(No Model.)

J. N. MARSO.

RAILROAD SWITCH.

No. 456,961. Patented Aug. 4, 1891.

Fig. 1.

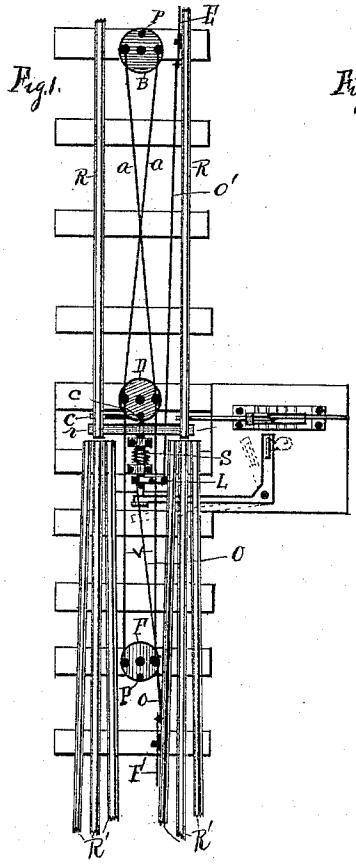


Fig. 2

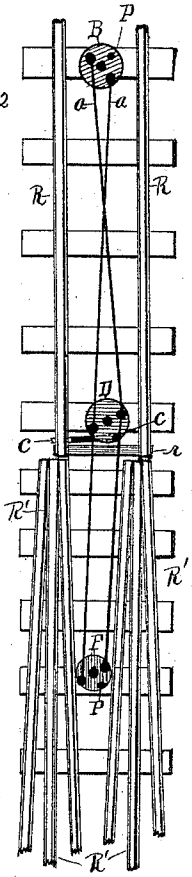


Fig. 3.

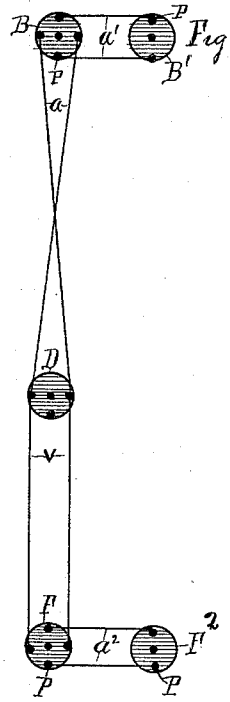


Fig. 4.

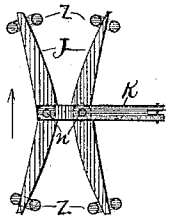


Fig. 5

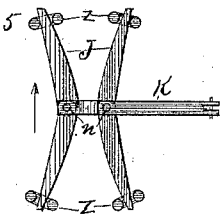


Fig. 6

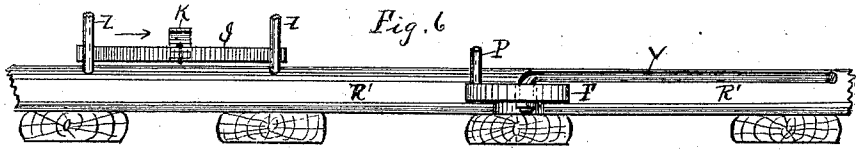
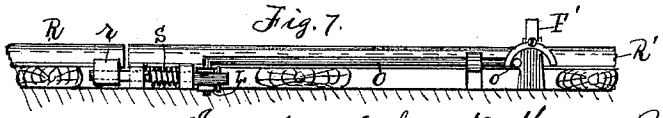


Fig. 7.



Witnesses
Edwd. M. Bray
O. P. Lemmon

Inventor. John N. Marso By
Thos. H. Hutchins his atty

UNITED STATES PATENT OFFICE.

JOHN N. MARSO, OF JOLIET, ILLINOIS.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 456,961, dated August 4, 1891.

Application filed March 26, 1891. Serial No. 386,466. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. MARSO, a citizen of the United States of America, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Railroad-Switches, of which the following is a specification, reference being had therein to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figures 1 and 2 are plan views of a railroad-switch having the mechanism for moving the switch-rail applied. Fig. 3 is a plan view of the mechanism for moving the switch-rail as it would appear detached from the rails. Figs. 4 and 5 are plan views of the mechanism designed to be attached to the under side of a locomotive or car for engaging the switch mechanism. Fig. 6 is a side view of a section of one of the rails and of the mechanism shown in Figs. 4 and 5 and a side view of one of the cranks and its connecting-rod, and Fig. 7 is a side view of the locking mechanism for locking the slide-rails.

This invention relates to certain improvements in railroad-switches, and is of that class in which the switch is moved by an approaching train in case it should chance not to be set right for the track of the approaching train.

