I. A. CHANDLER.

Street-Railway Switch.

No. 224,874. **Patented Feb. 24, 1880.**

Fig. 4.

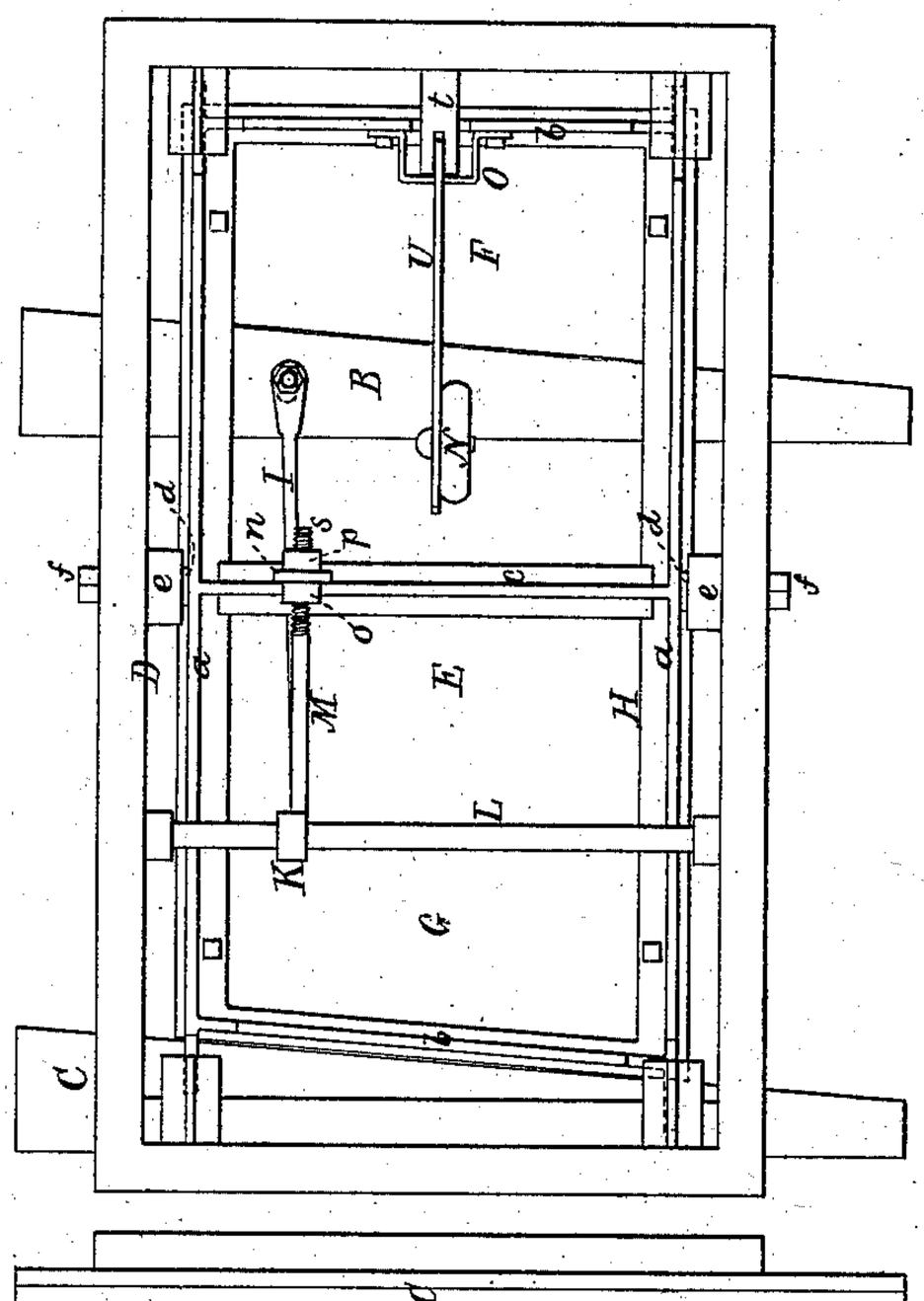


Fig. 3.

