

G. W. BOON.
 RAILWAY SWITCH.
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910,352.

Patented Jan. 19, 1909.

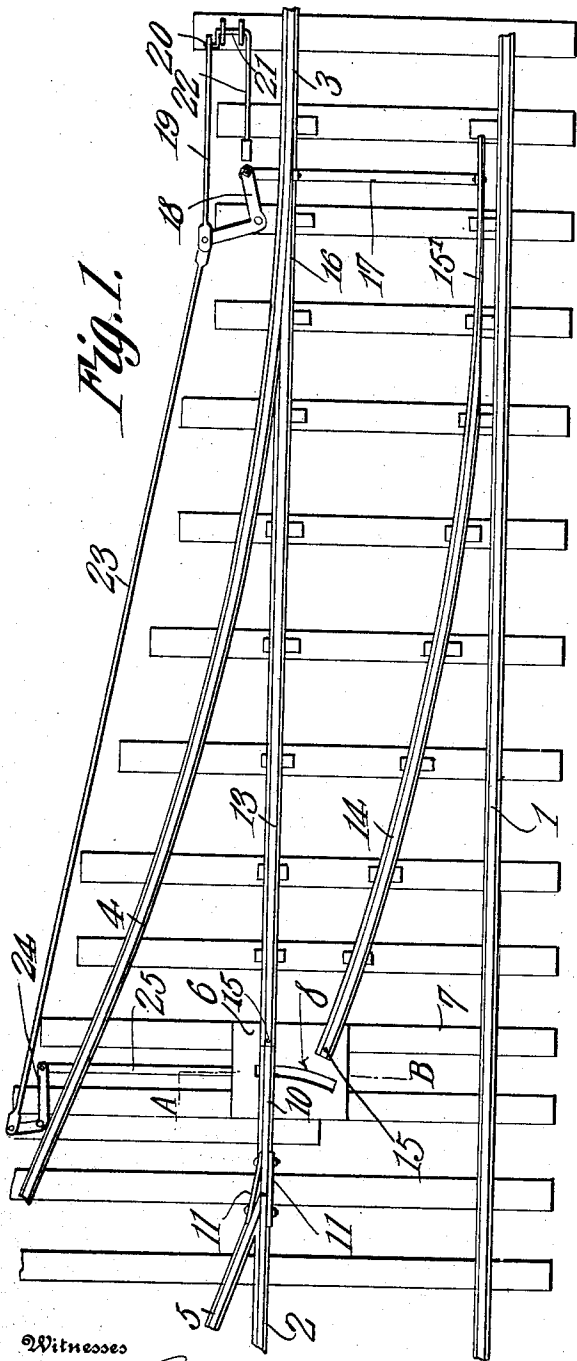


Fig. 1.

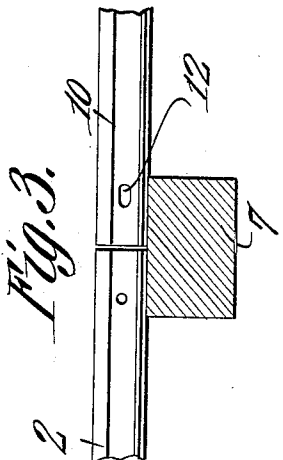


Fig. 3.

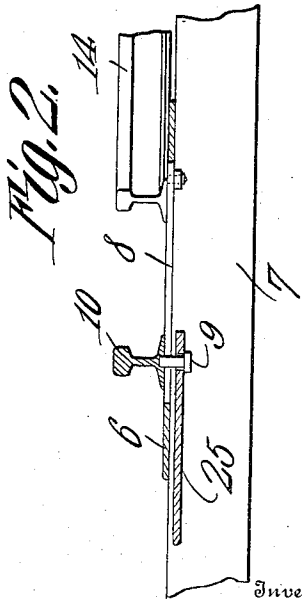


Fig. 2.

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GEORGE WILLIAM BOON, OF KERENS, WEST VIRGINIA.

RAILWAY-SWITCH.

No. 910,352.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. BOON, a citizen of the United States, residing at Kerens, in the county of Randolph and State of West Virginia, have invented a new and useful Railway-Switch, of which the following is a specification.

This invention relates to railway switches and its object is to provide a construction in which frogs such as usually employed are eliminated.

Another object is to provide simple mechanism for shifting the switch rails and the switch tongue utilized.

A further object is to provide a switch utilizing a movable tongue and movable switch rails all of which cooperate to close either the main track or the siding track.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a plan view. Fig. 2 is a section on line A—B, Fig. 1. Fig. 3 is an elevation of the meeting ends of the switch tongue and the adjoining main line rail, the connecting plate being removed.

