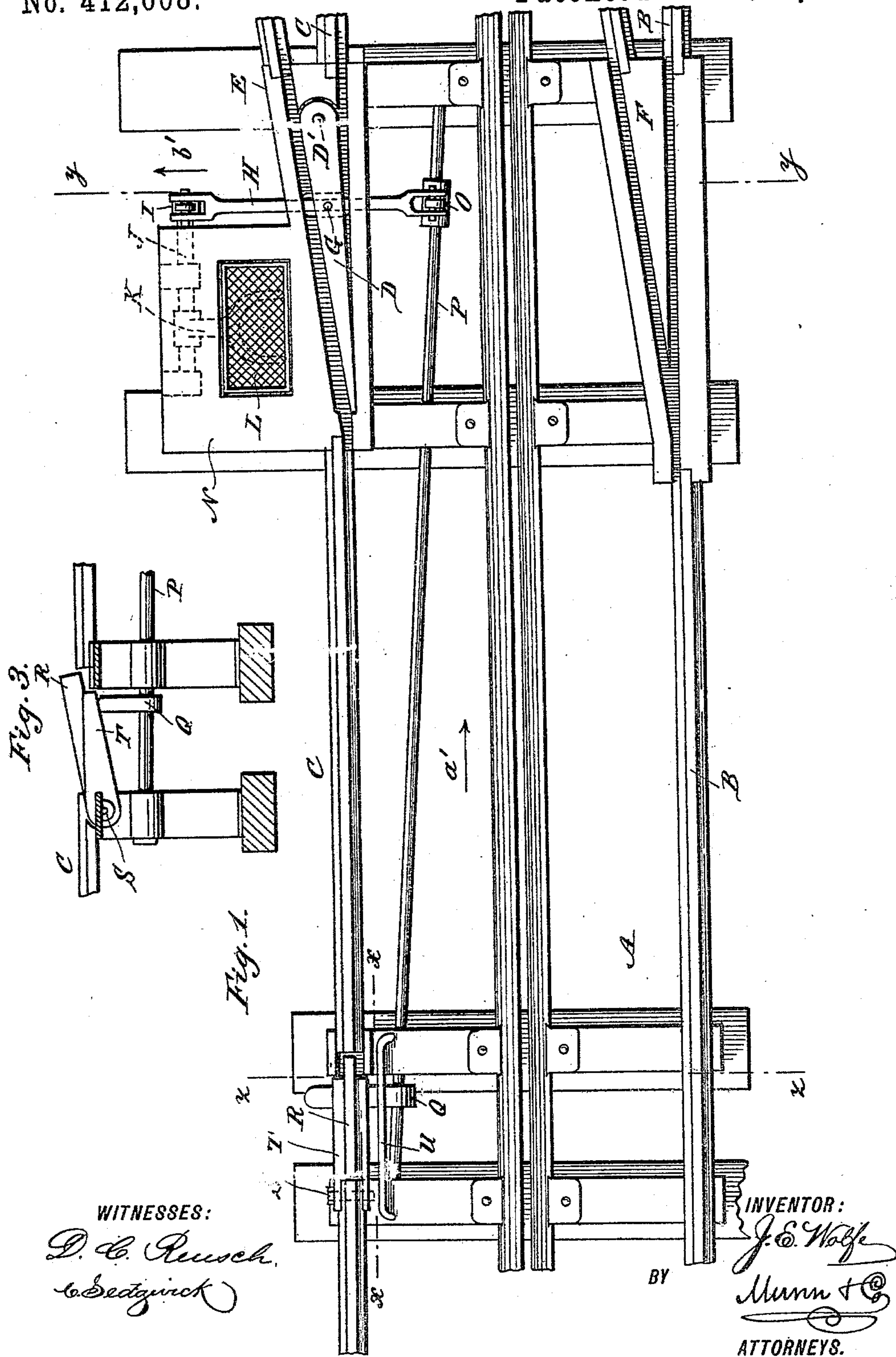


2 Sheets—Sheet 1.

No. 412,008.

Patented Oct. 1, 1889.



(No Model.)

