

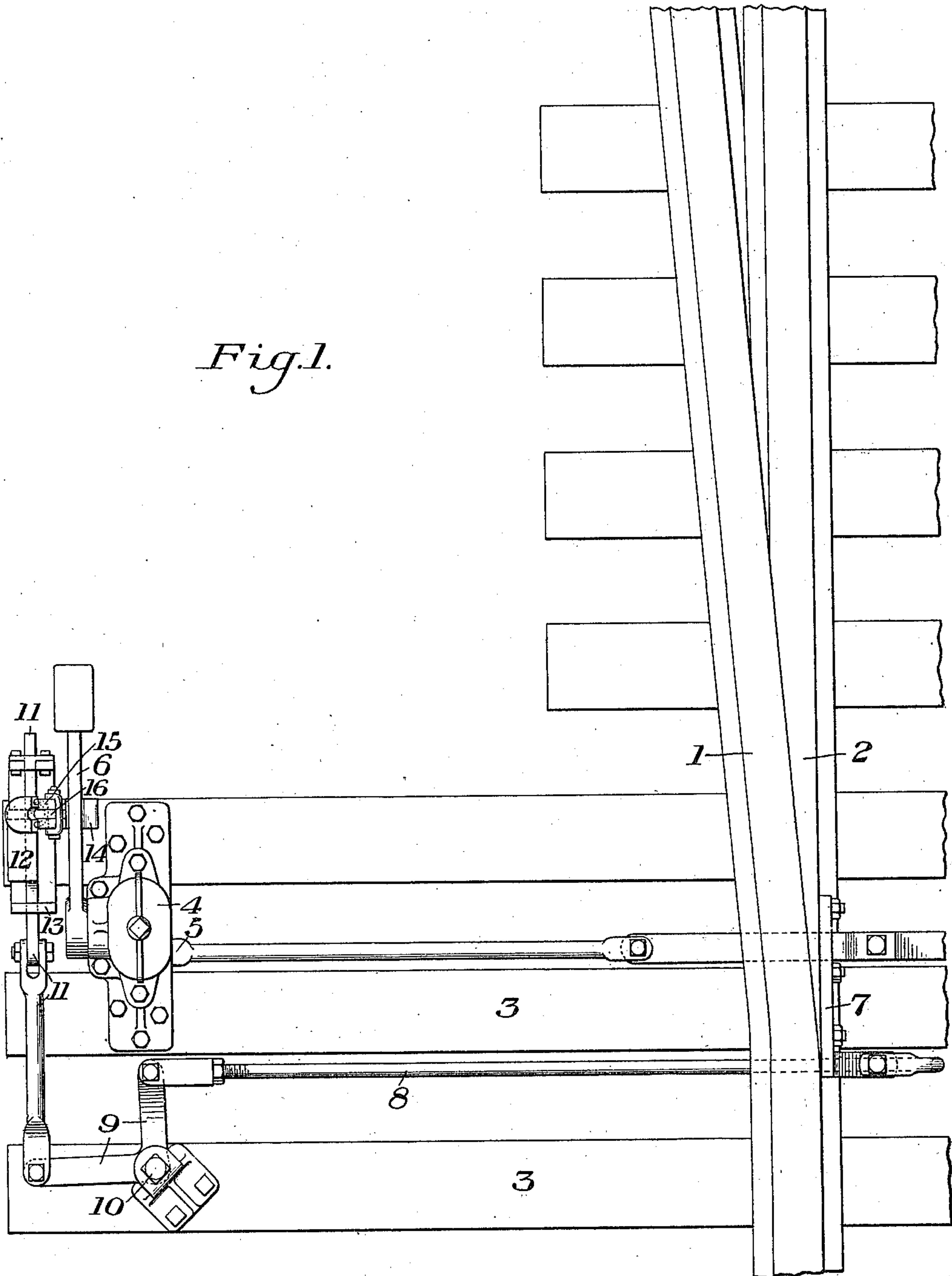
976,082.

