(No Model.)

H. C. BENAGH.

RAILWAY SWITCH.

No. 519,298. Patented May 1, 1894.

Fig. 1.

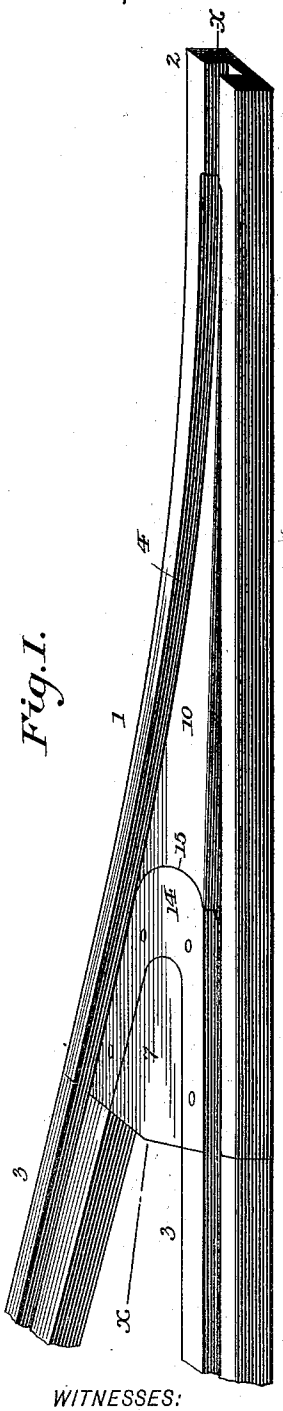


Fig. 2.

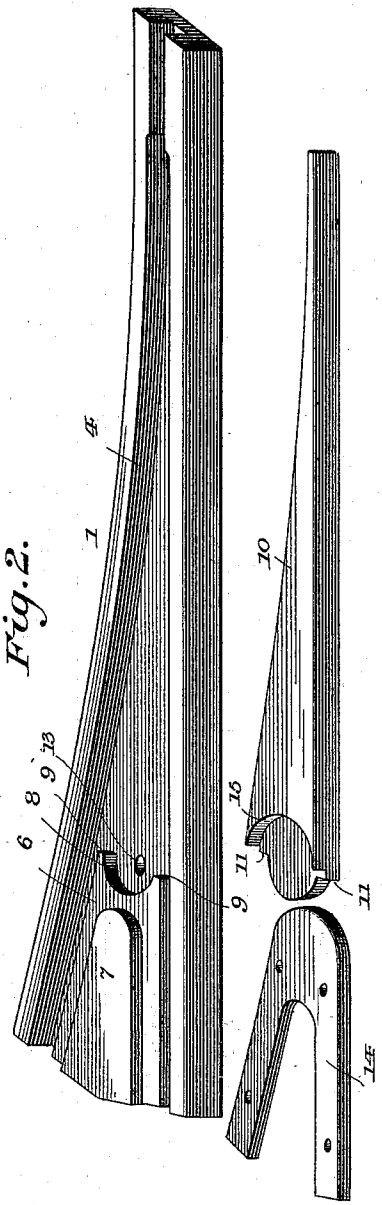
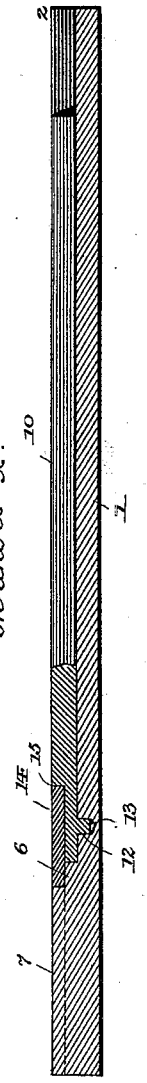


Fig. 3.
on line x-x.



WITNESSES:

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HENRY C. BENAGH, OF NASHVILLE, TENNESSEE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE JOHNSON COMPANY, OF JOHNSTOWN, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 519,298, dated May 1, 1894.

Application filed May 26, 1893. Serial No. 475,546. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. BENAGH, of Nashville, county of Davidson, and State of Tennessee, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

My invention relates to railway switches, and is applicable more particularly to street railway switches. In switches of this character as heretofore constructed it has been the custom to pivot the tongue to the switch block by means of a removable bolt or pin extending through the tongue into the block, and as a result of this arrangement great trouble and annoyance have been caused by reason of the bolt wearing and the parts becoming loose. As a consequence the passage of the forward trucks of the car has frequently displaced the tongue and the rear trucks being guided thereby to the wrong track, the cars are derailed.

