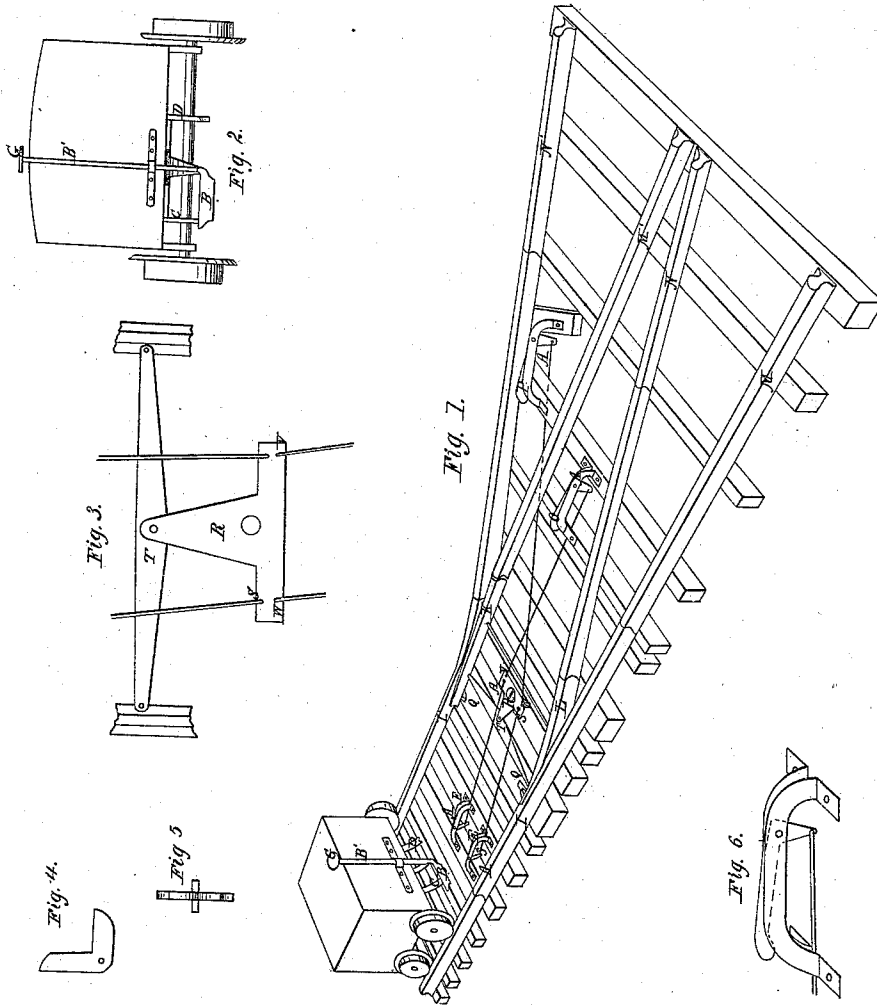


*A.S. Miller,*

*Railroad Switch,*

*No. 8,689,*

*Patented Jan. 27, 1852.*



# UNITED STATES PATENT OFFICE.

A. S. MILLER, OF REPUBLIC, OHIO.

## RAILROAD-SWITCH.

Specification of Letters Patent No. 8,689, dated January 27, 1852.

*To all whom it may concern:*

Be it known that I, A. S. MILLER, of Republic, in the county of Seneca and State of Ohio, have invented a new and Improved  
5 Mode of Constructing Railroad-Switches; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, and  
10 to the letters of reference marked thereon, making part of this specification.

Like letters refer to like parts represented in the different views.

To enable others skilled in the art to make  
15 and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a perspective view of the switch and car, when in place; the other views will be referred to as they may be  
20 required in a further description.

The rails are laid in the usual manner, and I then apply thereto at any point of turn out, my self acting switch, a general outline of which is shown at A, Fig. 1. The switch  
25 is worked by the shifter B, Figs. 1 and 2, which is secured to the car or locomotive as may be desirable, in such a manner that the shifter B can be turned from the brace C to D so as to act on the levers E or F shifting  
30 the train to the right or left track as the case may be without any delay to the train; which is a great advantage over the common mode of operating the switch.

The shifter B being connected in a solid  
35 manner to the wheel G by the standard B' may be operated by a chain or cord, passing around the wheel G and extending to the rear cars so as to be operated at any time or at any point, by the conductor, engineer,  
40 or brakemen.

