

G. D. DAVIS.
Railway-Switches.

No. 146,516.

Patented Jan. 20, 1874.

Fig. 1.

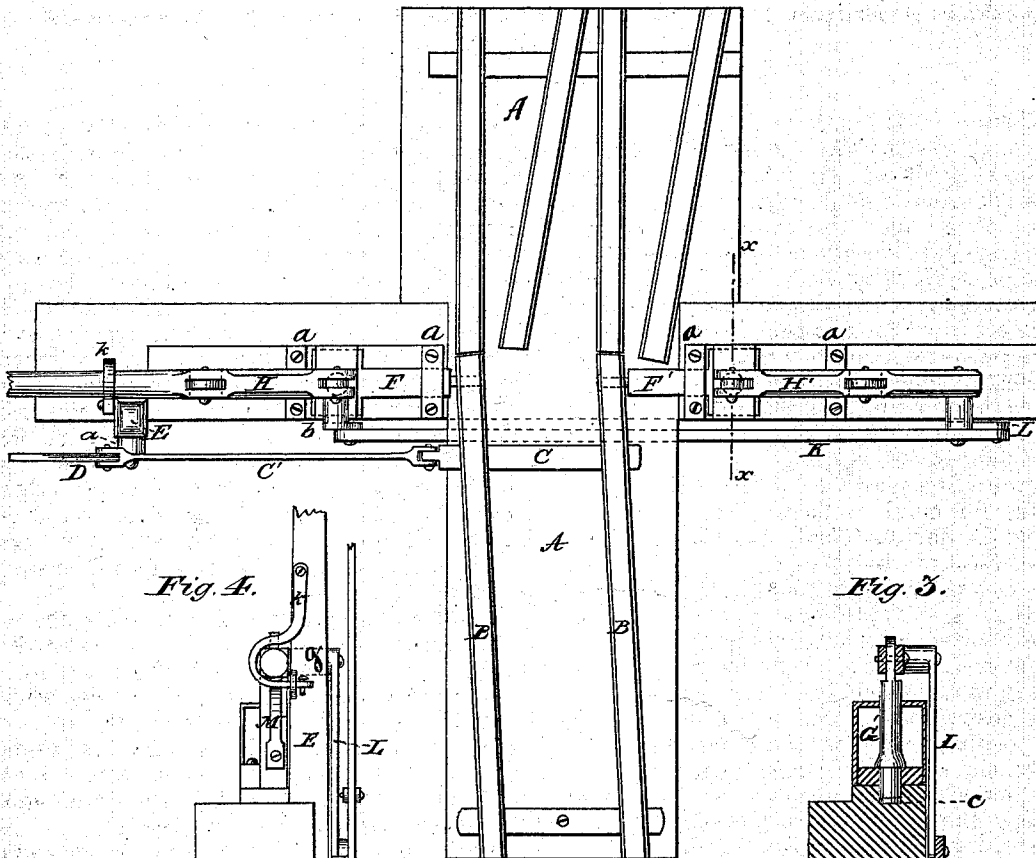


Fig. 4.

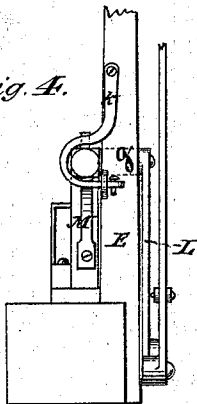


Fig. 3.

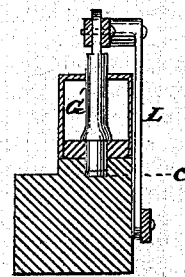
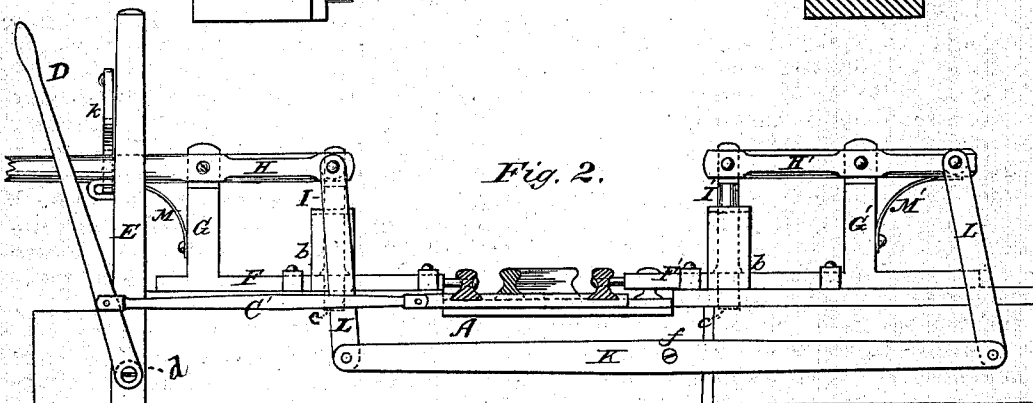


Fig. 2.