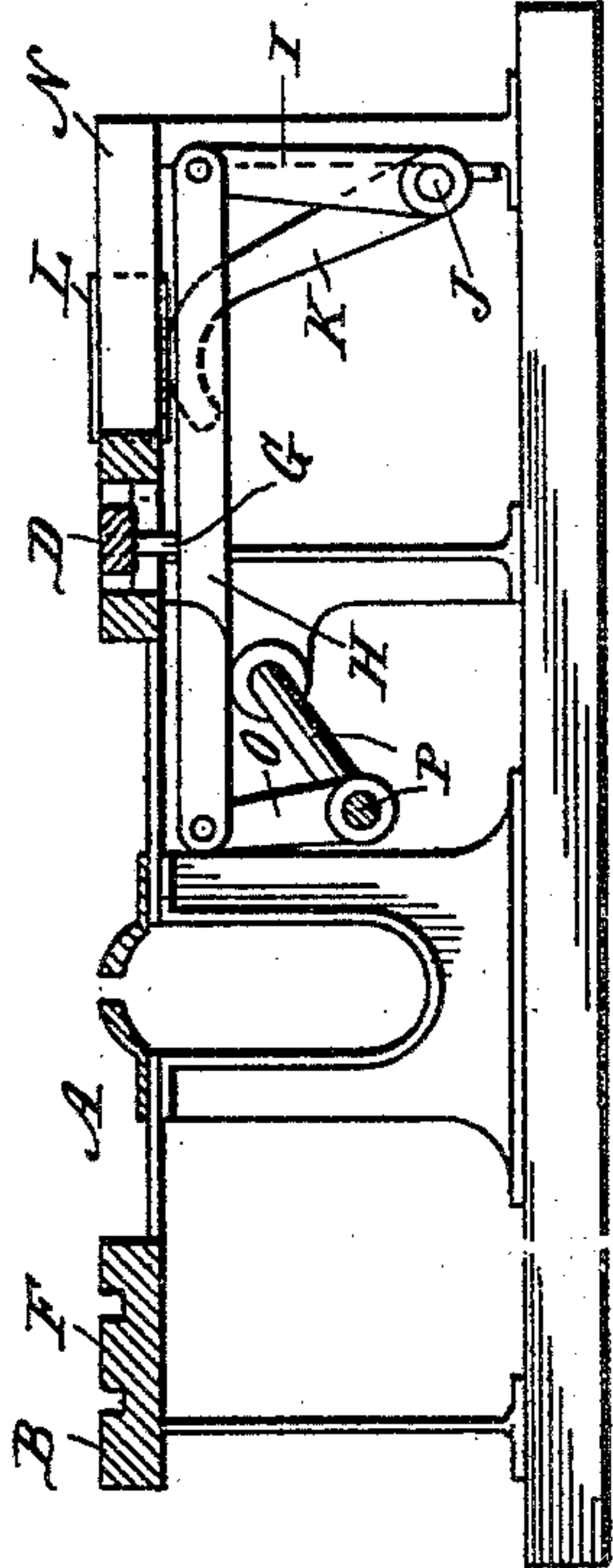
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J. E. WOLFE.  
RAILROAD SWITCH.

No. 412,008.

Patented Oct. 1, 1889.

Fig. 4.



WITNESSES:  
D. C. Reusch,  
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Fig. 2.