When the train is on the track I I' Fig. 1, the shifter in passing operates the lever E which by its connection with the rails L and K Fig. 1, is caused to move simultaneously;  
45 the rail K is moved close to the rail I', the rail L moving with it from the rail I which allows the train to pass along the track M M'. A following engine or train, wishing to take the opposite track, the shifter  
50 B is readily turned around against the brace D; the shifter in passing operates the lever F, which by its connection, switches the rails L and K back again, thereby allowing the cars to pass over the track N N'. A train  
55 returning on the track M, M', operates the lever O, by the shifter B, in the same man-

ner as the lever E, moving the rail L, from the track I, and with the same action the rail K, is put in line with the track I', thereby allowing the train to pass over the line  
60 I I'. A reverse motion is given to the lever P, by the return train on the track N N', which is communicated to the switch rails L and K, thereby making a quick connection from the track N, N', to I, I'.  
65

The switch rails L, and K, are retained in place by the tumbler Fig. 4, Fig. 5 being an end view. The tumbler or key, is placed in a chamber under the switch rails, at Q Fig. 1; as the rails L and K, are moved from one  
70 side to the other the tumblers are caused to turn on their axis, which throws up one of their arms on the inside and one on the outside of the rails, thereby keying them on either side. The tumblers also ease the  
75 movement of the switch rails, by being placed directly over the center of its axis; the rails drop a little when past the center, so as to be keyed by the arms.

The lever E, is connected to the cross lever  
80 R by means of the connecting rod S, S. The levers F, O, and P are in like manner connected to the cross lever R. By the action of the shifter B, on the lever E, a movement is conveyed to the cross lever R, which  
85 acting upon the stay bar T, Figs. 1 and 3, moves the rails to which it is attached, so as to form a connection as before described with track M M'. The lever F is connected in like manner to the opposite arm of the lever P.  
90 The shifter being turned around to the brace D, in passing over presses down the lever F, thereby causing a reverse movement of the switch rails L and K. The levers O and P are connected to the opposite side of the cross  
95 lever R, by means of rods in the same manner as above described in letter E. The connecting rod from the lever O, is attached to the cross lever R at V and the rod from the lever P is attached to the cross lever at W.  
100 The action of the levers P and O, in moving the switch rails being the same as that of the levers E and F.

The shifter B is made of wrought iron of suitable size, and is made in the form of a  
105 plane key, as seen in Figs. 1 and 2 at B, B, with a shank of suitable strength, with a wheel G, Fig. 2, on the top, for the purpose of attaching a chain or cord to work it. When the operator desires to change the  
110 switch, he turns this key or shifter from right to left or from left to right as necessity

may require, by means of the wheel and cord or chain as above stated. The pressure of the shifter on the lever O, when passing over it causes the switch rails L, and K, to move, 5 whereby the connection is broken at L, and connected at K, which forms a connected line from I to M and from I' to M'. A reverse is caused by pressing the lever P, when the previous connection is broken and 10 one formed between I, and N, and I', and N'. A detached view of the lever and frame is shown at Fig. 6. The metallic frame is firmly secured to the wood work supporting the rails. The cross lever R, is secured in 15 place by means of a bolt which passes through its center into the girt below. The levers operating the switch rails can be worked by hand when desirable, the result being the same as when worked by the 20 shifter.

It will be seen from the preceding description that the rods connecting the several levers, cross each other near the center of the track, thus causing a combined transverse 25 action of the several levers and rods to fall immediately upon the ends of the switch rails, as seen in Fig. 1, thus causing them to move with ease and precision upon the tum-

bler lock, which holds them firm against the main rails until again operated upon as 30 above. It will also be perceived by careful examination that this action of the several levers, (upon the switch rails) cannot be obtained in so simple a form, as the one described above, without crossing the rods 35 connecting them.

I am aware that levers, rods, and eccentrics, are used for the purpose of changing the switch rails of railroad tracks, and therefore do not expect to claim their operation 40 distinct, or separate and detached, but a simple combined arrangement of the several parts.

Having described the nature of my invention what I claim and desire to secure by 45 Letters Patent is—

Placing the tumbler Figs. 4 and 5, under the rails L and K in such a manner as to ease their movement, and when at rest operating as a brace or key to retain the rails 50 in place.

ABRAHAM S. MILLER.

Witnesses:

B. F. BAKER,

E. HESSENMUELLER.