Witnesses:

M. J. Chandler
N. P. Harwood

George D Davis Inventor:
Mr. Ward H. Lamson
his Atty in Fact

UNITED STATES PATENT OFFICE.

GEORGE D. DAVIS, OF MARTINSBURG, WEST VIRGINIA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **146,516**, dated January 20, 1874; application filed December 5, 1873.

To all whom it may concern:

Be it known that I, GEORGE D. DAVIS, of Martinsburg, West Virginia, have invented certain new and useful Improvements in the Construction and Operation of 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, which form part of this specification, and in which similar letters of reference indicate corresponding parts in the different figures.

Figure 1 is a plan view of the rails and apparatus for moving them. Fig. 2 is a side view of the devices, partly in section.

The object of this invention is to furnish a ready means for shifting, and at the same time securing, the movable rails of a railway-switch in position, so that nearly all danger of throwing an engine or car from the track by the shifting of the switch after having been placed in the desired position, or its failure to reach that position, owing to the inaccuracy of its adjustment, is avoided; and it consists in the construction and arrangement of the devices by which the stop-pins which hold the rails in place are automatically operated; also, in other details of construction, which will be hereinafter fully described.

A bed-piece, A, is placed beneath the movable rails, at their shifting ends, where they form a junction with the double way, and extending to a considerable distance upon each side of the track, so as to form not only a firm bearing for the ends of the rails, but a base upon which is placed their operating mechanism. The rails B B are attached to each other near their shifting end by a connecting-bar, C, which clasps the lower part of each rail, and has attached to one of its ends, by a pivoted joint, the connection C', the opposite end of which is pivoted to the lower end of the vertical hand-lever D, which oscillates upon a fulcrum-pin, d, which is secured to the vertical post E.

It will thus be apparent that a movement of the hand-lever D to or from the line of rails will produce a corresponding motion in the rails B B.

Secured to the ends of these rails by a joint of such construction as to admit of a small deviation from a right angle, and which, in the present instance, is shown as a tenon passing through a mortise in the rail, are the sliding pieces F and F', resting and moving upon the bed-piece A, and retained in position laterally by the guides a a. Two vertical standards, G G', are firmly secured to the sliding pieces, and move with them. At the upper end of these standards are pivoted the horizontally-placed levers H and H', and depending from the end of these levers, contiguous to the rails, are the stop-pins I I', guided at their lower ends by suitable orifices in the guides b b, and after passing through snugly-fitting holes in the sliding pieces F F', they enter the holes c c in the bed-piece A, thus holding the rails B B firmly in their proper position.

In order to secure the simultaneous action of the stop-pins upon both sides of the track, a lever, K, is placed beneath the track, and provided with a fulcrum-pin at f; also, with connections L L, by which it is attached, at each end, to the levers H H'. Thus a movement of one of these last-named levers is at once communicated to the other, and, through it, to the stop-pin connected thereto.

It will be seen that the lever H extends backward, passing the standard E, and forming a handle, the depression of which will raise both the stop-pins out of the orifices in the bed-piece; but, in order to insure their entering these orifices when the switch is shifted, automatically, and without demanding attention from the attendant, the springs M M' are secured to the standards G and G', and press upward against the under side of the levers H H', thus causing them to continually bear downward upon the stop-pins, so that they shall enter the gaging-holes in the bed-piece the instant they come in line therewith.

Attached to the standard E by a pivot is a curved hasp, k, which may be made to encircle the handle of the lever H, and then, after passing through a staple, g, receive, through a properly-formed hole in its end, the hasp of a padlock, by means of which devices the switch may be permanently locked in juxtaposition with either of the connecting lines of rail.

The operation of these devices is as follows:

When it is desired to shift the switch from one line of rails to the other, the attendant throws back the hasp *k*, then places one hand upon the lever *H*, and, with the other, grasps the shifting-lever *D*. A slight pressure upon the lever *H* withdraws the stop-pins from the gaging-holes in the bed-piece *A*, and a movement of the lever *D* throws the shifting-rails to one side until the stop pins enter the other set of gage-holes, when further movement must cease, and the rails *B B* are found in the proper position for connecting with the other line of rails.

Having thus described my invention, I claim, and desire to secure by Letters Patent of the United States, the following:

1. The bars *F* and *F'*, sliding over openings *c* in the bed-plate, carrying-pins *I I'*, and operating-levers *H H'*, in combination with the switch-rails and with the lever and rods *L K*, as and for the purpose set forth.

2. The combination, with the rails *B B*, of the bars *F F'*, connected to the rails, and sliding on, but confined to, the bed-plate, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 20th day of November, 1873.

GEORGE D. DAVIS.

Witnesses:

M. C. NADENBOUSCH,
HENRY HULL.