

No. 877,788.

PATENTED JAN. 28, 1908.

J. B. MAYS.
RAILWAY SWITCH.
APPLICATION FILED AUG. 3, 1907.

2 SHEETS—SHEET 1.

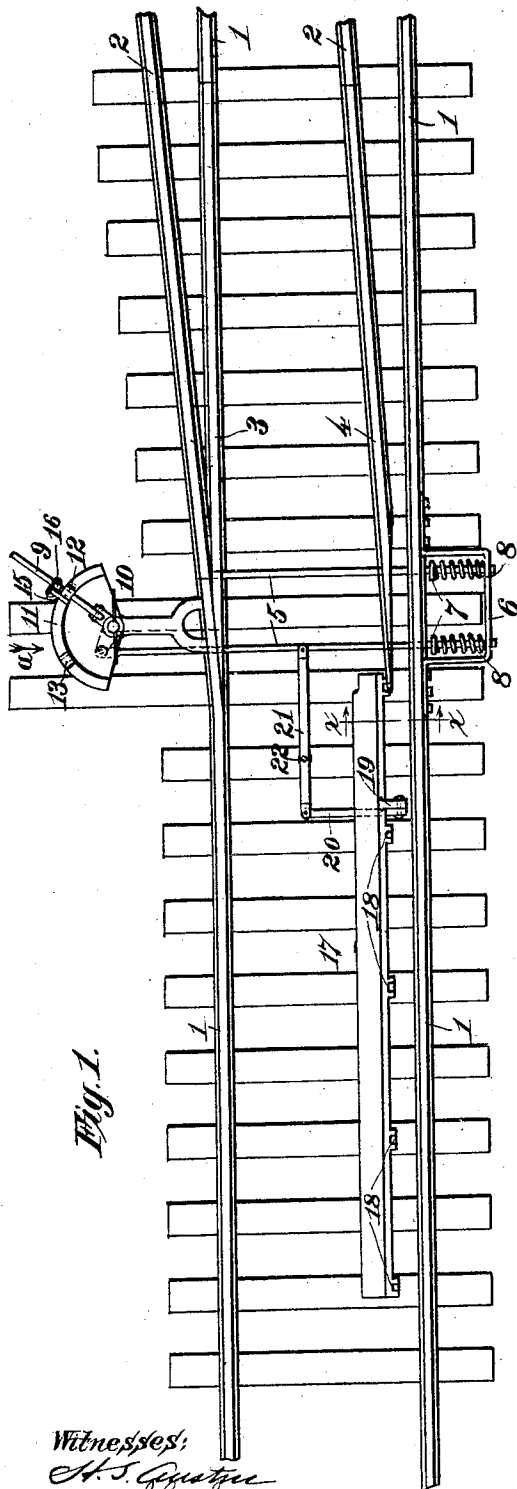


Fig. 1.

Witnesses:
H. S. Quaker
J. E. Sherry

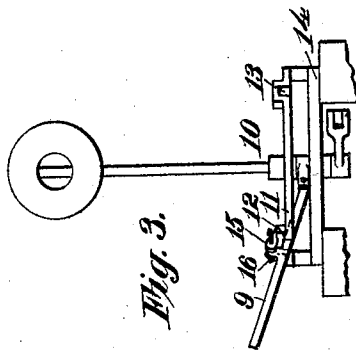


Fig. 3.

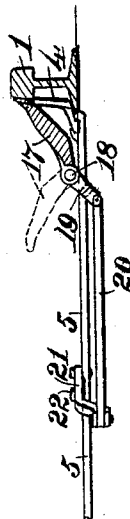


Fig. 2.

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2 SHEETS—SHEET 2.

