

(No Model.)

W. RAYMOND.
RAILWAY SWITCH.

No. 532,817.

Patented Jan. 22, 1895.

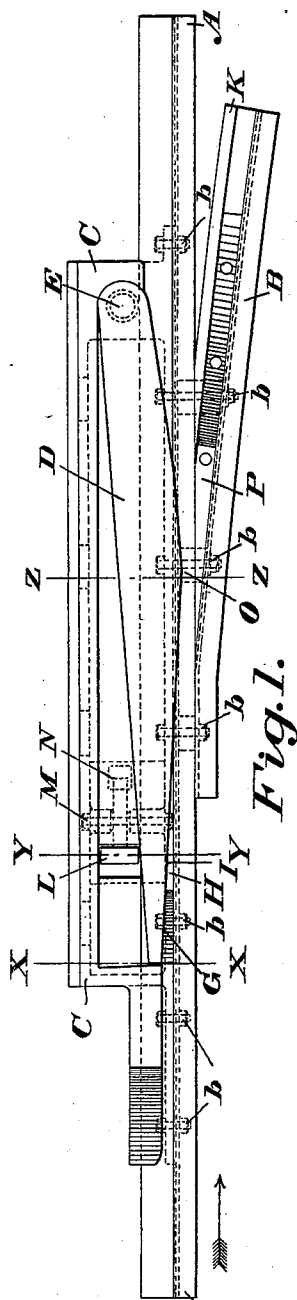


Fig. 1.

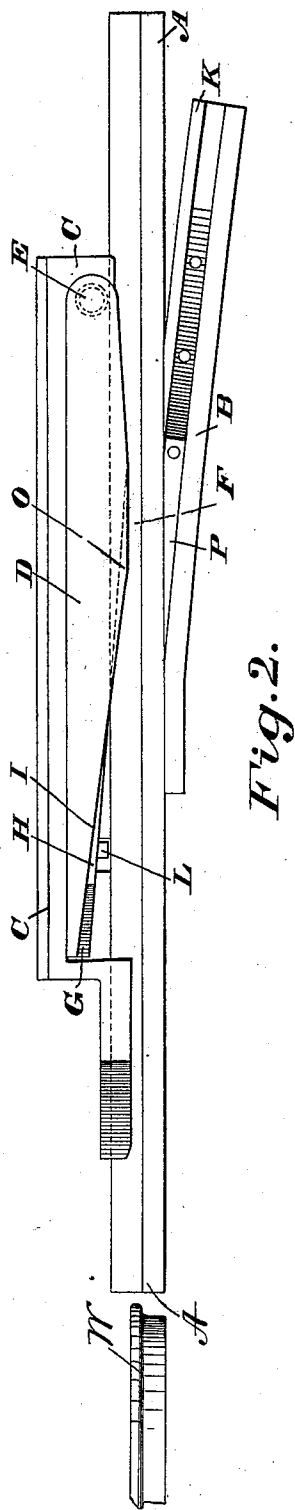


Fig. 2.

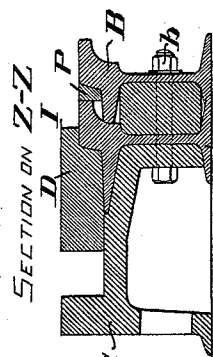


Fig. 3.

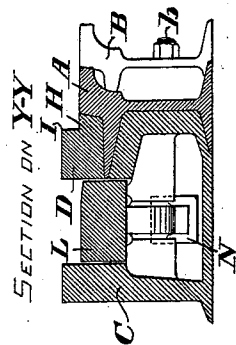


Fig. 4.

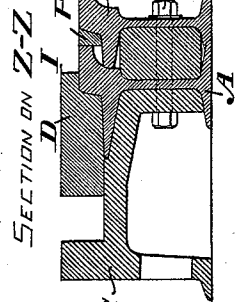


Fig. 5.

WITNESSES:

H. E. Ford
E. M. Coleman

INVENTOR

Ward Raymond

UNITED STATES PATENT OFFICE.

WARD RAYMOND, OF JOHNSTOWN, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 532,817, dated January 22, 1895.

Application filed March 23, 1894. Serial No. 504,891 (No model.)

To all whom it may concern:

Be it known that I, WARD RAYMOND, a citizen of the United States, residing at Johnstown, county of Cambria, State of Pennsylvania, have invented a new and useful Improvement in Railway-Switches, of which the following specification is a true and exact description, due reference being had to the accompanying drawings.

