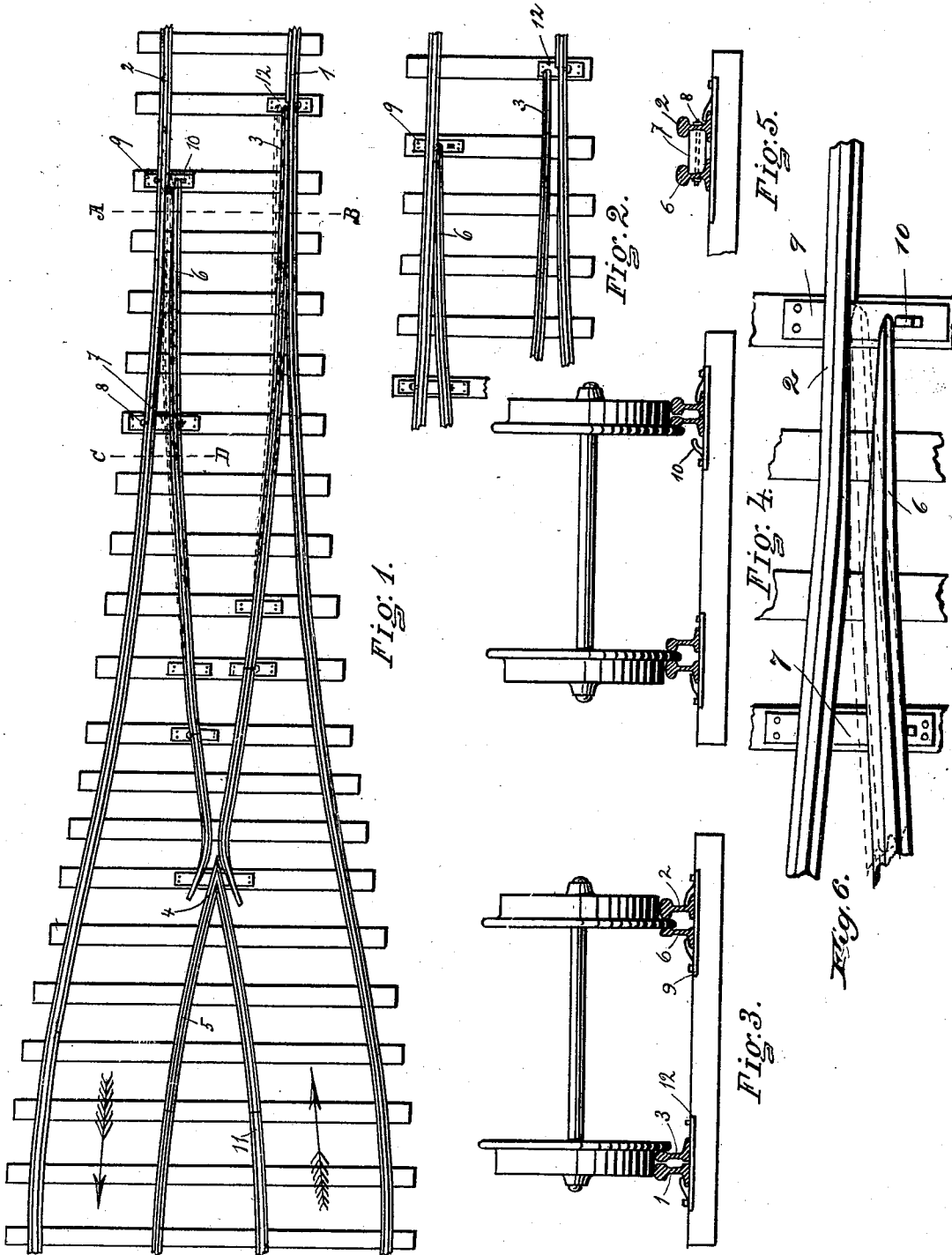


(No Model.)

M. LEARY.
RAILWAY SWITCH.

No. 512,887.

Patented Jan. 16, 1894.



WITNESSES.
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UNITED STATES PATENT OFFICE.

MICHAEL LEARY, OF UTICA, NEW YORK.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 512,887, dated January 16, 1894.

Application filed November 16, 1892. Serial No. 452,130. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL LEARY, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Railway-Switches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 figures of reference marked thereon, which form part of this specification.

My invention relates to an improvement in automatic railway switches.

