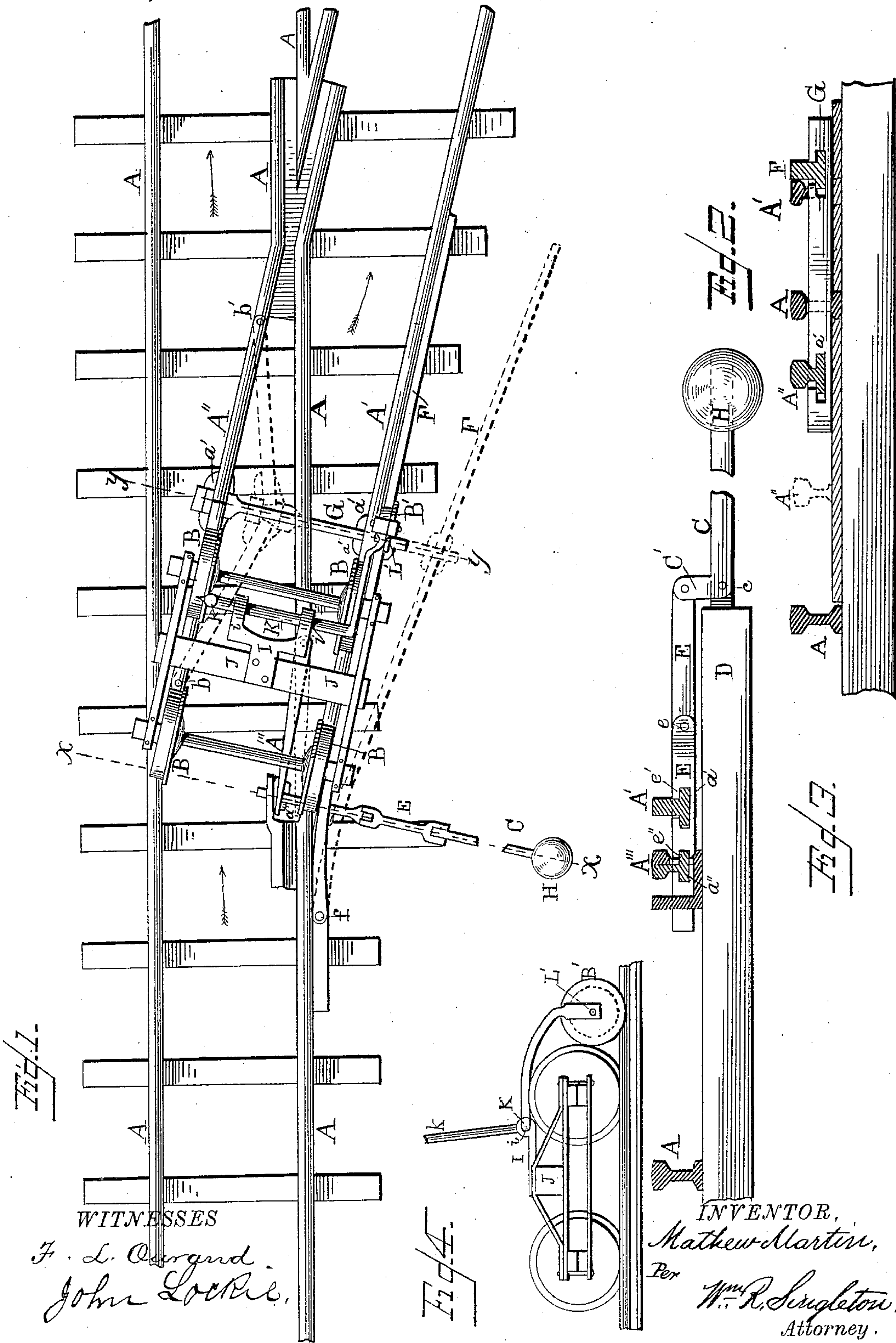


(No Model.)

M. MARTIN.
RAILROAD AUTOMATIC SWITCH.

No. 390,877.

Patented Oct. 9, 1888.



UNITED STATES PATENT OFFICE.

MATHEW MARTIN, OF CATONSVILLE, MARYLAND.

RAILROAD AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 390,877, dated October 9, 1888.

Application filed June 27, 1888. Serial No. 278,323. (No model.)

To all whom it may concern:

Be it known that I, MATHEW MARTIN, a citizen of the United States, residing at Catonsville, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Railroad Automatic 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.

This invention relates to certain improvements in automatic railway-switches, which will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a part of a railway with the switch applied thereto. Fig. 2 is a transverse vertical section enlarged on *xx* of Fig. 1. Fig. 3 is a transverse vertical section enlarged on *yy* of Fig. 1. Fig. 4 is a side elevation of a truck with the guide-wheel and apparatus attached thereto.

