

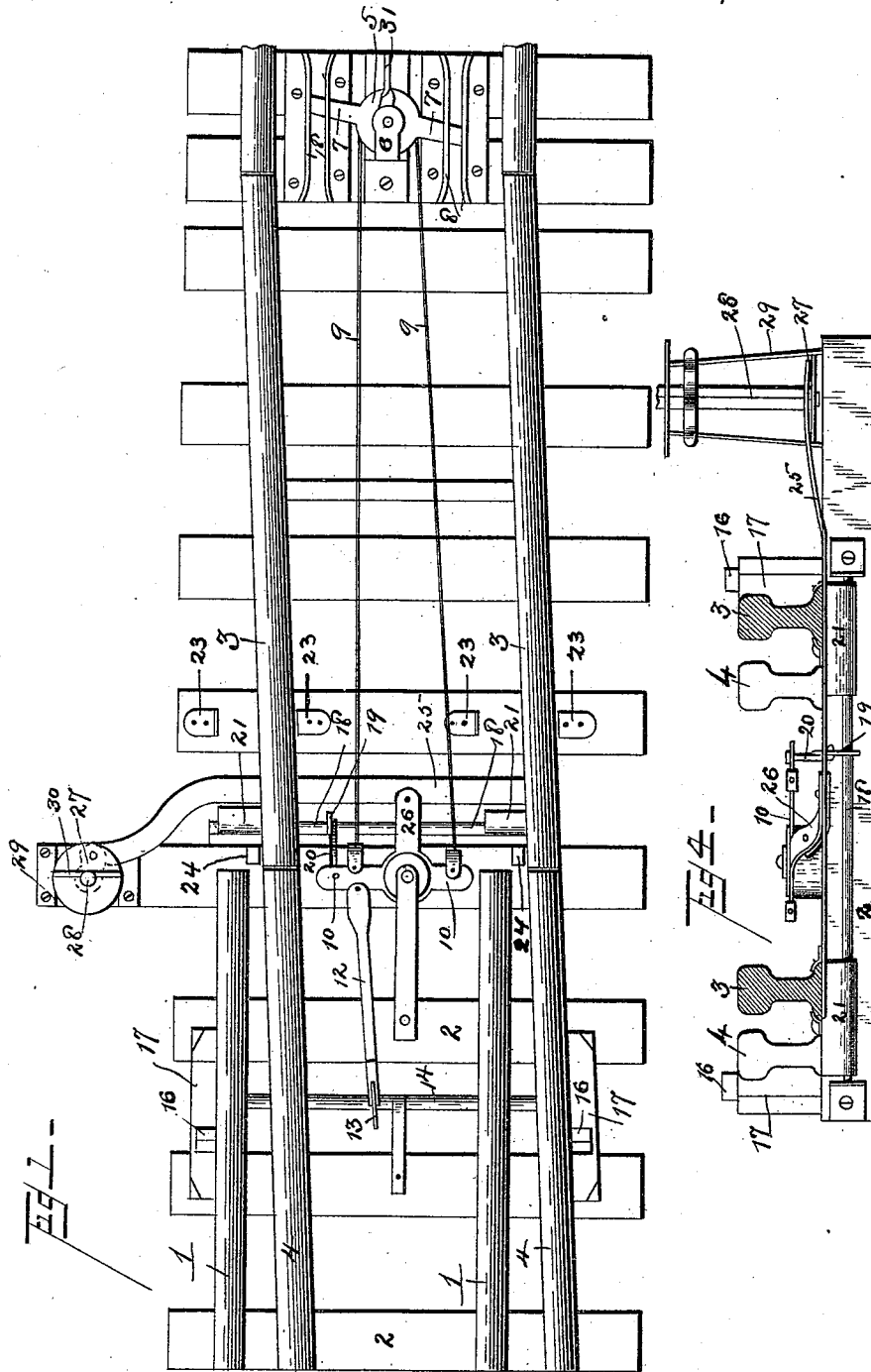
(No Model.)

2 Sheets—Sheet 1.

R. NASH.
RAILROAD SWITCH.

No. 493,179.

Patented Mar. 7, 1893.



WITNESSES:

F. L. Ourand.
Ex. A. Brown

INVENTOR:

INVENTOR:
Richard Clark,
by James P. Jagger & Co.,
Attorneys.

