

No. 894,553.

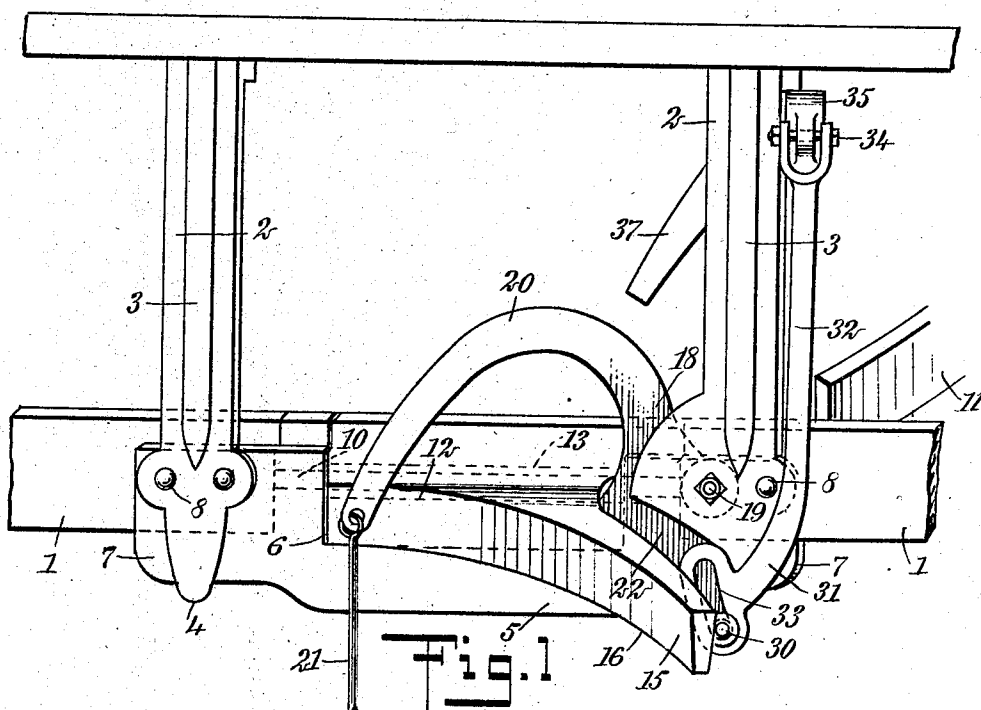
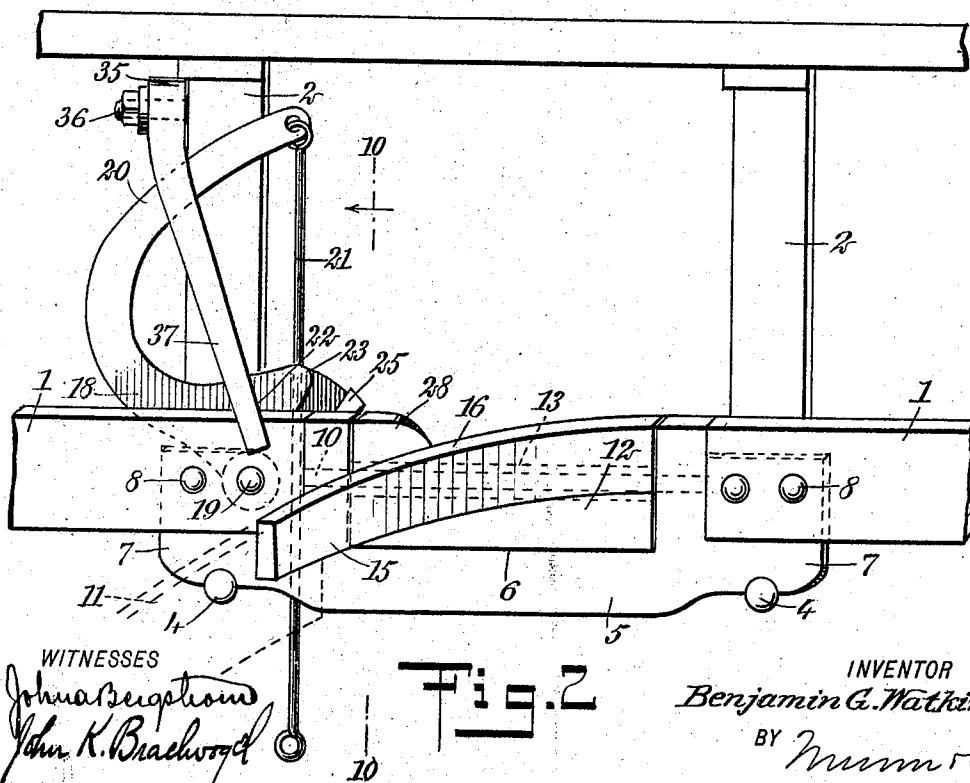
PATENTED JULY 28, 1908.