A A are the rails of the straight track.

A' A'' are rails of the siding or turn-out.

B, &c., represent the wheels of the front truck of the engine traveling in the direction of the arrow.

C is a bent lever, having its fulcrum at *c* attached to the sill D. To the short arm C' of the lever is attached a connecting-rod, E, which is jointed at *e* for the purpose of accommodating the rod to any irregularity in the structure if the bar E is placed on the surface of the road-bed. I, however, prefer to make the bar E of a single rod and place it in a trench near the top, which trench is to be covered over to prevent snow falling into it, and the trench will be so drained that water cannot stand in it to freeze and fasten the bar.

The bar E has in it two notches like an inverted T, as seen at *e'* and *e''*, in which are inserted the side rail, A', and frog A'''. The rail A' and frog A''' have on each side webs *a' a''*. The purpose of these webs is to fit into the corresponding notches and keep the bar and rail and frog in their proper positions. Along the outside of the rail A' is secured, by a pivot-joint, *f*, outside of one of the main rails A, a wide bar, F, which is shown in solid lines close to the outside of rail A' and in broken lines

at an angle to said rail A'. There is a short connecting-bar, G, (shown enlarged in section, Fig. 3,) which has two inverted-T notches similar to those in bar E, which hold the bar F and rail A'', which rails have webs *a' a''*, similar to the webs on the other ends of rail A' and frog A''' in the notches *e'* of the bar E.

The rail A'' is composed of two pieces, which are pivoted to the fixed rail-sections secured on the sills at *b* and *b'*, and nearly touch each other at the middle above the connecting-bar G. In the dotted lines these two pieces of rail are shown at an angle to each other and to the fixed rails when the bar F is placed as seen in broken lines. This is the normal position of the switch when the straight-track rails A A are in true position for a through-train in direction of arrow. When a siding is to be made, the rails are placed as shown in solid lines. The bent lever C has a heavy weight, H, at the end of it, and this weight is down to its lowest point when the straight track is in normal position. When the siding is to be made for a turn-out, the weight H and lever are, as represented in figure, at the highest point, caused by the flange of the guide-wheel B' forcing the bar F toward the rail A', and which bar carries inwardly the bars G and E, which are attached to it. The bar E carries with it the frog A''' also.

The truck has attached to it in any suitable manner an advanced small guide-wheel, B', having a deep flange on the outside and so gaged that as the truck approaches a siding the engineer, by means of a lever, K, Fig. 4, throws the guide-wheel B' down to the rail A, and the flange of wheel B' will slide along on the outside of rail A until it impinges upon the outside of the bar F and force it inwardly into the position shown in black lines close against the side rail, A', and carry with it the bars E and G, and consequently open the frog A''' and straighten the pieces of rail A'', as seen in Fig. 1, and permit the truck-wheels B to run onto the side rails, A' A''. The flange of wheel B' will keep the bar F close up until the second truck enters the siding. The flanges of the wheels traveling on the rail A' and rail A' will keep the rail A'' in a straight line until each succeeding truck shall have entered the frog A'''. This is effected by means of the two bars E and G, to which the bar F

is attached, and, as G is connected to rail A'', so long as A'' is in the position shown in solid lines in Fig. 1, just so long will bar F be close to the outside of rail A' and the weight H will be held up. Each truck in succession will thus keep the frog A''' in place until every car of a train shall have passed into the siding, when the weight H will immediately fall and close the frog A''' and connect the rails of the straight track. One section of the rail A'' is jointed at b to a fixed pointed piece under the rear wheel on the left side of the truck, as is usual in switches. The other section is jointed to the fixed part at b'.

15 In Fig. 1, in plan, the four wheels B of a truck are represented, and on the frame of the truck is secured the apparatus for sustaining the lever K, on the outer end of which is the guide-roller B'.

20 I is a yoke, fastened to the frame J, and through the bearings i i is a shaft, K', which is bent upwardly into a handle, k, and the

other end is bent downwardly at an angle and carries insuitable bearings, L', the guide-wheel B', having a deep flange on the outside of the rail.

I claim—

1. In a railway-switch, the combination of the weighted lever C, connecting-bar E, having the notches e' and e'', the bar F, pivoted near the rail A, and the frog A'''.

2. The combination of the pivoted bar F, the rail A, the weighted lever C, connecting-bars E and G, having notches therein for the bar F, frog A''', and jointed rail A'', with the rail A' of a siding, substantially as described.

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

MATHEW ^{his} × MARTIN.
mark

Witnesses:

WM. R. SINGLETON,
JAMES BUJAR.