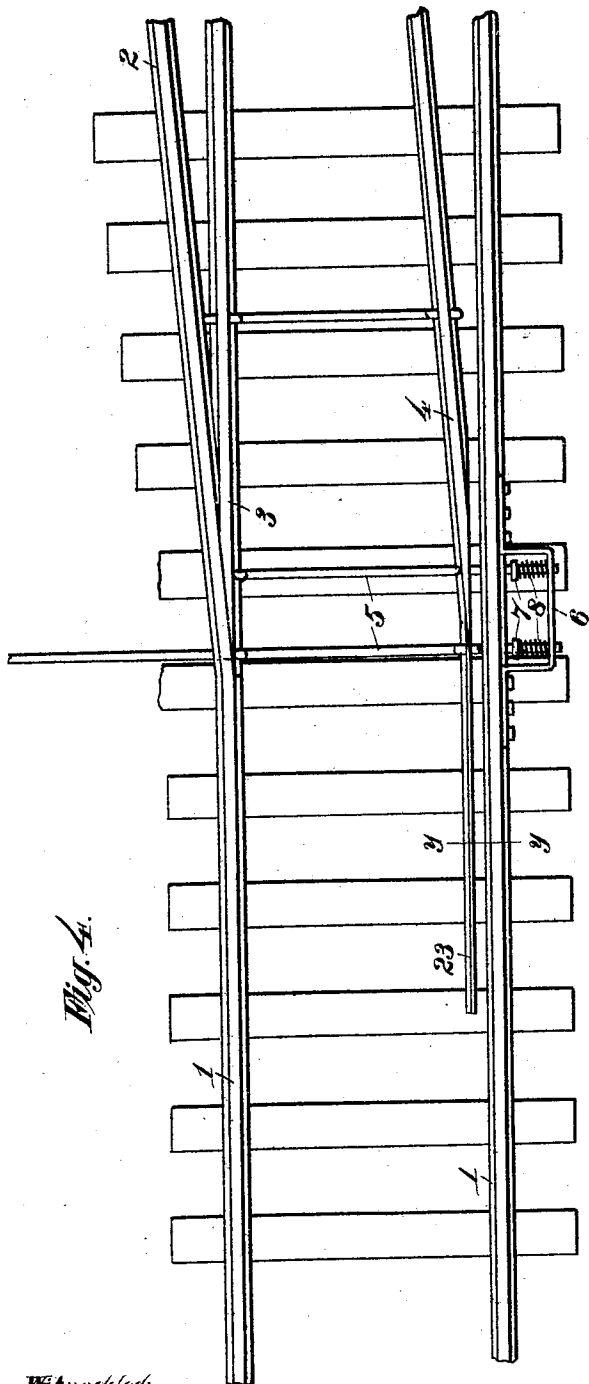


Fig. 4.

Witnesses:

A. S. Austin
F. C. Sheehy

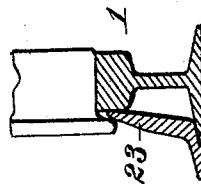


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN B. MAYS, OF CHICAGO, ILLINOIS.

RAILWAY-SWITCH.

No. 877,788.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed August 3, 1907. Serial No. 386,881.

To all whom it may concern:

Be it known that I, JOHN B. MAYS, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to railway switches and has particular reference to that class thereof designated as safety switches.

The object of my invention is to provide a railway switch of such improved construction that it cannot be accidentally left open, but which will normally remain closed.

A further object is to provide a railway switch which will normally remain closed and which is adapted to be manually opened, and which, when opened, will be held open by the train passing onto the switch and which will automatically close as soon as the train is entirely thereon.

A further object is to provide a safety switch as mentioned, which will be opened by the train leaving the siding and will automatically close after the train has passed onto the main track. Other objects will appear hereinafter.

With these objects in view, my invention consists in the switch and its actuating parts all as will be hereinafter fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which,

Figure 1 is a plan view of a safety railway switch embodying my invention in its preferred form, the switch being closed. Fig. 2 is a detail sectional view on the line, $x-x$ of Fig. 1, showing the parts in the positions they assume when the switch is opened. Fig. 3 is an elevation of the switch opening device looking in the direction of the arrow, a . Fig. 4 is a plan view of the switch embodying my invention in a modified form the switch being closed, and Fig. 5 is a detail section upon an enlarged scale on the line, $y-y$ of Fig. 4, showing the parts in the position they assume when the switch is open.

Referring to the drawings, 1—1 indicate the main track rails, 2—2 the siding rails, and 3 and 4, the switch rails; 3 being the switch rail which abuts the siding rail, 2, and 4 the switch rail which abuts the main track rail when the switch is open. The

points of the switch rails, 3 and 4 are connected by the usual rods, 5. These extend beyond the main track rail on the opposite side from the siding, and their ends pass through holes in a yoke, 6 secured to the rail, 1 or the ties adjacent thereto.

