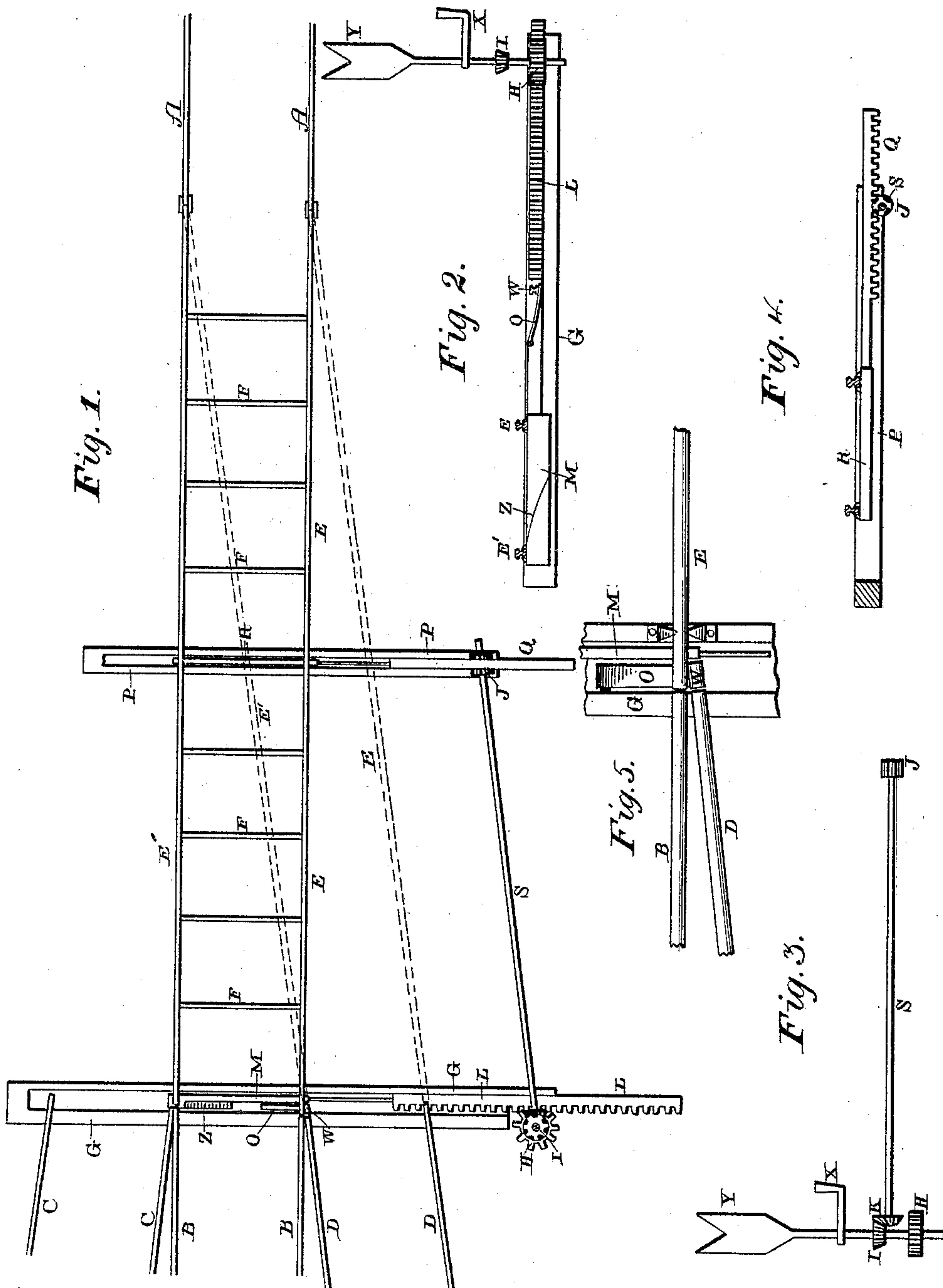


(No Model.)

M. HYNES.  
RAILROAD SWITCH.

No. 446,750.

Patented Feb. 17, 1891.



Witnesses:

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# UNITED STATES PATENT OFFICE.

MARTIN HYNES, OF HAMILTON, MINNESOTA.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 446,750, dated February 17, 1891.

