

No. 754,127.

PATENTED MAR. 8, 1904.

W. L. CLARK.
SWITCH FOR OVERHEAD TROLLEY TRACKS.

APPLICATION FILED DEC. 24, 1903.

NO MODEL.

Fig. 1.

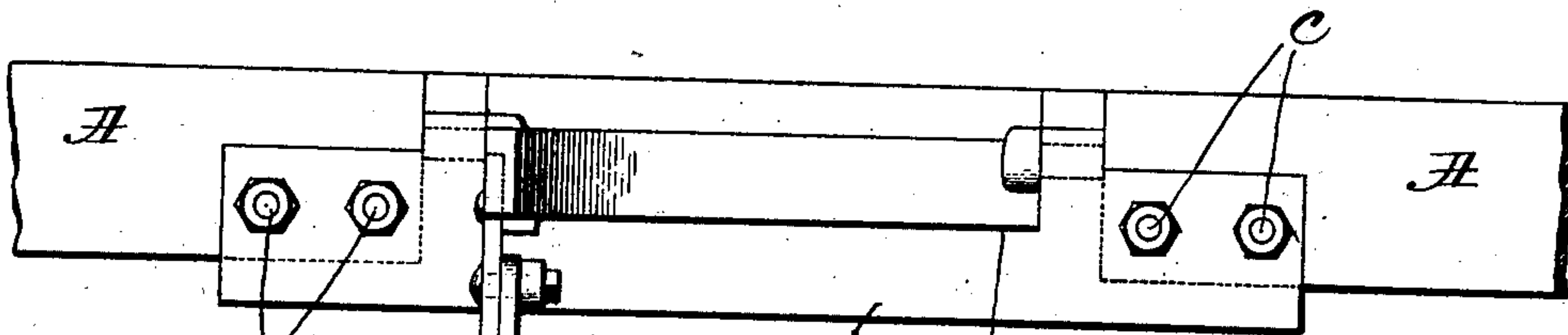


Fig. 2.

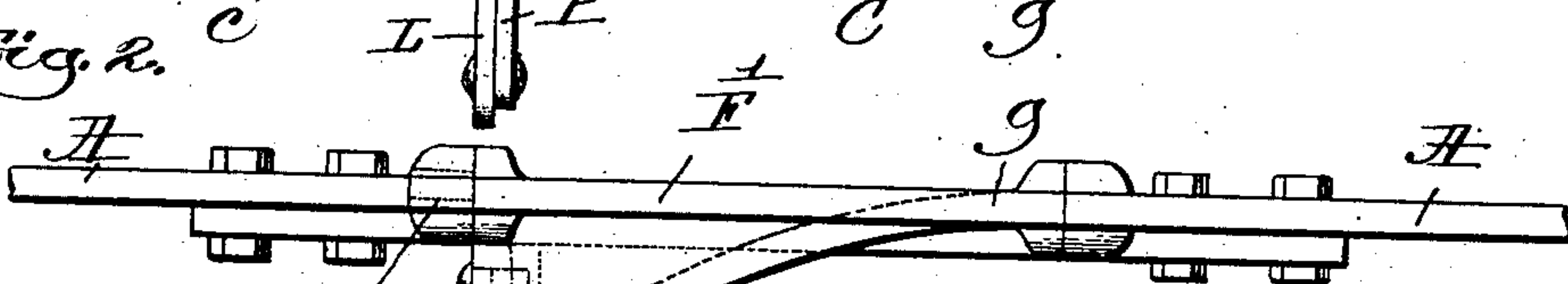
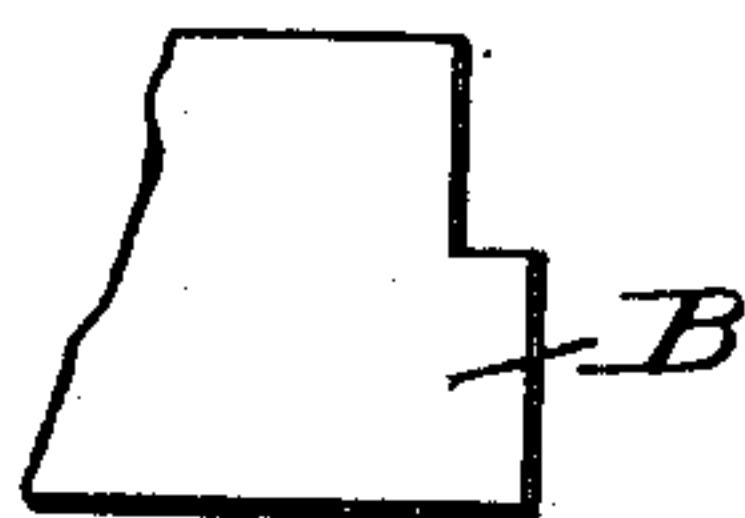