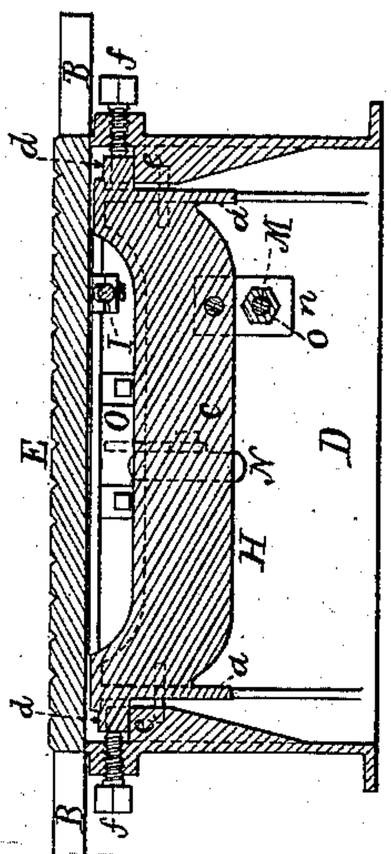


Fig. 1.

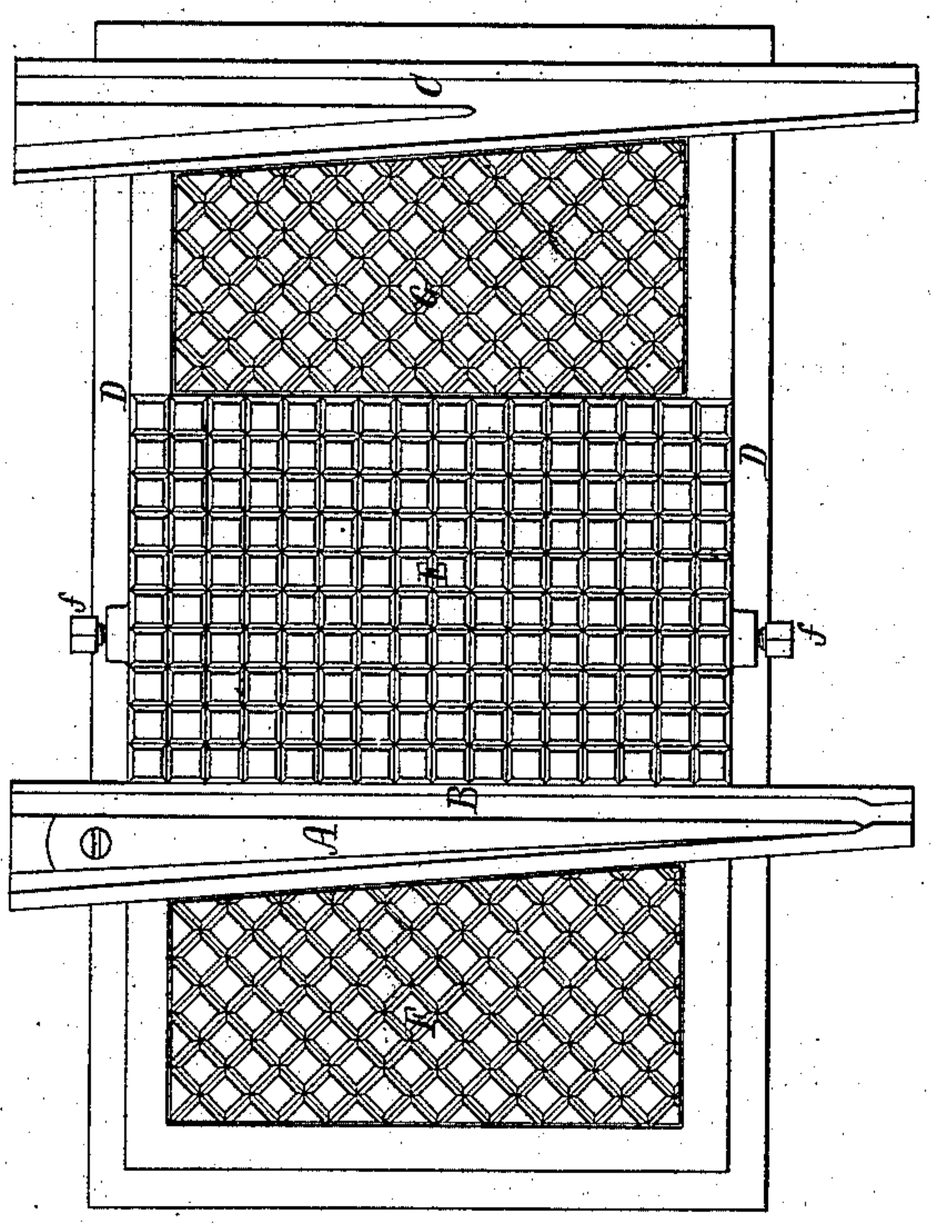
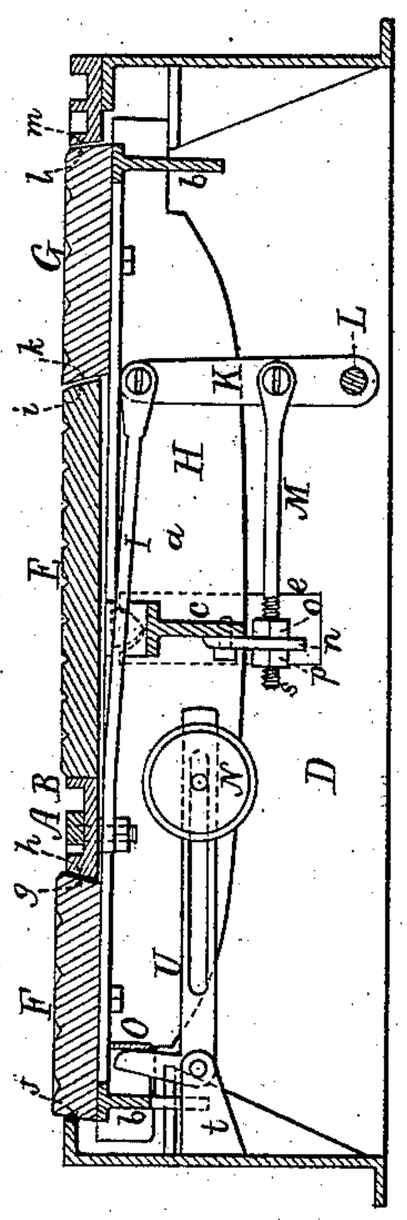