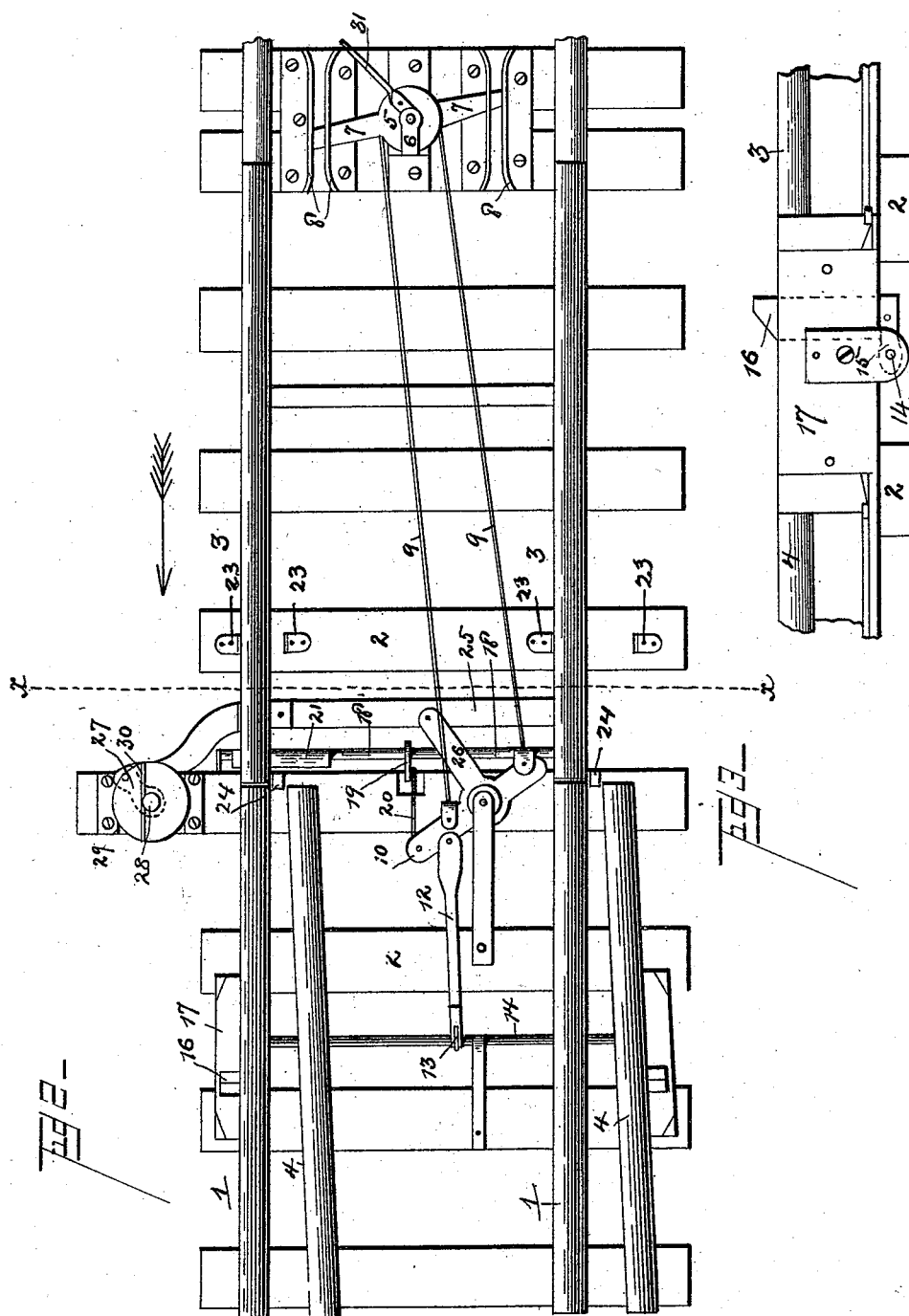
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WITNESSES:

F. L. Oursand.
Ed. A. Browne

INVENTOR:

INVENTOR:
Richard Nash,
by James Rogers & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

RICHARD NASH, OF ELLENSBURGH, WASHINGTON, ASSIGNOR OF ONE-HALF
TO EDWARD NASH, OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 493,179, dated March 7, 1893.

Application filed November 30, 1891. Serial No. 413,542. (No model.)

To all whom it may concern:

Be it known that I, RICHARD NASH, a citizen of the United States, and a resident of Ellensburg, in the county of Kittitas and State of Washington, 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 of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in railroad switches and means for operating the same, the object being to so construct the same that there will be no possibility of derailment of the cars by means of misplaced switches, and also to provide means whereby the switches are automatically operated by the moving cars.

The invention consists in the novel construction and combination of parts hereinafter fully described and specifically pointed out in the claims.

In the accompanying drawings—Figure 1 is a plan view of a section of a railway constructed in accordance with my invention. Fig. 2 is a similar view showing the same in a different position. Fig. 3 is a detail view of the parts by which the switch is operated by the wheels of a moving train. Fig. 4 is a cross section on line *x, x*, Fig. 2, showing the means for holding in place the free ends of the pivoted main rails.