Fig. 6.



B

Fig. 3.

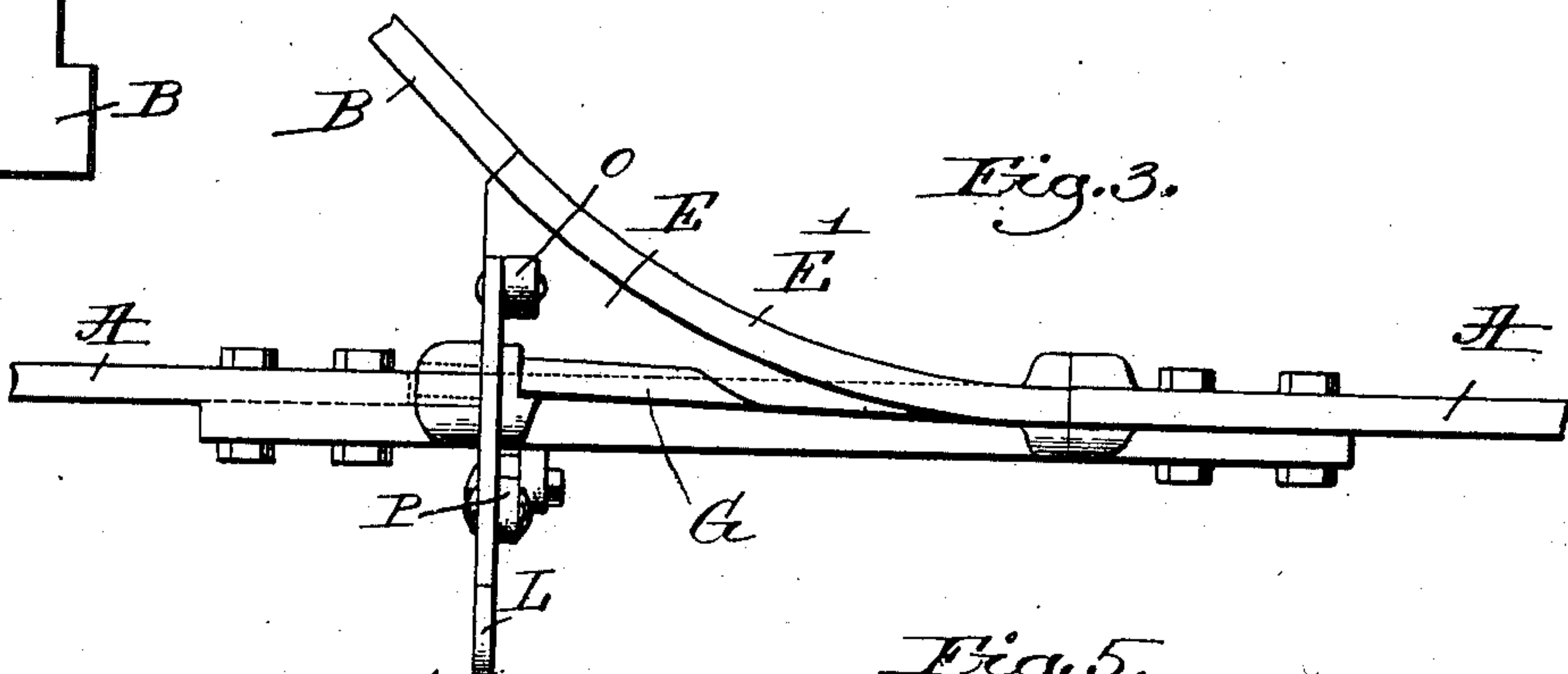


Fig. 4.