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ISAAC A. CHANDLER, OF CAMBRIDGE, MASSACHUSETTS.

STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 224,874, dated February 24, 1880.

Application filed November 17, 1879.

To all whom it may concern:

Be it known that I, ISAAC A. CHANDLER, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Street-Railway Switches; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a longitudinal section, Fig. 3 a transverse section, and Fig. 4 a bottom view, of a switch and parts of a track and turn-out and their sustaining-pit provided with my invention, the nature of which is duly set forth in the claim or claims hereinafter made.

In the said drawings, A is the switch or movable tongue, and B and C the adjacent parts of the main track and the turn-out applicable thereto, the said parts B and C being extended transversely across and supported by the pit D, which, as represented, is a rectangular box or frame, within which is the mechanism for operating the switch or tongue.

Between the two parts B C, and next to the first or tongue part, B, of them, is a stationary platform, E, which extends across the pit from side to side thereof. Besides the stationary platform there are two movable platforms, F G, one of which is within the track, or is between the stationary platform and the part C, and the other is wholly outside of the track or part B. These movable platforms are supported by a rocker-frame, H, composed of two T-shaped side bars, *a a*, and two T-shaped end bars, *b b*. It also has a central or medial cross-bar, *c*, all being formed and arranged as represented.

The rocker-frame, at the middles of its opposite sides is, provided with bearings *d d*, to rest on brackets *e e*, extending from the sides of the pit, such supports being like the usual bearings of a steelyard or weighing beam. Furthermore, the said rocker-frame is provided with means of moving it sidewise either way, to correctly adjust it in the pit, in order to prevent either of the platforms resting on the frame from binding against the pit, such means being screws *f f*, that are screwed through the walls or sides of the pit and against the frame H. Each of such screws may be provided with a set-nut.