B. G. WATKINS.

SWITCH.

APPLICATION FILED AUG. 12, 1907.

3 SHEETS—SHEET 1.



WITNESSES
John A. Sargent
John K. Brachvogel

Fig. 2

INVENTOR
Benjamin G. Watkins
BY *Mum & Co*
ATTORNEYS

No. 894,553.

PATENTED JULY 28, 1908.

B. G. WATKINS.
SWITCH.

APPLICATION FILED AUG. 12, 1907.

3 SHEETS—SHEET 2.

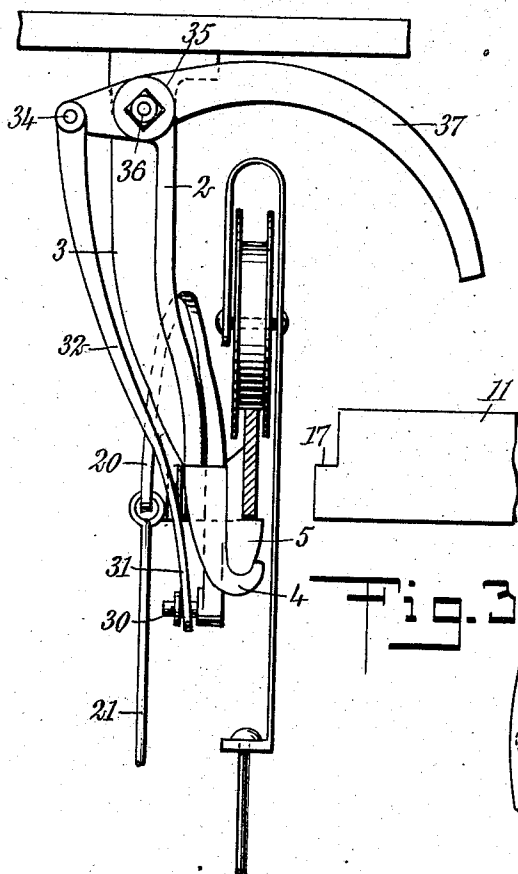