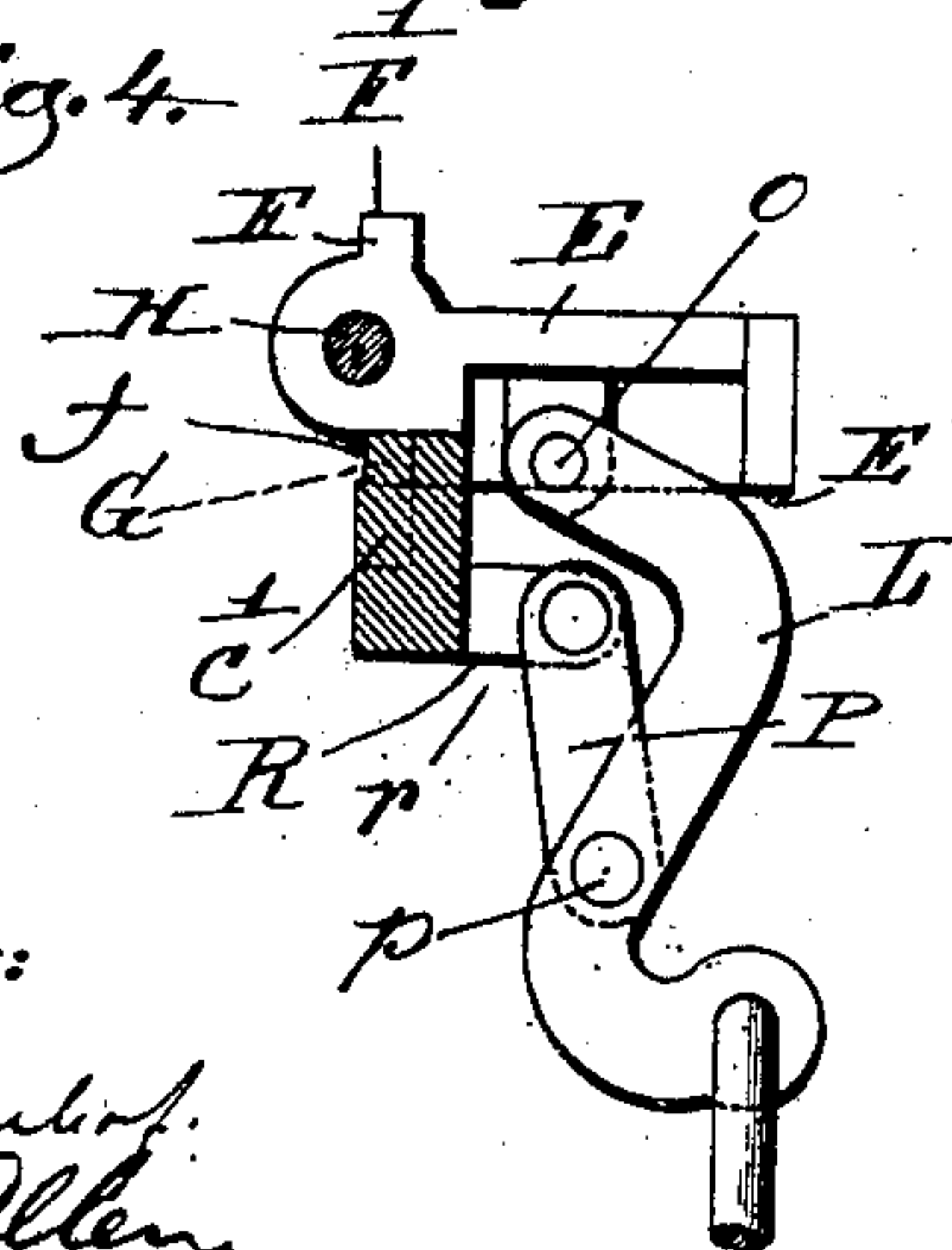