The opposite edges of the movable platforms and the next adjacent edges of stationary platform and the parts B C are curved, as shown, with radii whose center is the axis of motion of the rocker-frame H, such curves being shown at *f*, *g*, *h*, *i*, *k*, *l*, and *m* in Fig. 2, and being to cause each of the movable platforms, while it may be in movement, to preserve the same distances from the parts next to it, in order that the spaces between the platform and such parts may not become clogged by dirt or foreign matters, so as to stop or impede the platform from moving with the rocker-frame.

The switch-tongue A, pivoted near its larger end, has jointed to it a connection-rod, I, which is also jointed to an arm, K, extending up from a rock-shaft, L. To the arm K, and above the said shaft, a rod, M, is pivoted, such rod M, at its inner end, being provided with a screw, *s*, which goes through a projection, *n*, extending down from the medial cross-bar of the rocker-frame. There are screwed on the screw of the rod M, and on opposite sides of the projection *n*, two nuts, *o p*, with each of which a set-nut may be used, it being screwed on the screw *s*.

On either platform being stepped upon by a horse it will descend and tilt the rocker-frame, and the other platform will correspondingly be moved upward, the switch-tongue being moved in the meantime laterally on its support-plate.

In approaching the turn-out, should the driver of the car be desirous of passing from the main track to and upon the turn-out, he should turn his horses aside, so as to cause one of them to step upon and travel over the outer movable platform, in which case the other horse will step on and move over the stationary platform. The horse in stepping upon the outer movable platform will cause it to be depressed, and, as a consequence, the switch-tongue to be set correctly for the car to pass upon the turn-out.

The switch-tongue, being so set, will, while the horses may be traveling across the platforms that are between the parts B C, be moved into its other extreme position for a car to keep the main track.

Within the pit, and pivoted to a projection,

t, extending therefrom, as shown, is an angular friction brake or lever, U, having on its longer or horizontal arm a slide or adjustable weight, N. The shorter arm of the said lever rests against the inner face of an arched piece or bridge, O, extending from one end of the rocker-frame. This friction brake or mechanism is to prevent, on a horse leaving one of the movable platforms, any rebounding of the rocker-frame, such as might cause the switch-tongue to be improperly moved.

With my improvement I save the necessity of projecting the platforms beyond each other longitudinally of the track, as shown in the United States Patent No. 215,069, as I use with the movable platforms a stationary platform arranged directly between them, and also between the parts B C of the main and turn-out tracks. This, however, is shown in the United States Patent No. 216,978; but in the mechanism therein represented the movable platforms are not supported by a rocker-frame, but each is pivoted, at or near its inner edge, to the pit, an arm being extended down from each of such platforms.

It will readily be seen that when the platforms are so pivoted a horse, on stepping upon such platform near its inner edge, would not be likely to depress the platform; but when the two platforms are supported by a rocker-frame and have between them the stationary platform, and one movable platform is between the track parts B and C and the other outside of them, as shown, a horse, on stepping on either movable platform, at any part of it, cannot fail to depress it.

Thus, while by my improvement I avoid the disadvantages resulting from extending one movable platform beyond the other in a direction lengthwise of them, and use with them the intervening stationary platform, I avoid the liability of either of the movable platforms not being depressed by a horse when stepping on it.

What I claim as my invention is as follows:

1. In combination with the stationary platform E, arranged between the track parts B C, and with the two movable platforms F G arranged with such stationary platform and track parts in manner as represented, the rocker-frame H, arranged with the said platforms and in the pit substantially as described.

2. In combination with the stationary platform E, arranged between the track parts B C, and with the two movable platforms F G, arranged with such stationary platform and track parts in manner as represented, the rocker-frame H, its medial cross-bar *c*, and the mechanism for connecting it with the switch-tongue, such mechanism consisting of the rods I M and rocker-arm K, arranged and adapted as explained.

3. The friction apparatus or weighted bell-lever pivoted to the pit-frame, and arranged to operate substantially as described, with the rocker-frame provided with the movable platforms, as set forth.

4. The opposite longitudinal edges of the movable platforms and the next adjacent edges of the stationary parts next thereto, curved as described, when such platforms are supported by a rocker-frame, to operate as described.

ISAAC A. CHANDLER.

Witnesses:
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