Application filed October 14, 1890. Serial No. 368,139. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN HYNES, of Hamilton, in the county of Scott and State of Minnesota, have invented certain new and useful  
5 Improvements in Railroad-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 pertains to make and use it, reference being  
10 had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in railroad-switches; and it consists in the combination and construction of parts which will  
15 be fully described hereinafter.

The object of my invention is to apply an operating mechanism to the switch-rails both at their free end and near their center and to provide a short pivoted section of a rail  
20 which sinks out of the way when not in use, but which, when required, rises into position, so as to make connection between the switch-rail and the rail of the side track.

Figure 1 is a plan view of a switch which  
25 embodies my invention. Figs. 2, 3, and 4 are detail views of the same. Fig. 5 is an enlarged detail view of the adjoining ends of the rails D B E and the short rail W.

A B represent the rails of the main track,  
30 C D the rails of the side tracks, and E E' the switch-rails, which are held parallel by the rods F. The rail E is made somewhat longer than the rail E', so that when the switch-rails are moved to make connection with the rails  
35 of one of the side tracks they will do so without the intervention of any other parts, but will not make connection when moved in the opposite direction with the side track upon the other side of the main line, as will be  
40 more fully described hereinafter. These two switch-rails are supported at their free ends and at or near their centers by the head-blocks G P, the one G being much the longer of the two. In each of these head-blocks there  
45 is formed a suitable longitudinal groove or recess, and in these recesses are placed clutch-bars M R, to which the switch-rails are secured. To these clutch-bars are secured the  
50 rack-bars I, Q, of suitable length, and with which the operating-wheels engage for the purpose of applying to the ends and centers of the switch-rail at the same time the motive

power for moving them, so as to make them connect with the main or side tracks at the will of the operator.

The vertical operating switch-lever Y is  
55 provided with a large wheel H near its lower end, so as to engage with the rack-bar I, and secured to this lever above the wheel H is the small beveled pinion I, which meshes with a  
60 corresponding pinion K, secured to one end of the shaft S. To the other end of the shaft S is secured the pinion J, which meshes with the rack-bar Q. When the vertical lever Y is turned by means of its handle X, as shown  
65 in Fig. 2, the motive power is applied at both the free end and the center of the switch-rails simultaneously.

When the switch-rails are moved so as to make connection with the side track D, the  
70 short switch-rail E' will not make connection with the inner rail of the side track by a number of inches, and hence it becomes necessary to provide means for making up this  
75 deficiency. For this purpose there is pivoted in the head-block G a lever or arm O, and upon the free end of this lever or arm is a short section or rail W, which is at the end  
80 of and parallel with the inner rail of the side track D. When this rail W is not in use, it drops into the head-block G, as shown in Fig. 2; but when in use it serves to connect the short switch-rail with the inner rail of the side track D. In order to raise this rail W  
85 into position just when it is needed, there is an inclined plane or wedge Z connected to and moving with the clutch-bar M, and this wedge moves under the lever O as the clutch-bar M is moved in the direction of the side track D and raises the short section or rail  
90 W and supports it in position. When the switch-rails are moved away from the side track D, the short section or rail W automatically drops out of the way.

Having thus described my invention, I  
95 claim—

1. The combination of the switch-rails, suitable head-blocks upon which the rails are supported, clutch-bars to which the rails are secured, and an operating mechanism whereby  
100 the motive power for moving the rails is applied to them both at their free end and at their center, substantially as shown.

2. The combination of the switch-rails, the

head-blocks upon which the rails move, clutch-  
bars to which the rails are secured, rack-bars  
secured to the clutch-bars, a vertical operat-  
ing-lever provided with operating-wheels, and  
5 the shaft provided with pinions, substantially  
as described.

3. The combination of the switch-rails, one  
of which is shorter than the other, the rails  
of the side track, the head-block G, the clutch-  
10 bar provided with an inclined plane or wedge,

the rack-bar, the lever for moving the clutch-  
bar, and the short section of the rail W, which  
is pivoted to the head-block, substantially as  
specified.

In testimony whereof I affix my signature in 15  
presence of two witnesses.

MARTIN HYNES.

Witnesses:

W. J. ATKINSON,  
JAMES FAHEY.