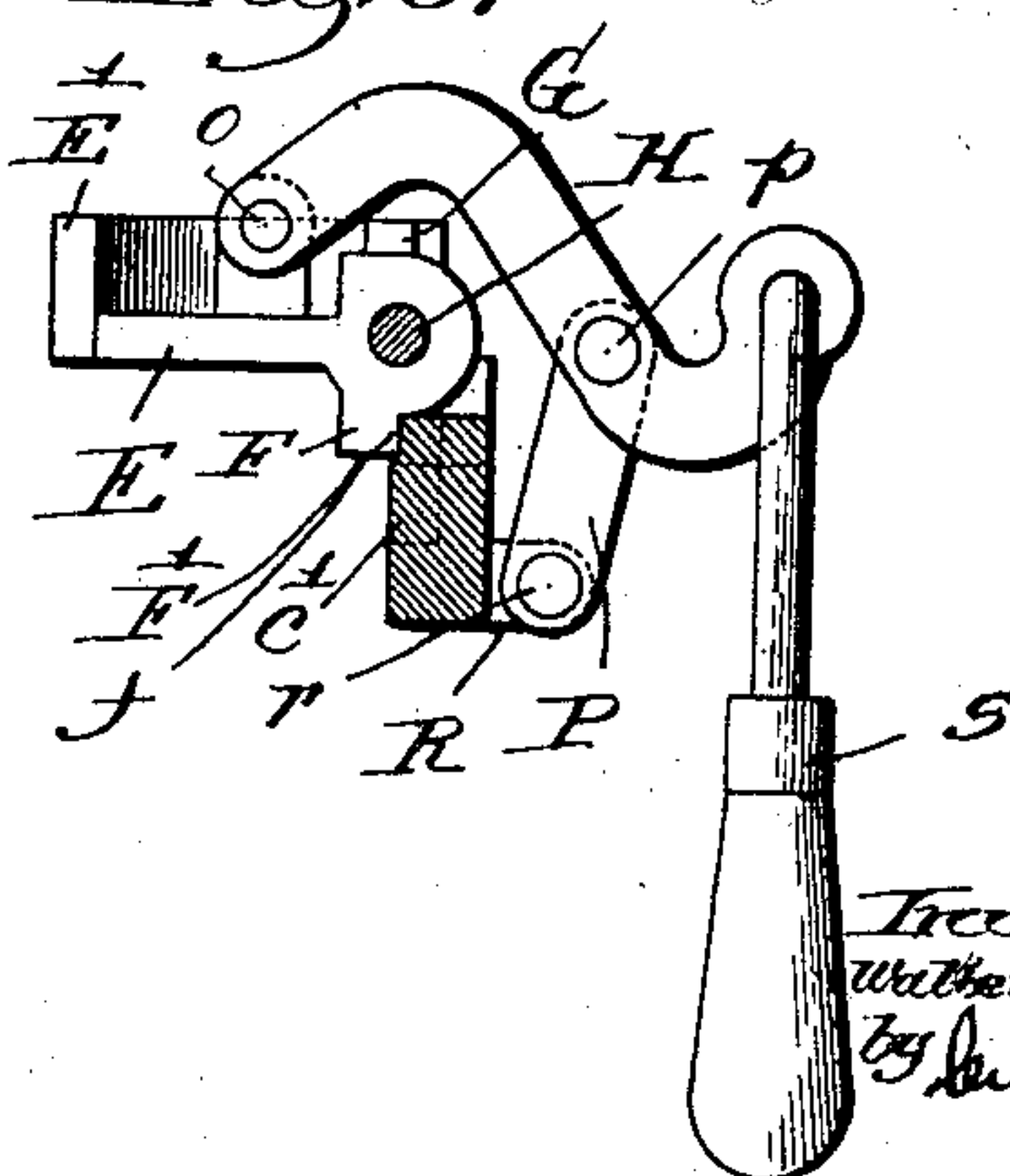