Fig. 3

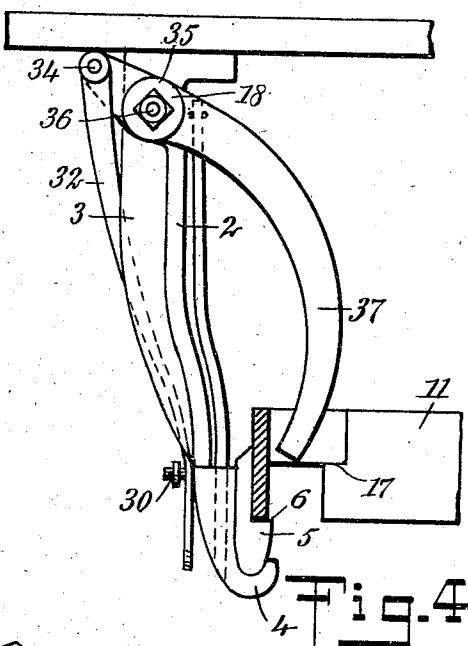


Fig. 4

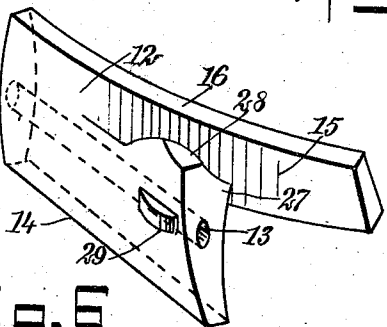


Fig. 6

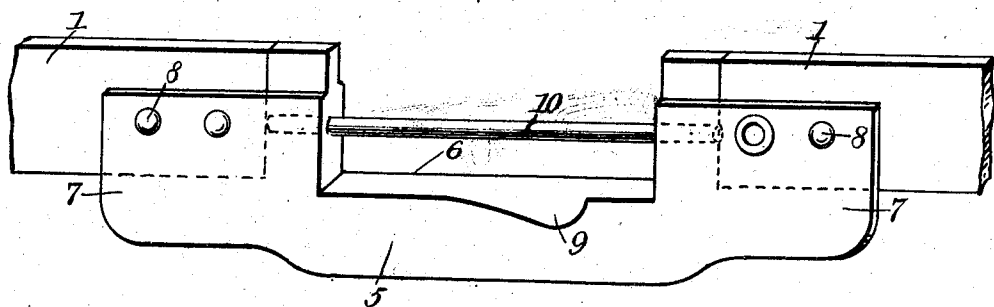


Fig. 5

WITNESSES

John A. Serpentine
John K. Braehvogel

INVENTOR

Benjamin G. Watkins

BY *Mum & Co*
ATTORNEYS

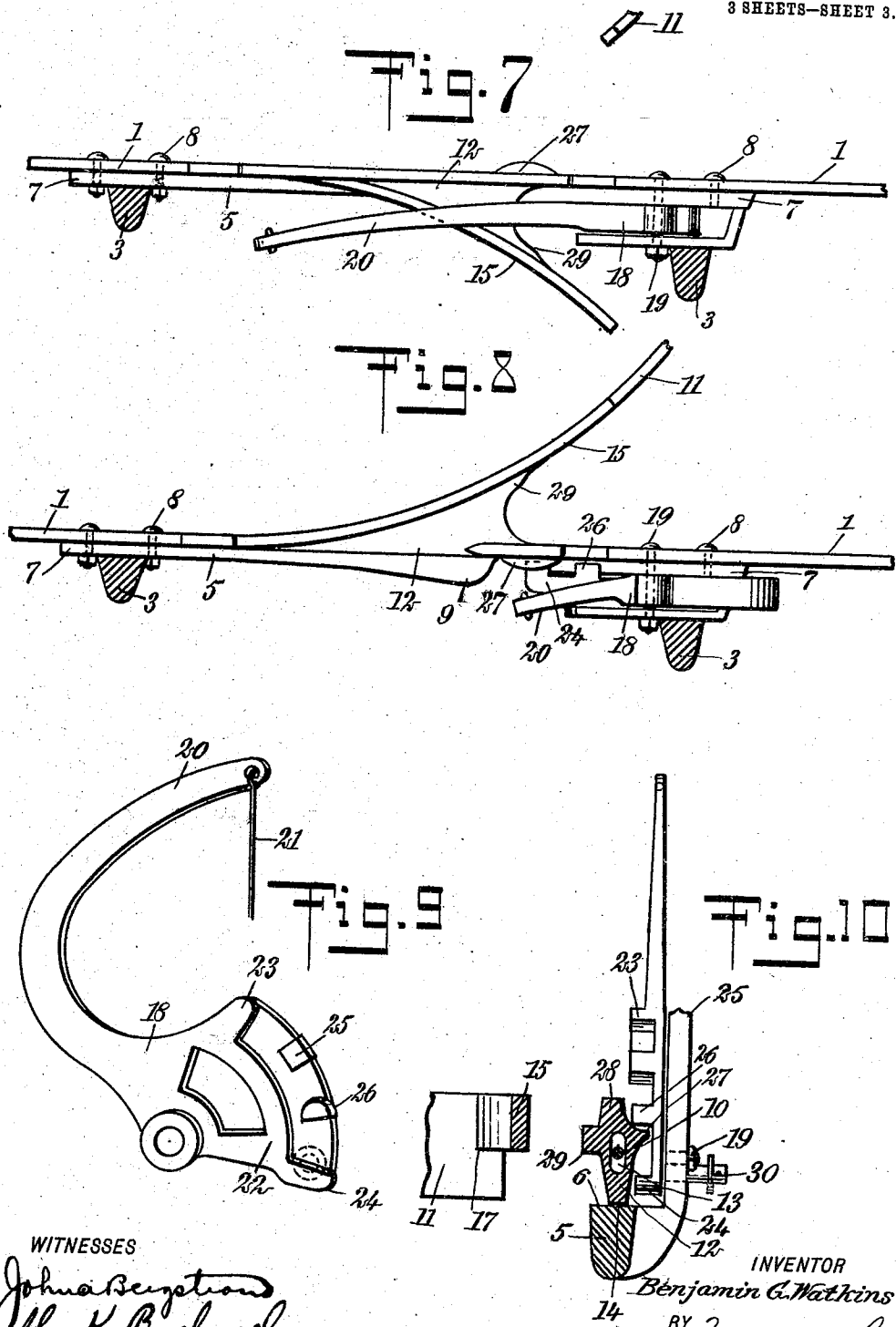
No. 894,553.

