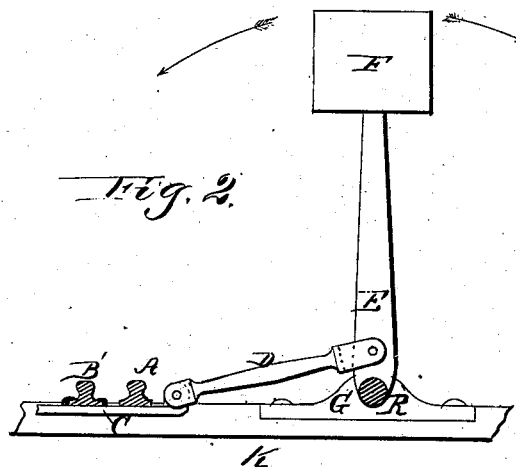
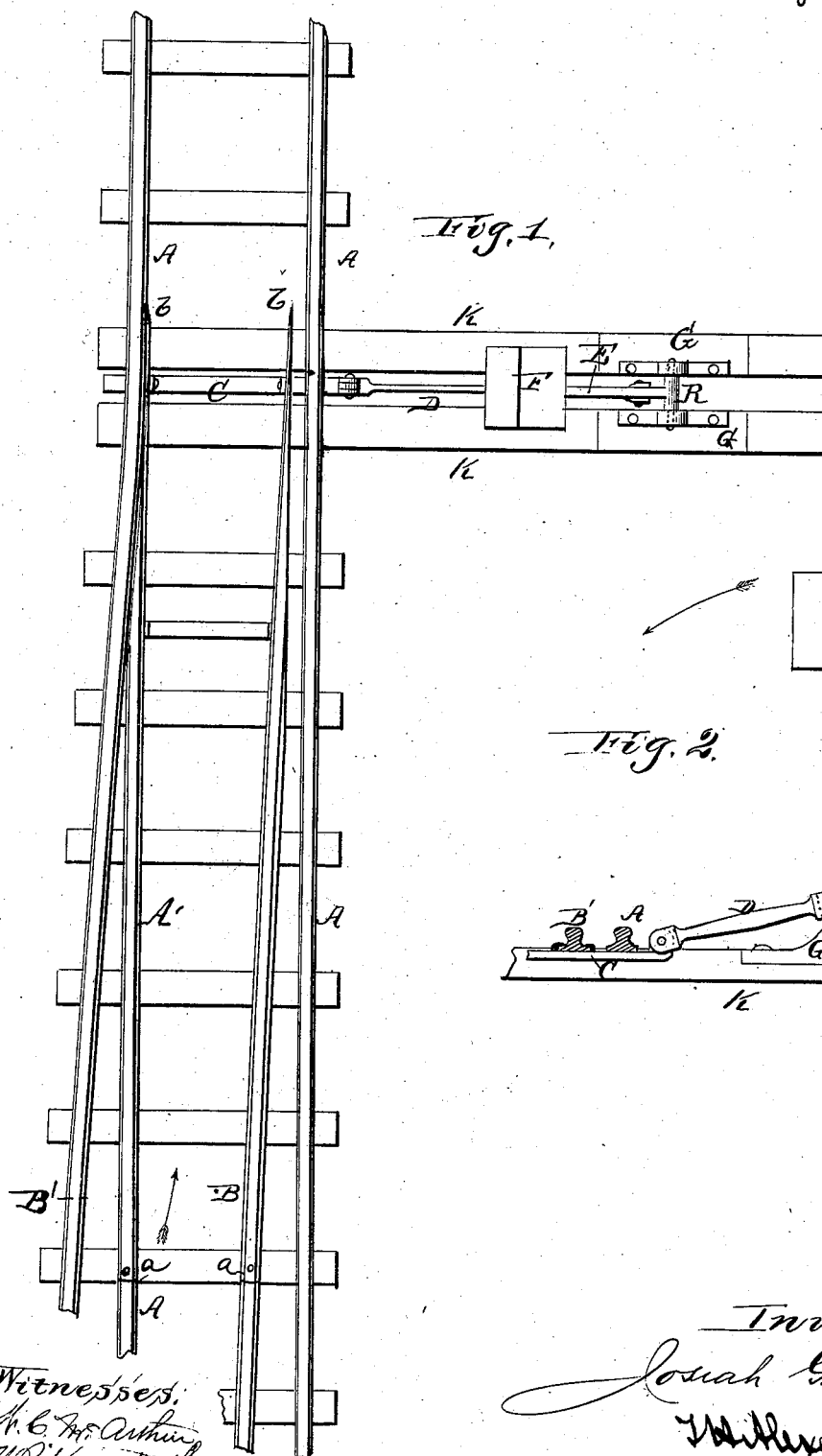


(No Model.)