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SWITCH FOR OVERHEAD TROLLEY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 754,127, dated March 8, 1904.

Application filed December 24, 1903. Serial No. 186,454. (No model.)

To all whom it may concern:

Be it known that I, WALTER L. CLARK, a citizen of the United States, residing at Everett, county of Middlesex, State of Massachusetts, have invented an Improvement in Switches for Overhead Trolley-Tracks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to improvements in switches for overhead tracks used in slaughter and packing houses and various other places where articles, such as sides and quarters of beeves, are moved while suspended on trolley-wheels traveling over said overhead tracks. Switches of this character are necessary at various points to allow the trolley-wheels to pass from one track to another, and they constitute the points of the track system requiring especial attention.

The object of this invention is to provide a switch which shall be simple in its construction, containing as few parts as possible, of a small cost of manufacture, and yet which shall be strong and certain in its action.

The invention is described in the following specification and is more particularly pointed out in the claims.

Figure 1 is a side elevation of the end portions of a piece of track with the switch of this invention in place between the same. Fig. 2 is a top plan view of the construction shown in Fig. 1, the switch being shown in such position as to produce a continuous straight track. Fig. 3 is a view similar to Fig. 2, showing in addition the end of a branch track and a switch in position to connect the branch track with the main track. Fig. 4 is a side elevation, partially in cross-section, of the construction shown in Fig. 2. Fig. 5 is a side elevation, partially in cross-section, of the construction shown in Fig. 3. Fig. 6 is a detail of the end of the branch rail-section.

It is to be understood that the rails of an overhead-track system intersect or branch off in various directions and with various degrees of curvature, according to the particular situation; but for convenience of illustration I have shown the switch of this invention in

one of the many forms which it is capable of taking in accordance with the arrangement of the tracks. The switch is shown designed to connect a straight or, as I shall term it, "main" track with a curved or, as I shall term it, "branch" track running off to one side of the main track. The ends of the main track are shown at A A, and the end of the branch track is shown at B. These overhead tracks are supported in some suitable way, as by hangers from the ceiling, and their construction is not otherwise concerned with this invention.

The switch is composed of but three elements: first, the switch-bracket C; second, the switch-frame D, which is mounted upon the bracket, and, third, the means for operating the switch-frame from one position to the other.

The switch-bracket C is adapted to be bolted or otherwise rigidly fastened to connect the ends of an otherwise continuous track. In the drawings I have shown the main track A as having a piece entirely removed therefrom, so as to produce a gap and form end sections on the main track A A, and the switch-bracket C is shown as bolted in position by bolts *c* to the end sections A A on the main rail. It is obvious, however, that the main rail A need not be entirely severed, for it would be sufficient to have a recess cut out of the upper portion of the rail A sufficient to allow of the operation of the switch-frame therein, leaving the lower portion of the rail A continuous. This would require a continuation of the recesses shown in dotted lines at *c'* throughout the length of the switch-bracket. In either event the junction between the rail-sections A A is effected with sufficient strength to answer all the requirements of the service. The use of a switch-bracket of this character obviates the necessity of hangers for connection with the ceiling and allows the switch to be inserted at any desired point in the system of trackage, all that is required being to cut out or sever the track and bolt in position the switch-bracket.

The switch-frame D is journaled on horizontal bearings or bearings in the plane in which the main and branch tracks lie. The switch-bracket consists of what may be termed

two "switch-sections" E and F, each of which carries a "switch-rail" E' F', respectively. As shown, the switch-rail E' when in position connects the main track A with the branch track B, and the switch-rail F' when in position connects the sections of the main rail A to form one continuous track. The essential feature of the switch-frame, which comprises the two switch-sections carrying the switch-rails, is that it consists of a single piece, so formed either structurally or preferably integrally in one casting. It will thus be seen that the switch-bracket and the switch-frame are each composed of a single piece, thus producing a construction of great strength, simplicity, and ease of operation. When the switch is in position to form the continuous main track, as shown in Fig. 2, the rail E' in its reversed position rests upon the bracket C at one end, as shown at *g*, and a projection G is provided on the switch-frame, which rests upon the bracket C at the opposite end, whereby there is a firm support of the switch-rail F' throughout a substantial portion of its length. When the switch is in position to form a continuous track with the branch rail B, as shown in Fig. 3, where the curved rail-section E' connects the branch rail B with one end of the main rail A, then the rail-section F' in its reversed position rests upon the switch-bracket C, serving to support the switch-frame in its new position. The switch-bracket is also provided at the end adjacent the branch track B with a projection or stop *f*, against which the end of the rail-section F' bears and which serves to hold the switch-frame in position. The branch track B also may be cut out, as shown in Fig. 6, to allow the end of the switch-section E to rest therein.