C. P. KNOX.  
RAILROAD SWITCH LOCK.  
APPLICATION FILED MAR. 3, 1909.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

*Fig. 1.*



WITNESSES

*R. A. Balderson*  
*G. L. Winters*

INVENTOR

*C. P. Knox,*  
*by Baker, Byrnes & Carmichael,*  
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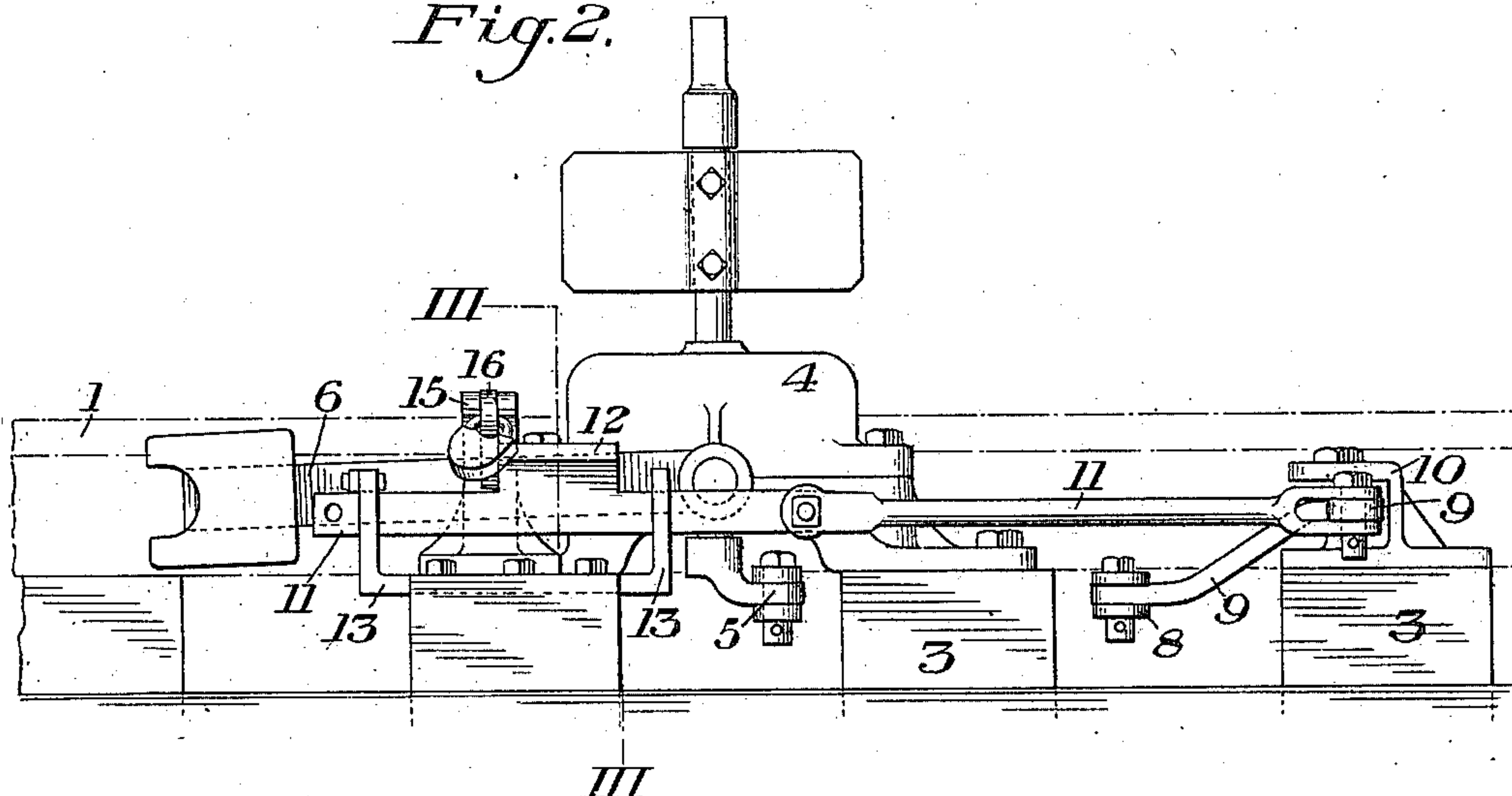
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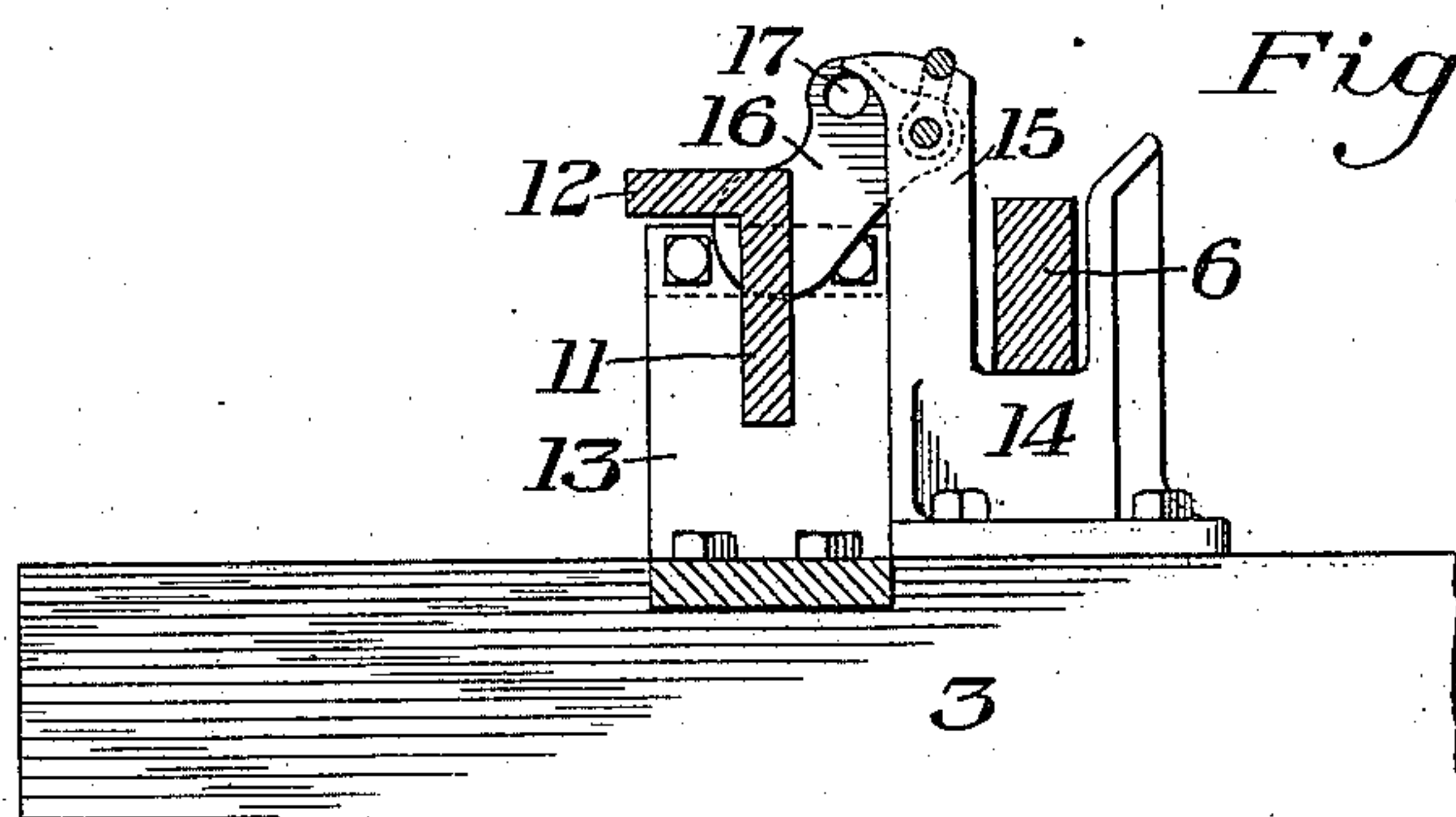
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2 SHEETS—SHEET 2.