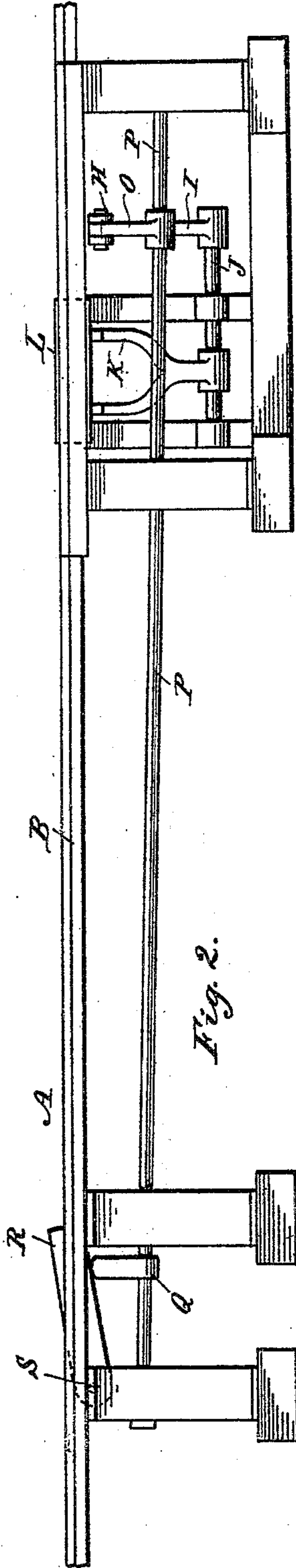
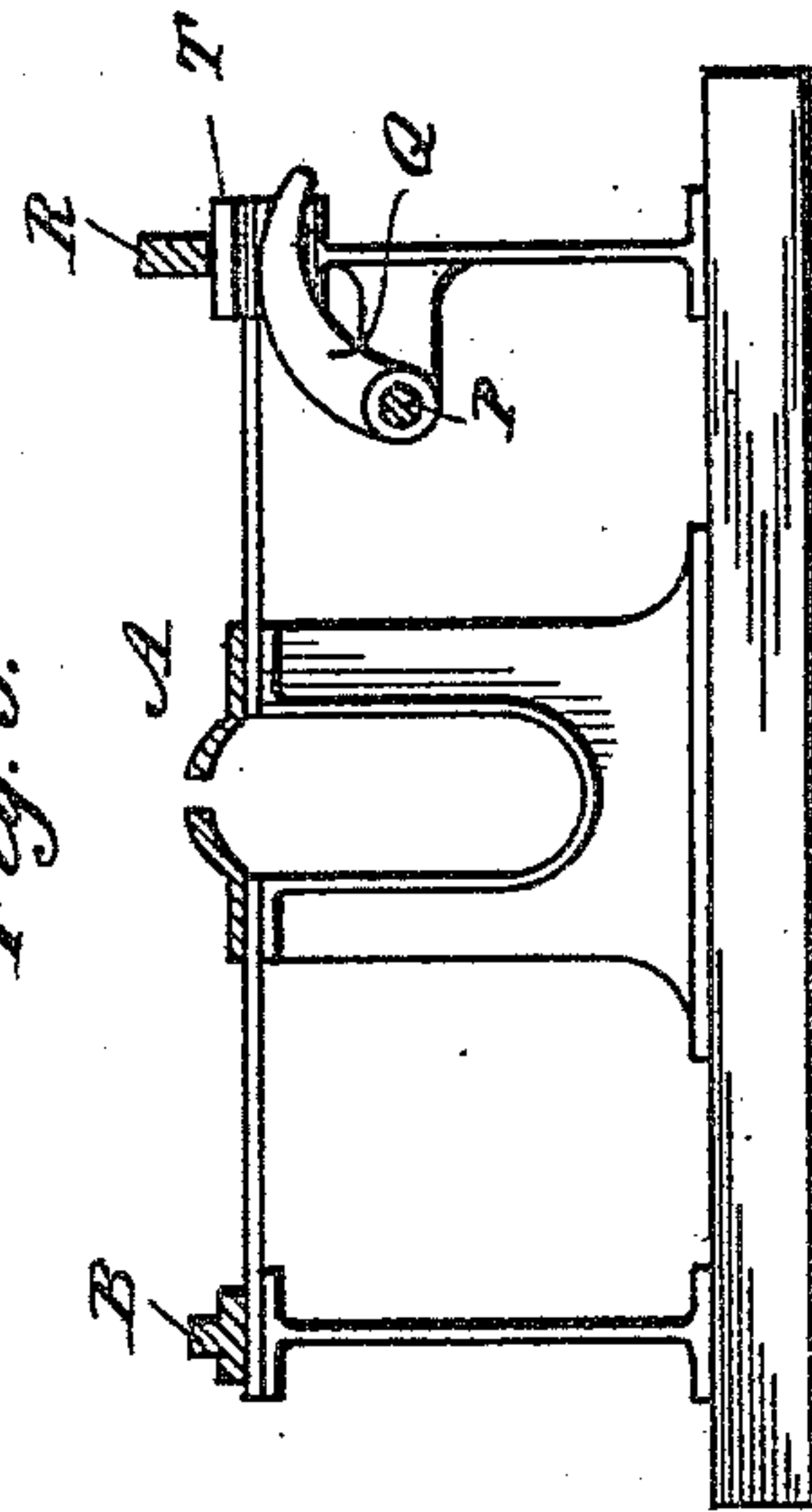


Fig. 5.



INVENTOR:  
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# UNITED STATES PATENT OFFICE.

JOHN EDSON WOLFE, OF NEW YORK, N. Y.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 412,008, dated October 1, 1889.

Application filed December 14, 1888. Serial No. 293,591. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN EDSON WOLFE, of the city, county, and State of New York, have invented a new and Improved Railroad-Switch, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved automatic railroad-switch, especially intended for surface railroads and for a combination of horse and cable roads.

The invention consists of a pivoted switch-rail operated and alternately controlled by a short rail in the main track and by a platform at the side of the track.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement as applied. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional elevation of the section-rail and adjacent parts on the line  $x x$  of Fig. 1. Fig. 4 is a transverse section of the improvement on the line  $y y$  of Fig. 1, and Fig. 5 is a like view of the same on the line  $z z$  of Fig. 1.