The means for operating the switch-frame to turn it from one position to another about its bearings H consists simply of a lever L, pivoted at *o* to a lug O, structurally or integrally formed on the switch-section E on the same side as the switch-rail E' and fulcrumed at *p* on a link P, which link is pivoted at its opposite end to a lug R, structurally or integrally formed on the switch-bracket. A handle or similar device S is attached to the opposite end of the lever L. The lever L is so curved as to allow it to pass over the main rail and bearings when the switch-frame is in position to connect with the branch track, as shown in Fig. 5. It will thus be seen that the switch is readily turned from one position to the other by simply pulling or pushing upon the handle S, thus affording a very simple and sure way of operating the switch.

While I have used the term "main" track to refer to the straight track and the term "branch" track to refer to the curved branching track, it is obvious that according to the style of switch and the location of the tracks these terms are more or less interchangeable, since they are entirely relative. For the pur-

poses of the claims I consider the main rail as the one to which the switch-bracket is fastened.

In order to further insure the switch-frame from turning while in the position to form the continuous main track, as shown in Fig. 2, as an additional precaution the bearings or journals of the switch-frame may diverge slightly from parallelism with the main track, as shown in Fig. 2, so that the journal H will lie on the same side of the main track as the trolley-wheel. It will thus be seen that the weight hanging from the trolley on the track F' would have to be lifted up and over the journal H in order to tip or swing the switch-frame. The switch-frame may be absolutely prevented from turning when in the position shown in Fig. 2 to form the continuous main rail by arranging the pivotal point *o* of the lever L and the pivotal points of the link P so that when the switch is in this position these three pivotal points shall be either in line or so arranged that the pivot *r* of the link shall be on the same side of a line drawn through the other two pivots, as is the lever L. It will thus be seen that any force, such as the swinging of the trolley-hanger, which would tend to rotate the switch-frame would exert a pull directly in line with the three pivots. By this means the switch-frame may be locked in position against accidental turning.

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

1. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper aligned position with the main or branch rail.

2. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper aligned position with the main or branch rail.

3. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, two switch-sections each provided

with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle and a connection between said handle and switch-frame passing up, over and down around the journals of the switch-frame.

4. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle and a connection between said handle and switch-frame passing up, over and down around the journals of the switch-frame.

5. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle and a connection between said handle and the branch switch-section passing up, over and down around the journals of the switch-frame when said switch-section is in operative position.

6. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle and a connection between said handle and the branch switch-section passing up, over and down around the journals of the switch-frame when said switch-section is in operative position.

7. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached

to a main rail opposite a cut-out portion of said rail, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle, a bent lever connecting said handle and the branch switch-section, said lever being fulcrumed on a link pivoted to the switch-bracket.

8. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle, a bent lever connecting said handle and the branch switch-section, said lever being fulcrumed on a link pivoted to the switch-bracket.

9. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, a main and a branch switch-section each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch track, a stop on said switch-bracket against which the main switch-section bears to maintain the branch switch-section in position.

10. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, one of said journals being located on the same side of the center of the main rail as the trolley-hanger passes, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail.

11. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to

serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, the line of said journals diverging toward the same side of the main rail as the trolley-hanger passes, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail.

12. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle, a bent lever connecting said handle and the branch switch-section, said lever being fulcrumed on a link pivoted to the switch-bracket, the pivotal points of the link and the lever being in line when the switch-frame is in position to form a continuous main track.

13. A switch for trolley-tracks comprising a switch-bracket adapted to be rigidly attached to a main rail opposite a cut-out portion of said rail and having a portion thereof projecting into said cut-out portion of the main rail to serve as a support for the switch-sections in their different positions, two switch-sections each provided with switch-rails and structurally or integrally combined to form a single-piece switch-frame, said switch-frame being journaled horizontally in said switch-bracket, means for operating said switch-frame to bring either of the switch-rails into its proper alined position with the main or branch rail, comprising a handle, a bent lever connecting said handle and the branch switch-section, said lever being fulcrumed on a link pivoted to the switch-bracket, the pivotal points of the link and the lever being in line when the switch-frame is in position to form a continuous main track.

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

WALTER L. CLARK.

Witnesses:

NATHAN HEARD,
MABEL PARTELOW.