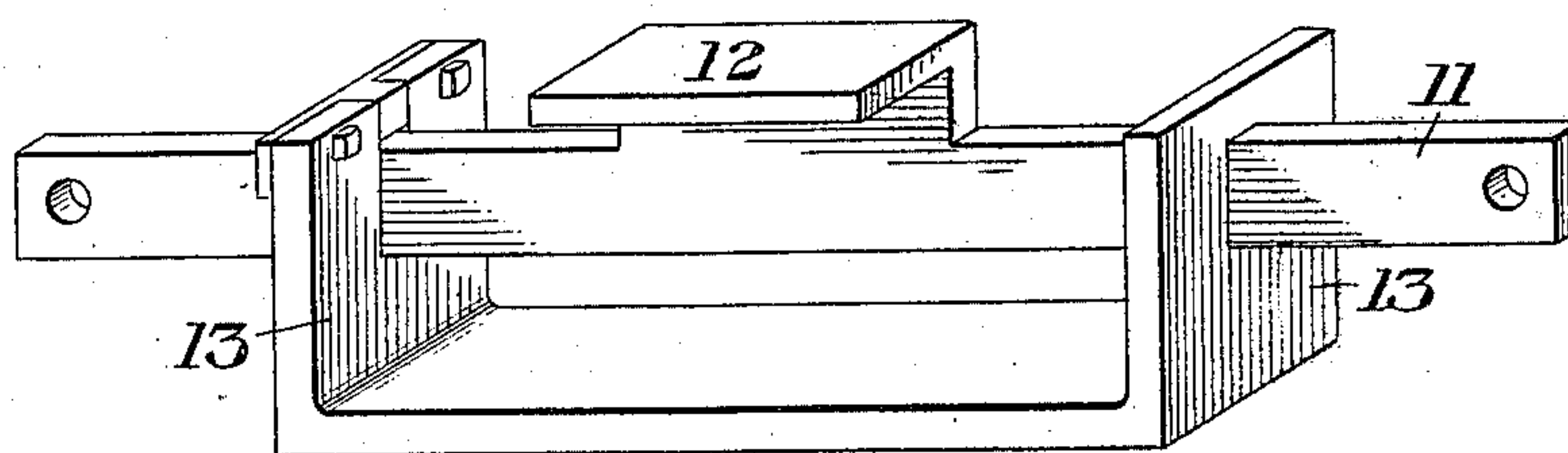
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES P. KNOX, OF PATERSON, NEW JERSEY, ASSIGNOR OF TWO-THIRDS TO THOMAS MALCOLM AND J. SMYLLIE KINNE.