7—7 indicate collars on the rods, 5 and between said collars and the yoke are interposed springs, 8—8. It will be seen by reference to Figs. 1 and 4 that the springs, 8 operate to keep the switch normally closed.

To open the switch, I provide the usual hand lever, 9, upon the switch stand, 10 and connect this with one of the switch rods, 5 in the usual manner. Instead of the lever, 9, being raised before operating the switch as is the usual manner, it is depressed, hence, the segment containing the limit notches is arranged above the lever instead of below it. The purpose of this arrangement will appear hereinafter.

11 indicates, the segment and 12, and 13, the notches which the lever, 9 engages when the switch is in closed and open positions respectively. Beneath the lever, 9, is a segmental plate 14.

To operate the switch, that is to open it, the brakeman after unlocking the lever, 9, lowers it and turns it toward the notch, 13, and holds said lever up in engagement with said notch. As soon as the train has passed onto the switch, the brakeman drops the lever, 9, and the springs, 8 automatically operate to close said switch. It is evident therefore, that the switch cannot be accidentally left open for as soon as the brakeman releases the lever, the switch closes.

15 and 16 represent lugs on the segment and lever respectively by which the switch is locked in closed position.

In order to obviate the necessity of having the brakeman hold the switch open while a long train is passing onto or from the siding, I provide means whereby the train after once starting to enter or leave the siding will hold the switch open. In Fig. 1 I have shown one means of accomplishing this end and in Fig. 4 a modified form.

Referring to Fig. 1, 17 indicates a plate or bar hinged as at 18 to the ties. One end of the plate, 17 overlaps the point of the switch rail, 4 and is hinged at a sufficient distance from the rail, 1 to permit ample movement of the switch point. When the switch is open, the plate, 17 is thrown into the position shown in full lines, in Fig. 2, in

which position it rests against the tip of the switch point and the lower portion of the head of the rail, 1. As long as the plate, 17 is in this position, the switch cannot close.

5 The plate extends considerable distance beyond the switch point, that is, a distance greater than the distance between the car trucks. As a train is moving onto the siding, the flanges of the wheels engage the upper edge of the plate, 17 and prevent the same from being displaced until after the last car truck has left the switch. The plate, 17, is operated simultaneously with the switch and is therefore, preferably operated

10 by the lever, 9. To this end, I provide the plate with a depending ear, 19 connected by a rod, 20, to a lever, 21. The lever, 21 is pivoted as at 22, and is connected at its opposite end from the rod, 20, to the rod, 5. In Fig. 4 I have shown a modified form of the device just described. This consists in an extension, 23, formed upon the end of the switch rail, 4. It is evident that this will serve the same purpose as the plate, 17 and requires no

15 separate operating mechanism.

When a train is passing from the siding onto the main track, the flanges on the wheels will operate to open the switch and as soon as the last truck has passed the end

20 of the plate, 17 or extension, 23, the springs, 8 will operate in the usual manner to close the switch.

Having described my invention what I claim as new and desire to secure by Letters

25 Patent is;

1. In a device of the class described, the main rails, siding and switch rails in combination with means for normally holding said switch rails in closed position, a switch rod

30 and lever for opening said switch and a seg-

ment having limiting notches arranged above said lever, said lever being adapted to engage said notches when raised and be disengaged therefrom when lowered, substantially as and for the purpose specified.

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2. In a device of the class described, the main rails, siding and switch rails, in combination with the switch rods connecting said switch rails and having collars arranged thereon, a yoke secured to the rail, and

50 springs arranged upon said switch rods between said yoke and said collars for normally maintaining said switch in closed position and a switch lever connected to one of said switch rods for opening said switch,

55 substantially as described.

3. In a device of the class described, the main rails, siding and switch rails, in combination with the switch rod connecting said switch rails, springs arranged upon said

60 switch rods for normally maintaining said switch in closed position, a switch lever connected to one of said switch rods for operating said switch, a plate hingedly arranged between the rails and adapted in one position to rest against the main rails and the

65 point of the switch when the switch is open, a lever pivoted to one of the ties between the rails and having one end secured to one of the switch rods and the other connected by a

70 link to said plate, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN B. MAYS

Witnesses:

F. E. SHEELEY,
H. F. LILLIS.