My invention relates to that class of switches in which the head of the straight or through rail is preserved unbroken, or, as it is called, an unbroken main line switch. Switches of this type are desirable where the branching-off track is but seldom used or as a safety derailling switch, which, being always set to throw a car from the main track onto the siding, must be opened each time a car is to pass. These are often used where a street-car track crosses a steam railroad, thus compelling the street-car operator to precede his car across the steam track to open the switch and allow the car to cross the steam track. In fact, they are applicable to any place where the majority of travel is upon the straight track.

The object of my invention is to provide a switch in which the through rail is preserved intact, and one by which the car wheel may be lifted and deflected across the main rail with as little jolt as possible.

Referring to the drawings: Figure 1 represents a top view of a switch embodying my invention, and in which the switch tongue is set to deflect the car upon the curve track. Fig. 2 is a top view of the same switch, but showing the tongue thrown to permit the car wheel W to travel upon the through track. Fig. 3 is a transverse section on line X—X Fig. 1. Fig. 4 is a section on line Y—Y and Fig. 5 a section on line Z—Z of Fig. 1.

A represents the through, straight or main rail which is here shown as a side-bearing girder rail; but any other type of rail may be used without departing from my invention.

B is the branching-off or curve rail of the side track.

C is a casting, shaped to fit against the rail on the gage side, and forming with the rail a pocket to contain the tongue D pivoted at E. When this tongue D is not in use it lies back in the pocket, as shown in Fig. 2. This al-

lows the wheel uninterrupted travel on the rail A, there being sufficient room at F between the head of the rail and the tongue to allow the flange to pass. This tongue D is constructed in a peculiar manner, which I will now describe. The point end has an incline G adjacent to the gage line of the rail and rising to a level with the top of the rail. Beyond this incline is the part H level with the top of the rail head and forming a continuation of the surface thereof. The tongue adjacent to these surfaces G and H rises to a height above the level of the rail head and thereby forms a guard as I. This guard is so curved as to form substantially a continuation of the guard K of rail B, and it overlaps the head of rail A as shown in Fig. 5. To hold the tongue in position against rail A I have provided the chock L, which is pivoted at M and counterweighted by weight N. This chock prevents the tongue being thrown back into the pocket by the car. When it is desired to open the switch the chock M is pushed below the level of the bottom of the tongue and the tongue readily passes over it.

The action of the switch is this: When, as a car passes in the direction of the arrow in Fig. 1, the wheel reaches the point $x-x$, the flange rises upon the incline G until it reaches the surface H level with rail head A, the guard I meanwhile engages it and deflects it from the straight line across the head of rail A. Before it has reached the end O of guard I the opposite wheel has passed the point of the mate and the pair of wheels is guided by it into the curve track, of which B is one rail. P is a floor plate for gradually lowering the wheel down upon rail B. Thus it will be seen that the function of the tongue D is to raise the wheel flange to a level with the head of A by the incline G and then to deflect it over upon the rail by means of guard I. In this manner I provide a switch in which the main line rail is intact and which will deflect a car into the curve track with the minimum jolt as I only raise the car wheel the height necessary for it to pass over the head of rail A.

This switch is adapted for use in a temporary track as it can quickly be attached to the rail without injuring the latter. In cases where a temporary siding is needed when re-

pairing track, or to cross from one track to another, it can be so arranged as to be quickly attached to the rail and ready for use.

Instead of the through rail A, siding rail B and frame C, a casting might be provided combining the three without departing from my invention; and where I speak of unbroken main rail I refer only to the head or surface upon which the car wheel usually bears, as it is obvious that in the case of a groove rail it would be necessary to remove a portion of the groove or guard to form a pocket for the tongue. Therefore, if it is desirable to remove any portion of the rail, save the top surface of the head, as the tram, web or lower flanges in the construction of the switch, it may be done without departing from my invention.

Having thus fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a railway tongue switch in combination with an unbroken main rail, a siding rail secured to the outside of the main rail, a frame secured to the inside of the main rail said

frame forming with the rail a pocket and a tongue pivoted in said pocket whereby a car wheel may be deflected across the main rail onto the siding rail.

2. In a railway tongue switch, in combination with an unbroken through rail head and a branching-off rail head, a pocket adjacent to the gage line side of the through rail head and adapted to contain a tongue, and a tongue moving in said pocket, whereby a car wheel may be deflected from the main track to the side track.

3. In an unbroken main line railway tongue switch, a tongue pivoted adjacent to the gage line of the main rail and adapted to lie there-against and a pocket in which said tongue is pivoted.

In testimony whereof I have affixed my signature in presence of two witnesses.

WARD RAYMOND.

Witnesses:

WM. A. DONALDSON,
HAMILTON E. FORD.