PATENTED JULY 28, 1908.

B. G. WATKINS.
SWITCH.

APPLICATION FILED AUG. 12, 1907.

3 SHEETS—SHEET 3.



WITNESSES

John Bergstrom
John K. Crachvogel

INVENTOR

Benjamin C. Watkins

BY *Mum & Co*

ATTORNEYS

UNITED STATES PATENT OFFICE.

BENJAMIN G. WATKINS, OF NEHAWKA, NEBRASKA, ASSIGNOR OF ONE-THIRD TO JULIAN A. POLLARD, SR., AND ONE-THIRD TO JULIAN A. POLLARD, JR., OF NEHAWKA, NEBRASKA.

SWITCH.

No. 894,553.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed August 12, 1907. Serial No. 388,174.

To all whom it may concern:

Be it known that I, BENJAMIN G. WATKINS, a citizen of the United States, and a resident of Nehawka, in the county of Cass and State of Nebraska, have invented a new and Improved Switch, of which the following is a full, clear, and exact description.

This invention relates to switches and is particularly useful in connection with overhead or suspended track rails.

An object of the invention is to provide a simple, strong and durable switch for overhead, single track, tram or railway systems such as are used in storage-warehouses, packing houses and the like, by means of which a car can be easily and smoothly guided from one track to another.

A further object of the invention is to provide a device of the class described, for guiding a car from one track to another which is provided with a guard serving as a stop, to prevent the passing of a car beyond a certain point of the track when the switch is open with respect to that track.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which

Figure 1 is a perspective view of my switch; Fig. 2 is a similar view, showing certain parts in different positions; Fig. 3 is a transverse section of the switch, showing a car-wheel passing over the same; Fig. 4 is a transverse section showing parts in different positions from those shown in Fig. 3; Fig. 5 is a perspective view of a part of the device; Fig. 6 is a perspective view of the movable switch member or point; Fig. 7 is a plan view of the switch showing parts in transverse section; Fig. 8 is a similar view to that shown in Fig. 7, with parts of the switch in different positions; Fig. 9 is a perspective view of an operating member by means of which the switch is controlled; and Fig. 10 is a transverse section on the line 10—10 of Fig. 2, showing parts broken away.

Before proceeding to a more detailed explanation of my invention it should be under-

stood that the device is particularly useful in connection with overhead tracks for tramways or carriers such as are used in storage-warehouses, manufactories, and the like, though it can be advantageously used upon railways for passenger or other purposes, which are carried upon overhead tracks.

In carrier systems of the overhead type, single track rails are usually employed, upon which the wheels of the suspended cars travel. The latter are hung upon the wheels in any suitable manner and the rails are carried by hangers secured to suitable supports. In my switch, I employ a switch frame presenting a gap. The ends of adjacent main track rails are located near the opposite ends of the gap. A movable switch member is pivotally mounted in the gap and provides means for so bridging the gap that the car can travel uninterruptedly along the main track and across the gap formed in the main track by the switch frame. At the same time the movable switch member or point has a laterally disposed portion which is adapted in a certain position of the movable member to guide a car from the main track to an adjacent branch track. When the switch is closed with respect to the main track, that is when the arrangement is such that a car can travel uninterruptedly along the main track, a guard controllable simultaneously with the switch member extends over the adjacent branch track and acts as a stop for a car traveling along the branch track toward the switch. In this way, when the switch is open with respect to the branch track, a car cannot pass from the latter to the main track, and thereby the danger of an accident due to the running of the car into the open switch is obviated.

