tracks, as shown, to one end of which bar I attach the switch-tongue F by the crank-shaped bolt E, so arranged that when the bar D is moved it will cause a movement of the tongue F, its point describing the arc of a circle, said bolt being fastened in the tongue F, but loose in the bar D, and provided with a proper intermediate fulcrum or support. At each end of the sliding rod D I locate the bent levers I or C, Fig. 3. These levers are hung on pivots, as shown, and each has an arm resting against the end of the sliding rod D, and there is also an arm of each, as shown at H and B, resting against the under side of the platforms A G. These platforms are hung at R R′, Fig. 1, the other ends being supported by the bent levers C and I, and the whole being so arranged that if one of the platforms is weighted it will settle down and cause the bent lever under it to move the switch-tongue, and at the same time cause the other platform to rise.

The operation of my invention is as follows: When a car is approaching the switch from the direction Z, and the driver wishes to change the switch, he then swings his horses to the right or left, as the case may be, until one of them steps upon one of the platforms, A or G, when the weight of the horse will depress the platform and throw the switch tongue or point around in the right direction for turning the car, as desired.

I am aware that a tilting platform for automatically operating a switch has been located between the tracks of a railway, but it is very liable to become clogged and deranged by being in the direct path of the horses, and it is also difficult to so operate it by means of the horses as to switch in the right direction readily. I therefore do not claim such an arrangement, nor any part thereof in itself considered; but

What I do claim is—

The levers C I, bar D, bolt E, platforms G A, and tongue F, when combined, arranged, and operated substantially in the manner and for the purpose set forth and described.

SYLVANUS R. KNEELAND.

Witnesses:

CHAS. LETTS,

WILLIAM B. KNEELAND.