Referring to the figures by characters of reference, 1, 2 and 3 designate main line rails all of which are immovably fastened in place and the rail 3 merges into a curved siding rail 4 which is also immovably secured in place as is the other or inner siding rail 5 which extends at an acute angle from the end of the inner main line rail 2. A guide plate 6 is secured upon the ties 7 between the rails 1 and 4 and said plate intersects the line occupied by the rails 2 and 3, there being a slot 8 within the guide plate for the reception of a retaining pin 9 extending downward from a tongue 10 which is in the form of a short rail secured to the meeting ends of the rails 2 and 5 by means of plates 11 bolted or otherwise secured to said rails and to opposite faces of the tongues 10. As indicated in Fig. 3 the tongue is preferably provided with a slot 12 so that a sufficient amount of play thereof relative to the rails 2 and 5 and the plates 11 is permitted. Switch rails 13 and 14 are connected at one end to the plate 6 by means of pivot pins 15 the pivot of the rail 13 being disposed in alinement with the rails 2 and 3 while the pivot of the rail 14 is disposed in a

line extending parallel with the rail 4 from the rail 5 to the rail 1. The switch rail 14 is slightly curved from one end so that when its free end, which is reduced in width and tapered as indicated at 15', is shifted against the rail 1 said rail 14 will be parallel with the rail 4. The two rails 13 and 14 of course diverge toward their free ends, said end of the rail 13 being gradually reduced in width as indicated at 16 so as to fit snugly against the merged portions of the rails 3 and 4. These reduced ends 15' and 16 of the rails 14 and 13 are connected by a cross bar 17 which is pivoted to one end of a bell crank lever 18. A rod 19 is pivotally connected to the other end of this lever and to a crank 20 arranged upon the shaft 21 and disposed to be actuated by means of a lever 22. Another rod 23 is pivotally connected to lever 18 and also to one end of a bell crank lever 24 which has a bar 25 attached to it. This bar extends under the plate 6 and is pivotally mounted upon the retaining pin 9 as shown in Fig. 2.

The levers are so proportioned that when lever 22 is swung in one direction the end 16 of rail 13 will be shifted against the rail 3 and into alinement with said rail and the rail 2 while the tongue 10 will at the same time be swung in position between the rails 2 and 13 and into alinement therewith. During this movement of the parts the rail 14 is shifted away from the rail 1. The switch thus becomes closed. To open the switch so as to direct a car onto the siding the foregoing operation of lever 22 is reversed and motion is therefore transmitted through the rods 19 and 23 and the levers 18 and 24 to the bars 17 and 25 so as to shift rail 13 out of contact with the rail 3 and to move the end 15 of rail 14 into contact with the rail 1. At the same time the tongue 10 will be shifted between and into alinement with the rails 5 and 14.

It will be seen that with this arrangement of parts it becomes unnecessary to utilize frogs such as ordinarily employed and not only is the mechanism extremely simple and durable in construction but it practically eliminates all danger of derailment at the switch.

What is claimed is:

1. In a railway switch the combination with main line rails and siding rails, one of the siding rails merging into one of the main line rails and all of said rails being immovably mounted; of a tongue extending beyond

the meeting ends of the inner main line and siding rails and mounted to swing relatively thereto; switch rails pivotally mounted between the rails of the main line and siding and adjacent the path of the tongue, and means for simultaneously shifting the tongue and switch rails to position the tongue against the pivot end of one of the rails to open or close the siding.

2. In a railway switch the combination with main line and siding rails, one of the siding rails merging into a main line rail and the inner or adjoining main line and siding rails meeting at an acute angle; of a tongue extending beyond and pivotally connected to said inner rails, said tongue being shiftable into alinement with either of said inner rails, switch rails pivotally mounted between the main line and siding rails and close to the path of the free end of the tongue, and means for simultaneously shifting the tongue and the switch rails to open or close the switch, said tongue being movable against the pivoted end of either switch rail.

3. In a railway switch the combination with main line and siding rails, the inner or adjoining rails of the main line and siding being brought together at an acute angle; of switch rails pivotally mounted between the main line and siding rails and adjacent said angle, means for shifting the switch rails to open or close the siding, a tongue pivotally connected to and extending beyond the inner rails of the main line and siding, and means for shifting the said tongue into alinement with and against either switch rail during the movement of said switch rails.

4. A railway switch comprising main line and siding rails, the inner or adjoining rails of said main line and siding being disposed together at an acute angle to each other, a guide member secured between the main line and siding rails, a tongue movably connected

to the inner rails of the main line and siding and movable upon said guide member, switch rails pivotally mounted upon the guide member, and means for simultaneously shifting the switch rails and tongue to open or close the siding.

5. A railway switch comprising main line and siding rails immovably mounted, the inner or adjoining main line and siding rails being brought together at an acute angle, a slotted guide plate, a tongue extending beyond and movably connected to the meeting ends of the inner rails, said tongue bearing upon the guide plate, retaining means upon the tongue and movably mounted within the plate, switch rails pivotally mounted upon said plate, and means for simultaneously shifting the rails and tongue to position the tongue in alinement with either switch rail to open or close the siding.

6. A railway switch comprising main line and siding rails, the inner or adjoining rails of the main line and siding being brought together at an acute angle, a tongue movably connected to and extending beyond the meeting ends of the inner rail, a slotted guide plate therefor, retaining means upon the tongue and mounted to travel within the slot, switch rails pivotally mounted upon the plate, the respective rails being shiftable against the rails of the main line, and means for simultaneously shifting the switch rails and the tongue to position the tongue in alinement with either switch rail to open or close the siding.

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

GEORGE WILLIAM BOON.

Witnesses:

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