The present invention is designed to overcome this objectionable action of the tongue, and it consists in providing the tongue at its head end with a boss or projection adapted to fit in a socket formed in the block, the tongue being held down by an overlying plate as more fully described hereinafter.

The invention also consists in the details of construction and combination of parts hereinafter described and claimed.

Referring to the drawings, Figure 1, is a perspective view of my improved switch. Fig. 2, is a perspective view of the parts of the switch separated. Fig. 3, is a longitudinal section on the line *x*—*x* of Fig. 1.

In the accompanying drawings, 1 represents a switch block which consists of a single casting, forming as usual the connection between the main rail 2, and the branch rails 3. This block is provided with the usual groove or recess 4, for the switch tongue extending from the point of the block and widening gradually to its head end, where the branch rails join the same. At its head end the block is formed with a shoulder 6, the sides of which extend parallel with the sides of the recess, forming in connection therewith the grooves of the branch rails 3 before referred to. The shoulder has its upper side formed with a central triangular elevated portion 7, having its edges extending parallel with the edges of the shoulder a slight distance inward from the same, the arrangement being such that a continuous flat marginal surface is left surrounding the triangular portion, the purpose of which will presently appear. At its inner end the shoulder is formed with a semicircular recess 8, terminating a slight distance at its ends from the sides of the shoulder, thus leaving two flat vertical faces 9. The recess is adapted to receive the head end of the switch tongue 10, which is formed to fit therein, and provided at opposite sides with flat vertical faces 11, arranged to abut against the faces 9 on the shoulder and operating in connection therewith to limit positively the movement of the tongue as it is swung from side to side. At its under side adjacent to the head end, the tongue is provided with a downwardly extending boss 12, adapted to enter a socket 13, in the switch block, the boss forming a pivot on which the tongue moves. The tongue is held in place and the boss prevented from escaping from the socket by means of a V-shaped steel plate 14, which is applied to the flat marginal surface on the upper side of the shoulder surrounding the central triangular portion 7, and secured by bolts or otherwise. At its inner end the plate extends beyond the end of the shoulder over the head end of the tongue, and is formed to fit within a recess having its edge 15 curved inward as shown, this construction admitting of a free lateral movement of the tongue on the boss as a pivot. It will be noted that the switch block is cast complete in one piece with the shoulder recessed at its end to receive the tongue, and with a socket for the boss on the tongue, and that in assembling the parts, it is but necessary to fit the tongue in place and apply the V-shaped confining plate. It will be further noted that there will be little or no liability of the parts becoming loose, owing to the effectual manner of confining the tongue by the overlying plate there being no removable bolts, a pivot being formed by a boss integral with the tongue.

It will be understood of course that various changes in the details of the device may be adopted without departing from the limits of my invention, provided the operation of the

device and the functions of the parts are substantially as indicated above.

Having thus described my invention, what I claim is—

1. In a railway tongue switch, a movable tongue having its pivotal pin rigidly secured thereto and having a recess or offset in one end to engage a holding-down plate.

2. In a railway tongue switch, a movable tongue having its pivotal pin rigidly secured thereto and an extending portion thinner than the body of the tongue, said portion being adapted to extend under a plate secured to the frame of the switch.

3. In a railway tongue switch in combination with the main frame of the switch, a movable tongue having a horizontal recess and adapted to swing on a vertical pivot rigidly secured to said tongue, a removable plate adapted to engage said recess and means as a bolt for tightening down the tongue by means of the plate.

4. In a railway tongue switch of the character described, in combination with the body of the switch having a vertical socket, a pivoted tongue the pivot pin of which is rigidly secured to said tongue and adapted to turn in said socket, and a holding-down plate adapted to overlap a portion of the tongue and hold it in place, said plate being secured to the body of the switch.

5. In a switch the combination of a switch block provided with a socket, and with a shoulder having a semi-circular recess, a switch tongue having its end formed to fit the recess and provided with a boss to enter the socket, and a plate applied to the upper side of the shoulder and having its end extended beyond the end of the same over the tongue and serving to hold the same in place.

6. In a switch the combination of a switch block provided with a socket, and with a shoulder having its end recessed, a switch tongue having its end formed to enter the recess provided with a depending boss to enter the socket and having its upper side cut away to form a shoulder, and a plate applied to the first named shoulder, the end of said plate extending beyond the shoulder in the cut away portion of the tongue.

In testimony whereof I hereunto set my hand, this 19th day of April, 1893, in the presence of two attesting witnesses.

HENRY C. BENAGH.

Witnesses:
WM. CONNETTE,
M. M. BREW.