In the said drawings, the reference numeral 1 designates the main rail of a railway, secured to the usual cross ties 2 in the ordinary manner.

The numeral 3 designates the pivoted main rails and 4 the siding rails. Intermediate of the main rails near the point of junction with the pivoted rails, is located a hub 5. This hub is pivoted in a frame 6 secured to the cross ties and is provided with two outwardly extending arms 7, the ends of which project through slots in the guides 8. Connected with these arms are cables 9, which are secured to an oscillating cross head 10, pivoted to the cross ties at a point near the junction

of the main rails with the free ends of pivoted rails. This cross head is connected by means of a rod 12 with a crank 13, secured to a transverse bar 14, extending across the road bed. At each end this rod or bar 14, is provided with a crank 15, which is so arranged that when one crank is elevated the other will be depressed. Connected with those cranks and held in place by means of blocks 17, secured to the rails, are two vertical lugs 16 which extend upward alongside of and a short distance above the rail with their upper ends rounded or beveled so that they will be depressed by the wheels of a moving train and then actuate the movable or pivoted rails 3. One of these lugs 16, is connected with one of the siding rails while the other is connected with one of the main rails.

The numeral 18 designates a transversely located bar underneath of the free ends of the pivoted rails and having a crank 19, connected by means of link 20 with the cross head 10. This bar is also provided with ribs 21, which engage underneath the free ends of the pivoted rails and raise them as said bar is actuated.

The numerals 23, 23, denote lugs at each side of the pivoted rails which serve as stops to limit the movement thereof, and at the junction of said rails and the main and siding rails are lugs 24, which serve to hold the pivoted rails against said stops.

Connected with the pivoted rails is a transverse rod 25, which is also connected with the cross head 10 by means of bar or plate 26. One end of this rod is connected with a crank 27, secured to the vertical upright 28, mounted in frame 29, and carrying a target 30, which indicates the position to which the pivoted rails have been turned.

The numeral 31 indicates a projecting spring arm on the hub, which limits the movement thereof by striking against the guides 8.

The operation is as follows. Supposing the rails to be in the position shown in Fig. 2, and a train, which it is desired to shift upon the siding rails approaching from the direction indicated by the arrow, the hub 5 is oscillated by a lever on the locomotive striking one of

the arms 7, which oscillates said hub and actuates the cross head 10, by means of the connecting cables. This will oscillate the bar 18, causing the free ends of the pivoted rails to be raised so as to clear the lug 24, and the
5 said rails to be shifted to the position shown in Fig. 1 by the rod 25, and the bar or plate 26. At the same time the lug in the siding rail will be depressed so as to be out of contact with the wheels of the train. The cars
10 will then pass onto the siding rails as will be obvious. The rod 25 will also actuate the target so that it will show that the switch is open. If a train now approaches from the
15 opposite direction, the wheels of the locomotive will strike the lug 16 on the main rail and cause the pivoted rails to be again shifted to the position shown in Fig. 2, thus avoiding
20 any possibility of derailment by reason of misplaced switches. The pivoted rails can be shifted back to position shown in Fig. 1 by a lever on the last car striking against one of the arms 7 of the hub 5.

From the above it will be seen that the pivoted rails are actuated automatically without
25 any necessity of stopping the cars, which is a great saving in time and labor, besides being much more efficient and safe than the ordinary method of shifting switches by hand.

30 Having thus described my invention, what I claim is—

1. The combination with the main rails, the siding rails and the pivoted rails, of the hub having the outwardly extending arms the
35 ends of which project through slots in the guides secured to the cross ties, the spring arm for limiting the movement of the arms

and hub, the cables connecting the arms with the oscillating cross head, the transverse bar having cranks at each end connected with
40 lugs projecting above the siding and main rails in close proximity thereto, a crank on said bar, connected with the cross head, a rod connected with the free end of the pivoted
45 rails and with a signal target and a bar connecting said rod with the cross head, substantially as described.

2. The combination with the main rails, the switch rails and the pivoted rails, of the hub having the outwardly extending arms, the
50 ends of which project through slots in the guides secured to the cross ties, the spring arm for limiting the movement of said arms and hub, the cables connecting the arms with an oscillating cross head, a transverse bar
55 having cranks at each end connected with lugs projecting above the siding and main rails in close proximity thereto, a crank on said bar connected with the cross head, a transverse bar having ribs and a crank con-
60 nected with the cross head, the lugs at each side of the pivoted rails forming stops therefor and the lugs at the junction of the pivoted and main and siding rails for holding the pivoted rails against said stops, substan-
65 tially as described.

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

RICHARD NASH.

Witnesses:

JAS. G. BOYLE,

LOUIS E. GRIMES.