Referring to the drawings, R R represent the two slide rails of the switch, being a portion of the main track, and R′ represent the various tracks to which the switch-rails may be set.

B, D, and F are circular plates pivoted to ties or other suitable foundation between the rails forming the main track. These plates turn on a central pivot, and the plates D and F are connected by means of a pair of parallel rods *v v*, and the plates B and D are connected by means of the two cross-rods *a a*. The pivot connections of said rods with said plates are such that said plates may be rotated the required distance to move the switch-rails in either direction to make the switch. The central plate D is located between the free ends of the slide or switch rails R R and is connected therewith by means of the connecting-rod *c*, and the free ends of said rails are connected by means of a cross-bar *r* for holding them the required distance apart and so that said plate and connecting-rod may move said rails together.

The plates B and F are each provided with an upwardly-extending pin or stud P, arranged at right angles with the point of pivot of the rods *a* and *v* with said plates, and the rods *a a* are crossed, so that the plates B and F may be caused to rotate in opposite directions, so that their pins P will be moved laterally in the same direction.

J in Figs. 4 and 5 represent guide-bars that are intended to be attached to the under side of a locomotive or car by means of suspenders Z. These bars are jointed together at their center in such manner that they may be moved laterally at their center by means of a lever that may be attached to the outer end of the bar K, which is pivotally connected to said bars at their center. Said bar K is arched over the space between said bars, so that it will not strike the pins P as it passes over them. The engine or car to which said bars are designed to be attached is not necessary to be shown, as it forms no part of this invention. When these guide-bars move along over the track in either direction, they are located near enough to the track and in such position that they will stride the pins P and gather them in between them, so as to cause plates B D F to be rotated and move the switch-rails R to the track upon which the train is moving.

To illustrate better the operation of the said bars with said switch mechanism, suppose a train were moving in Fig. 2 on the central or main track from the bottom of the figure, carrying with it the guide-bars J (shown in Fig. 5) in the direction of the arrow, said guide-bars would engage the pin P on plate F and turn it and also the other plates and move the switch-rails R and set the switch for the main track, as shown in Fig. 1. The same result would be attained if the train were approaching from the opposite direction and engaged pin P on plate B. In case the train was approaching from above on the main track and it was desired to switch off on one of the side tracks in either direction, the engineer would, by means of a lever connected with bar K, move the central part of guide-bars J laterally in either direction, so that when they engaged pin P they would

move it, so as to turn the plates B, D, and F and set the switch-rails for the proper side track—for instance, as shown in Fig. 2—so that the switch is set by means of the passing train through the medium of the guide-bars J and pins P engaging each other and for such track as the engineer may desire, simply by his moving the guide-bars laterally, so as to move said pins laterally to move the switch-rails to the position controlled by said guide-bars.

If desired, auxiliary rotatable plates B′ and F^2 may be located between the siding or switch tracks, as shown in Fig. 3, as it might be that the guide-bars could not always reach the pins on the plates between the rails of the main track.

When the switch-rails R R are set for any track, they must be held so that they cannot move laterally and derail the train. This is accomplished by means of the spring-bolt S, secured to a bed-plate under the switch-rails and in such manner that its forward end may enter one of a series of holes in the connecting-bar *r*, as shown in Figs. 1 and 7. The resiliency of the spring holds the said bolt forward in its proper position. When a train approaches and it is necessary to move the switch-rails, said bolt must be driven back free from said bar *r*. This is done by means of the car coming in contact with the upwardly-extending end of the lever F′ or lever E, located one respectively at the plates B and F, so that it will be engaged simultaneously with said pin P, and through its connection with bolt S by means of rods *o* and *o′* and lever L be withdrawn long enough so that said switch-rails can be moved, and then move forward again and enter a hole in bar *r* after lever F′ or E is released and hold the switch set for the rails controlled by said guide-bars. The levers F′ and E are so constructed that they will only engage the rod *o* when it is desired to withdraw the bolt S, and will permit a train to engage it and not disturb said bolt when the train approaches it from the switch.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. In the railroad-switch shown and described, the combination of the jointed guide-bars J, bar K for connecting said bars at their joint, plates B and F, having the pins P, plate D, cross-rods for connecting plates B and D, and parallel rods V for connecting plates D and F, substantially as and for the purpose set forth.

2. In the railroad-switch shown and described, the combination of the guide-bars J, having a joint at their center, the bar K for connecting and moving said guide-bars at their jointed centers, and the suspenders Z for supporting said guide-bars, substantially as and for the purpose set forth.

JOHN N. MARSO.

Witnesses:
THOS. H. HUTCHINS,
KATIE C. HUTCHINS.