J. GRAY.  
RAILROAD SWITCH.

No. 260,674.

Patented July 4, 1882.



Witnesses:  
H. C. McArthur  
W. R. Keyworth

Inventor:  
Josiah Gray.  
per Alexander  
Attorney.

# UNITED STATES PATENT OFFICE.

JOSIAH GRAY, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND WESTLEY HOLLENBECK, CONRAD B. SHEFLER, AND JACOB R. REED, ALL OF SAME PLACE.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 260,674, dated July 4, 1882.

Application filed January 23, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH GRAY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a plan of my switch; Fig. 2, a side elevation of the switch-lever.

My invention relates to an improvement on the well-known ball-lever switch-rail actuating devices; and the nature of my invention consists in certain novel devices, which will be understood from the following description when taken in connection with the annexed drawings.

In the annexed drawings, A A designate the main-track rails, which are rigidly spiked to the cross-ties, and A' designates a switch-rail, which is pivoted at *a* to a cross-tie, and which forms a jointed section of one of the main-track rails.

B designates a switch rail, which is pivoted at *a* to a cross-tie, and which forms the movable section of the siding. The immovable siding-rail B' is a continuation of the main-track rail A, as shown in Fig. 1. The free beveled ends of the pivoted switch-sections A' B are connected together by a tie-bar, C, so that said free ends are moved together upon long cross ties or sills K K by giving endwise adjustment to said tie-rod. The rails A A are spiked down to the said cross-ties, and the free ends of the pivoted sections B A' slide laterally on these cross-ties between the stationary rails.

E designates a switch-lever, which is constructed with a weight, F, on its upper end and with tenons on its lower end. These tenons have their bearings in base-blocks G G, which are recessed into and rigidly spiked or bolted to the extensions of the two cross ties or sills K K.

The rails A A and a portion of the offset or siding rail B', and also the fulcrum bearing-blocks G G, are all rigidly secured to and connected together by said cross ties or sills. Consequently said parts will always maintain their proper relative positions with respect to each other.

Above the fulcrum-trunnions of lever E one end of a connecting-rod, D, is pivoted, the opposite end of which is pivoted to one end of the tie-rod C.

It will be seen from the above description that the extreme lower end of the loaded switch-lever E is pivoted to base-blocks rigidly secured to the same cross-ties, to which parts of the main-track rails and a part of one of the siding-rails are secured.

It will also be seen that my connecting-rod D is pivoted to said lever E above its fulcrum, thereby doing away with a frame or boxing and its necessary appliances.

The rock-shaft R, at the lower end of the lever E, is of sufficient length to prevent in a great measure this lever from lateral vibration in its base-blocks G G, and the latter are so far apart that a broad base is afforded upon the ties K K or other fixed object.

To effectually prevent an undue lateral play or vibration of the loaded lever E, I bifurcate that end of the connecting-rod D which is pivoted to this lever, so that the rod E is taken hold of on two sides, and thus becomes a brace.

Having described my invention, what I claim as new is—

1. In a switch of the character described, the combination of a loaded vibrating switch-lever having at its lower terminus an elongated rock-shaft terminating in journals, the blocks or boxes fixed to broad rigid bases, a bifurcated laterally-bracing connecting-rod, the tie-bar to which said rod is pivoted, the pivoted switch-rails, and the stationary main-track rails, all substantially as described.

2. In a ball-lever switch, the loaded lever, braced against lateral play by a rock-shaft, and broad supports therefor, in combination with a bifurcated connecting-rod or pitman, a tie-rod connecting the free ends of the beveled switch-rails, and the main-track rails, substantially in the manner and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSIAH GRAY.

Witnesses:

H. D. PAUL,  
H. S. ARMSTRONG.