The invention is specially intended for a combination surface cable road and horse road—that is, the main track A preferably constitutes a cable road, and from it branches the side track over which the horse-car is to pass. The main line A is provided with the usual cable in the center and other devices, and with the main-track rails B and C, of which the former is continuous, and in the latter is placed a switch-rail D, pivoted at D', and adapted to connect the rail C with the side-track rail E, operating in conjunction with the side-track rail F, forming the side track. The side-track rail F branches from the continuous rail B. From the under side of the switch-rail D extends a pin G, engaging a horizontally-extending rod H, pivotally connected at its outer end with an arm I, fastened on a shaft J, mounted to turn in suitable bearings arranged at the side of the track and carrying an upwardly-extending

arm K, curved and forked at its upper end, as is plainly shown in Figs. 1 and 2. On the curved forked upper end of the arm K rests the platform L, mounted in a suitable casting N, placed alongside the track. The other end of the horizontally-extending rod H is pivotally connected with an arm O, fastened on a shaft P, mounted to turn in suitable bearings below the main track A. The shaft P extends a suitable distance from the switch-rail D—say from twenty to thirty feet—and carries at its outer end an arm Q, extending sidewise under the main-track rail C and engaging the under side of the short rail R, forming part of the main-track rail C. The short rail R is pivoted at S to the main-track rail C, and is provided with bases T, inclined to the top of the short rail R in such a manner as to be level with the base of the main rail C when the short rail R is in an uppermost position, as shown in Fig. 3. When the short rail R is in its lowermost position, the top of the short rail is in line with the top of the main-track rail C, so that the latter is continuous at this junction.

On the inside of the short rail R is placed a guard-rail U to prevent the short rail R from being depressed by wagons passing transversely across the main track A at this point. The base T of the short rail R permits of ordinary wagons traveling on the main track A without depressing the short rail R.

The operation is as follows: When the short rail R is in its uppermost position, as illustrated in Figs. 1, 2, and 3, the switch-rail D connects main rail A with the side track—that is, the switch-rail connects the main-track rail C with the side-track rail E. A cable car now coming in the direction of the arrow  $a'$  passes over the short rail R, so that the latter is depressed, and this downward swinging motion of the short rail causes a downward swinging motion of the arm Q and a turning of the shaft P, so that the arm O on the latter swings outward, moving the rod H in the direction of the arrow  $b'$ . As the rod H is connected by the pin G with the switch-rail D, the latter swings outward, and disconnects the side-track rail E from the main-track rail C, which latter again becomes con-



tinuous. The cable-car by passing over the short rail R, automatically shifts the switch-rail D before it arrives at the switch, so that the cable-car passes forward on the main track A. The movement of the rod H in the direction of the arrow  $b'$  also causes a turning of the shaft J, so that the curved arm K swings upward and lifts the platform L above its casing N. Any number of cable-cars passing in the direction of the arrow  $a'$  will not disturb the switch-rail D; but when a horse-car comes along the track A in the direction of the arrow  $a'$  and desires to pass to the side-track rails E and F, then the driver causes the animal drawing the car to step on the platform L, so that the latter is depressed, and consequently moves the arm K downward so as to turn the shaft J. The movement of the shaft J causes an inward swinging of the arm I, and a movement of the rod H in the inverse direction of the arrow  $b'$ , so that the pin G, connecting said rod H with the switch D, shifts the latter to the position shown in Fig. 1. The main track A is thus connected with the side track and the horse-car passes on from the rails B and C onto the side rails E and F. The downward motion of the platform L causes a turning of the shaft P, so that its arm Q swings upward and again causes an upwardly-swinging motion of the short rail R, so that if the next car is a cable-car the rail will be depressed and cause a shifting of the switch-rail D, as above described. Thus it will be seen that the switch-rail D is actuated and automatically controlled alternately from the platform L and the short rail R.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A railroad-switch comprising a pivoted switch-rail, a short rail located in and forming a part of the main track, and a platform lo-

cated alongside the main track, said platform and the said short rail operating and controlling the said switch-rail, substantially as shown and described.

2. A railroad-switch comprising a pivoted switch-rail located between the main and side rails, a short rail pivoted in and forming a part of the main-track rail and connected with the said switch, and a platform held alongside the track, and also connected with the said switch-rail and the said short rail, substantially as shown and described.

3. In a railroad-switch, the combination, with a switch-rail pivoted between the main and side rails, of a rod connected with the said switch-rail, a shaft having an arm pivotally connected with the said rod, a curved arm held on the said shaft, and a short rail pivoted in one of the rails of the main track and resting at its free end on the said curved arm, substantially as shown and described.

4. In a railroad-switch, the combination, with a switch-rail pivoted between the main and side rails, of a rod connected with the said switch-rail, a shaft having an arm pivotally connected with the said rod, a curved arm held on the said shaft, a short rail pivoted in one of the rails of the main track and resting at its free end on the said curved arm, a second shaft having an arm pivotally connected with the said rod, a curved and forked arm fastened on the said second shaft, and a platform supported on the said curved and forked arm, substantially as shown and described.

5. In a railroad-switch, a short rail pivoted on one of the rails of the main track and provided with a base inclined to the head of the rail, substantially as shown and described.

JOHN EDSON WOLFE.

Witnesses:

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EDGAR TATE.