Referring more particularly to the drawings, I provide main track rails 1, which may be of any suitable form. Preferably, the main track rails are formed by elongated plates arranged in substantially vertical planes to permit the wheels of the cars to roll upon the flat upper edges. The rails are supported by suitable hangers which depend from the roof of the building or are mounted upon suitable supports. The hangers 2 may be of preferred or common form, and, as shown in the accompanying drawings, have longitudinal strengthening webs 3, and at the

lower ends, laterally disposed rail supports 4 which engage at the under edges of the rails or other track bars, to support the same. I employ a switch frame 5 centrally recessed to form a gap 6. The switch frame 5 has at the ends, extensions 7 at which are mounted the extremities of adjacent main track rails 1 by means of rivets 8, or in any other suitable manner. The gap 6 has the lower edge formed into a seat 9, and is provided with a transverse shaft 10, for a purpose which will appear hereinafter. Adjacent to the switch frame 5 is located the end of a branch track rail 11 which is preferably of similar construction to the main track rails.

A movable switch member 12 is arranged within the gap 6 by means of a laterally extended longitudinal opening 13 therethrough which receives the shaft 10. By means of the shaft 10 the switch member is revolvably arranged within the gap and serves to project over the same when in one position. The arrangement is such that in one position of the switch member a longitudinal edge 14 of the same extends across the gap with the upper edges of the switch frame and the adjacent main track rails thereby presenting an uninterrupted surface for the passage of the car-wheels across the switch. The switch member 12 has a curved laterally disposed extension 15 presenting a longitudinal edge 16 which is flush with the upper edges of the main track rails in a certain position of the switch member. At the same time, in this position of the switch member the extension 15 joins the branch track rail with one of the main track rails, permitting the uninterrupted passage of a car from the branch track to the main track and vice versa. The adjacent extremity of the branch track is cut away to form a shoulder 17 which engages the extension 15 and constitutes a support therefor. It will be understood that the pivoted switch member can be rotated freely upon the shaft 10 and that when the edge 14 is in an inoperative position the edge 16 is operative, and vice versa.

A switch lever 18 is pivoted by means of a suitable bearing bolt 19 at a rail hanger 2 adjacent to the switch frame, and has an arm 20 provided with a controlling rod 21 by means of which the lever can be operated. The lever 18 has an extended portion 22 presenting shoulders 23 and 24 at the sides thereof, respectively, and intermediate of the shoulders, projections 25 and 26. The arrangement of the parts is such that the lever 18 is in operative engagement with the pivoted switch member, and serves to control the same. When the switch is open with respect to the main track as shown in Fig. 2, a projection 27 of the switch member 12 is arranged to go between the adjacent shoulder 24 and projection 26 of the lever 18, and is held against accidental movement

thereby. When it is desired to close the switch with respect to the main track, the arm 20 of the lever 18 is depressed by means of the rod 21, whereby the extended portion 22 is swung downwardly, the projections 26 and 25 and the shoulder 23 of the lever, successively engaging the projection 27, a shoulder 28 and a second projection 29 of the switch member 12. The projection 29 is located at the opposite side of the switch member to the projection 27 of the shoulder 28, intermediate of the projections 27 and 29. By this operative arrangement of the lever with the switch member the latter is reversed pivotally about the shaft 10 and the switch is thereby closed with respect to the main track, the extension 15 being located in an operative position to connect the main track and the branch track. In this position the switch member is held against accidental movement by the projection 25 and the shoulder 23 of the lever which are arranged at opposite sides of the projection 29 of the switch member.

The lever 18 has a pin extension 30 which operatively engages the slotted end 31 of a link 32. The end of the link 32 opposite to the slot 33 is bifurcated and is pivoted by means of a bolt 34 to the end of a swinging guard 35. The guard 35 is pivotally mounted by means of a bolt 36 upon a hanger adjacent to the switch and has an arm 37 adapted to be extended across the branch track to serve as a stop for cars traveling thereupon, when the switch is open with respect to the branch track. It will be understood that the guard is controllable simultaneously with the switch member and the arrangement of the parts is such that when the switch is open with respect to the branch track the guard is in an operative position. In this position, the wheels of the cars traveling along the main track can pass underneath the guard arm 37. When the switch is open with respect to the main track, the guard is disposed in an inoperative position and permits the movement of cars from the branch track to the main track. The link which connects the lever 18 and the guard 35 is so mounted to the same by means of its slotted and bifurcated ends that the parts have a certain amount of play which permits easy and accurate adjustment.

