W. BUCHANAN.

Locking-Switches.

No. 196,428. Patented Oct. 23, 1877.

Fig: 1

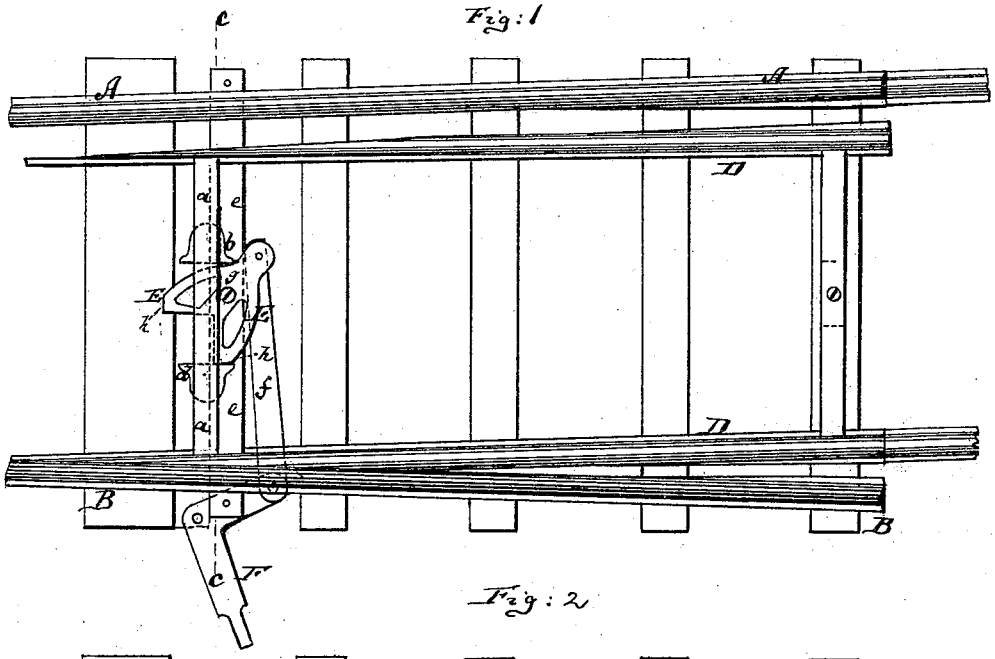


Fig: 2

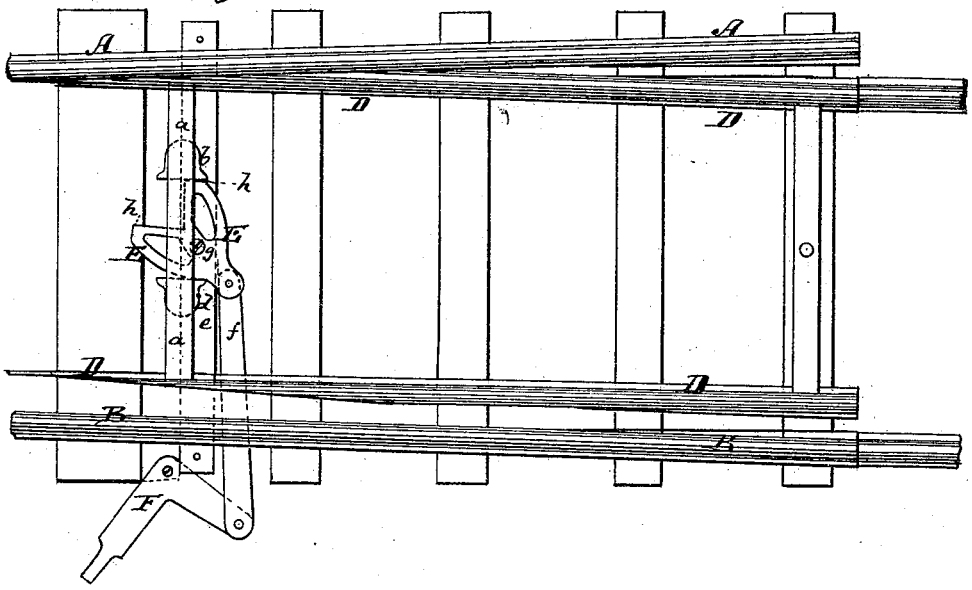
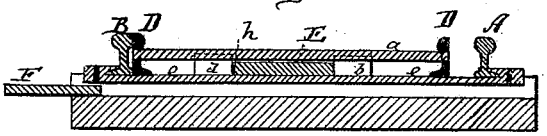


Fig: 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM BUCHANAN, OF YONKERS, NEW YORK.

IMPROVEMENT IN LOCKING SWITCHES.

Specification forming part of Letters Patent No. **196,428**, dated October 23, 1877; application filed October 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM BUCHANAN, of Yonkers, in the county of Westchester and State of New York, have invented a new and useful Improvement in Railway-Switch Moving and Locking Mechanism, of which the following is a specification:

Figures 1 and 2 are top views of my switch moving and locking mechanism. Fig. 3 is a cross-section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts in all the figures.

This invention has for its object to simplify the means for adjusting the switches of railroad-tracks; and consists, principally, in combining with the moving switch a heart-shaped vibrating lever, whereby the switch can be moved to and automatically locked in its terminal positions.

By this means I dispense with the more complicated devices which were heretofore employed for the like purpose.

In the drawing, the letters A and B represent the outer rails of two converging tracks, and D D are the switch-rails, which are united in a pivoted frame to join either with the track B or with the track A, as indicated in Figs. 1 and 2. The rod *a*, which connects the two switch-rails D D, is provided with two projecting lugs, *b d*, which are either on its upper or lower face, preferably the latter.

E is a heart-shaped lever, pivoted to one of the sleepers or immovable fixtures, *e*, so as to be between the two projecting lugs *b d*. By a suitable link or rod, *f*, the lever E is connected with suitable mechanism F for vibrating it on its fulcrum *g*. At the end of each of the convex edges of the lever E is a straight short edge portion, *h*, the two straight portions *h* standing nearly at a right angle to each other, as shown in the drawing.

In order to move the switch from the position shown in Fig. 1 to that which is shown in Fig. 2, it is only necessary to vibrate the lever E, and crowd it against the lug *b*, thereby bringing the switch against the track A, as shown in Fig. 2. In this position the straight portion *h* of the edge of the lever bears against the straight edge of the lug *b*, as clearly shown in Fig. 2, and thereby locks the switch; in fact, it cannot be moved into its other position until after the heart-shaped lever E has been turned to carry the switch into the position shown in Fig. 1, in which it also locks said switch, by contact of the straight-edged portion *h* with the straight face of the lug *d*. Thus a simple motion of the lever or mechanism F will suffice to move the switch, and to lock the same in either of its two positions.

Instead of placing the heart-shaped lever E under the rod *a*, that joins the switch-rails, I may place it under or over a rod that extends from the switch, and is not between the two rails thereof; and, in fact, I do not confine myself to any particular position of said lever E and lugs *b d*.

The movement herein described is intended to simplify the interlocking system heretofore employed of using two separate levers—one for moving and one for locking the switch—and can be attached to a hand-switch, and is used on the principle described in my Patent No. 183,041, of October 10, 1876.

I claim as my invention—

The combination, in a railway-switch, of the heart-shaped lever E, having straight edges *h h*, with the lugs *b d* and with the rod *a*, that connects with the switch D, substantially as herein shown and described.

WILLIAM BUCHANAN.

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