In the drawings which accompany and form a part of this specification, Figure 1, shows a plan view of my improved switch in its normal position. Fig. 2, shows a plan view of a portion of the switch with the movable switch rails in the positions which they assume as a car or truck passes from the switch, that is from the left toward the right of the figure as shown in Fig. 1. Fig. 3, shows a cross section of the rails taken on line A—B of Fig. 1, in connection with a pair of wheels on the rails, the wheels passing from the right toward the left of the figure as shown in Fig. 1. Fig. 4, shows a cross section of the rails taken on the same line as Fig. 3, with a pair of wheels running on the rails, the rails being shown in the positions which they assume when the wheels are passing from the left toward the right, as the switch is shown in Fig. 1. Fig. 5 shows in detail a cross section of rails taken on line C—D of Fig. 1. Fig. 6 is an enlarged detail view to illustrate the position of the spring rail relative to the main rail.

Referring more particularly to the reference numerals marked on the drawings in a more specific description of the device, 1 and 2, indicate the rails of a railway. As they approach the switch they diverge forming the outside rails of the branches. The switch shown is what is known as a diamond switch, that is both branches diverge from the direct line of the main track to the sides of such direct line. At one side, between the rails 1 and 2, substantially at a point where they begin to diverge, I provide a split spring rail 3, which is tensioned to hold itself in contact with rail 1, and is free

to vibrate at its thin and projecting end. The continuation from split rail 3, after passing the frog 4, forms the inner rail 5, of one of the branches. Adjacent to the opposite rail or rail 2 of the main track, a little nearer the frog is provided a spring split rail 6, which is secured to the rail 2 by a block 7, and the bolt 8 which make and form connections between the rails 2 and 6. The rail 6 is a spring rail and is tensioned to stand apart as shown in Fig. 1 from rail 2. The split or thin end of the rail plays on a plate or keeper 9 which is provided with a hook or catch 10, to limit the throw of the rail toward the inside or between the tracks. The continuation of the rail 6, after passing the frog 4, forms the inner rail 11 of the other branch. The end of rail 3 plays on the plate 12 provided on a tie for that purpose. It will be readily understood that the rails 3 and 6 are clamped to the cross-ties at their ends nearest the frog 4, and normally occupy the positions shown in full lines in Fig. 1, but are thrown to the dotted positions in said figure when acted upon by the wheels of the car as it passes.

The operation of the device is substantially as follows: A pair of wheels coming to the switch from the right hand of Fig. 1, the wheel traveling the rail 1, is picked up or carried up split rail 3, which forces the truck toward rail 2, and causes the truck to follow in the direction of the arrow, shown on the upper side of Fig. 1. In this position there is no operation of the parts of the switch so far as spring rails 3 and 6 are concerned. The position of the rails and wheels as they pass on to the switch from the right as shown in Fig. 1 is shown in Fig. 3. A pair of wheels or trucks passing over the branch as shown by the arrow in the lower portion of Fig. 1, the flange of the wheel traveling on rail 1 wedges the rail 3 away from 1, and makes an opening through it which it passes, and a wheel traveling on rail 11 forces the spring rail 6 over against rail 2 or nearly so, so that this wheel is carried on to rail 2. This position is shown in Fig. 4. When the wheels have passed beyond the points of the spring rails 3 and 6, these instantaneously resume their normal position as shown in Fig. 1.

In constructing my switch it is preferable

to provide the point of the rail 6, in its normal position at a trifle greater distance from the rail 2, than it is at a point a little distant from the end or point of rail 6. By this provision the rail 6, assists in giving the new direction to a pair of wheels coming on to the switch, as the outside of the flange of the wheel may thus be made to engage the rail 6 after it has passed the point and by not engaging at the point the rail is relieved of much wear, this being a favorable end as there is not much material in the rail at the point.

What I claim as new, and desire to secure by Letters Patent, is—

The combination in a railway switch of diverging rails forming the outer rails of each branch, an automatic independent spring

split rail tensioned to lie against one of the diverging rails, and an automatic independent spring split rail lying adjacent to the other diverging rail and tensioned to stand apart from the rail and having its extreme point nearer the frog than that of the other spring rail, and the point standing farther apart from the rail than the immediately following portion from the point, the two spring split rails having no connection with each other or with the main rails, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

MICHAEL LEARY.

Witnesses:

M. A. KELLER,
GEORGE C. CARTER.