The longitudinal opening 13 of the pivoted switch member 12 is substantially oval in cross-section and does not fit snugly upon the shaft 10; this construction permits a certain necessary play of the switch member whereby is avoided binding of the parts in the operation of the switch.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A switch, comprising a main track section presenting a gap, a branch track section,

a movable member arranged in said gap and adapted to close the same and to connect the main track and the branch track in different positions respectively, an operating member pivotally mounted adjacent to said frame and controlling said member, guard means for blocking the branch track, and a link operatively connecting said guard means and said operating member.

2. A switch, comprising a main track section having a gap, a branch track section, a member pivotally mounted in said gap and formed to close said gap when in a predetermined position, said pivoted member having a lateral extension adapted to connect one of the main track rails and the branch track rail when said member is in a second predetermined position, a pivoted operating member having projections, said member having a plurality of projections adapted to be successively engaged by said projections of said operating member when the latter is actuated, whereby said first member is swung about its pivot.

3. A switch, comprising a frame presenting a gap and adapted to be located at a point of the main track, a movable member pivoted in said gap and adapted to close the same and to connect the main track and a branch track, in different positions respectively, an operating member pivotally mounted adjacent to said frame and controlling said pivoted member, a movable guard adapted to be projected over the branch track, and a link operatively connecting said guard and said operating member.

4. A switch, comprising a frame presenting a gap and adapted to have main track rails arranged at the opposite ends thereof, a pivoted member mounted in said gap and adapted to close the same, said pivoted member having a lateral extension adapted to be arranged adjacent to a branch track rail, an operating member pivotally mounted adjacent to said frame, a movable guard adapted to be projected over the branch track rail, and a link operatively connecting said guard and said operating member.

5. A switch, comprising a switch frame having a gap, a pivoted member arranged within said gap and adapted to close the same, said pivoted member having a laterally disposed extension, a pivoted operating member, a movable guard, and a link operatively connecting said guard and said operating member, said operating member having a projection adapted to engage said pivoted member, said switch frame being adapted to be arranged at a main track adjacent to a branch track.

6. A switch, comprising a frame adapted to be mounted at the ends of separated main track rails adjacent to a branch track rail, said frame having a gap and a shaft in said gap, a member pivotally mounted upon said

shaft and formed to close said gap when in a predetermined position, said pivoted member having a lateral extension adapted to connect one of the main track rails and the branch track rail when said member is in another position, and a pivoted operating member having a plurality of projections arranged successively to engage said first member when said operating member is actuated whereby said first member is swung about said shaft, one of said projections serving to hold said first member in position.

7. A switch, comprising a frame adapted to be mounted at the ends of separated main track rails adjacent to a branch track rail, said frame having a gap and a shaft in said gap, a member pivotally mounted upon said shaft and formed to close said gap when in a predetermined position, said pivoted member having a lateral extension adapted to connect one of the main track rails and the branch track rail when said member is in another position, a pivoted operating member having a plurality of projections arranged successively to engage said first member when said operating member is actuated whereby said first member is swung about said shaft, one of said projections serving to hold said first member in position, a guard movably mounted and adapted to be projected over the branch track rail, and a link operatively connecting said guard and said operating member.

8. A switch, comprising a frame adapted to be mounted at the ends of separated main track rails adjacent to a branch track rail, said frame having a gap and a shaft in said gap, a member pivotally mounted upon said shaft and formed to close said gap when in a predetermined position, said pivoted member having a lateral extension adapted to connect one of the main track rails and the branch track rail when said member is in another position, a pivoted operating member having projections, said first member having a plurality of projections adapted to be successively engaged by corresponding projections of said operating member when the latter is actuated, whereby said first member is swung about said shaft.

9. A switch, comprising a frame adapted to be mounted at the ends of separated main track rails adjacent to a branch track rail, said frame having a gap and a shaft in said gap, a member pivotally mounted upon said shaft and formed to close said gap when in a predetermined position, said pivoted member having a lateral extension adapted to connect one of the main track rails and the branch track rail when said member is in another position, a pivoted operating member having a plurality of projections, said first member having a plurality of projections adapted to be successively engaged by said projections of said operating member when the latter is actuated, whereby said first mem-

ber is swung about said shaft, a projection
of said operating member serving to hold said
first member in position, a pivoted guard hav-
ing an arm adapted to be projected over the
5 branch track rail, and a link pivoted to said
guard, said link having a slotted end opera-
tively engaging said operating member.

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

BENJAMIN G. WATKINS.

Witnesses:

JAMES M. PALMER,
DAVID C. WEST.