## RAILROAD-SWITCH LOCK.

976,082.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed March 3, 1909. Serial No. 481,007.

*To all whom it may concern:*

Be it known that I, CHARLES P. KNOX, a citizen of the United States, residing at the city of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Railroad-Switch Locks, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my apparatus; Fig. 2 is a detail thereof in elevation and Fig. 3 is a section on lines III.—III. of Fig. 2. Fig. 4 shows the locking plate.

My invention relates to railroad switch locks and has for its object to provide apparatus which will prevent the locking of the switch lever unless the switch is properly and safely closed. With a switch of the character commonly used on railroads, accidents frequently occur from the fact that although the switch has been thrown and the switch signal indicates that the track is clear, yet because of an obstruction between the point of the switch rail and the main track rail the switch point does not close sufficiently so that a train in passing over it will take the switch. This failure to close properly is occasioned by the presence of dirt, ice, stones, spikes or nails, etc., between the switch point and the continuous track rail. When my apparatus is used the lever cannot be locked until the switch point is in a close and proper contact with the continuous rail.

Referring to the drawings, 1 is the continuous track rail, 2 is the switch rail which is mounted on ties 3, 4 is the switch stand having an operating arm 5 and lever 6 by which the switch rail 2 is opened and closed. The rod 8 connects the plate 7 which is preferably bolted to the switch rail 2 and the compensating arm 9 which is pivotally mounted at 10 on the tie 3. To the outer end of the compensating arm 9 is attached the bar 11 to which is attached the plate or table 12. The said bar 11 is mounted in supports 13 which allow it to reciprocate. Adjacent to the plate 12 is the latch stand 14 in which the lever 6 rests when the switch is closed. Attached to the prong 15 of the latch stand 14 is the pawl 16 which has an opening 17 therein for admission of the ordinary padlock for locking the lever in closed position.

In operation, when the switch is open the lower portion of the locking pawl 16 rests

upon the plate 12, while in closing the switch the table moves in the direction of the compensating arm and allows the pawl to swing downwardly, thus bringing the padlock opening in the pawl outside the prong 15 of the locking stand thus showing the switchman that the switch is properly closed, and enabling him to insert the padlock into the opening 14 to lock the switch. It will, therefore, be seen that if there is any obstruction between the switch rail and the main rail of any sort which will not allow the switch point to come into contact with the main rail that the plate 12 of the bar 11 will prevent the switchman from locking the switch and will at once indicate that the switch will not close properly.

My apparatus has the further advantage that it will efficiently hold the switch closed even though the switch throwing mechanism has become inoperative.

The metal which comprises my apparatus is of course adapted to the contractions and expansions due to atmospheric conditions, and my compensating arm 9 takes up or allows for all such variations, since if the rod 8 and bar 11 expand their forces will meet oppositely in the compensating arm, and if they contract they will again be neutralized by their opposing action.

It will be seen by those skilled in the art that variations may be made in my apparatus without departing from my invention, since

What I claim is:

1. The combination with a movable switch member, operating mechanism for said member having a latch and latch stand, a member arranged to block the latch when the switch is in open position, and a connection between the said movable switch member and the blocking member for moving the latter out of blocking position when the switch member is fully closed, said connection including compensating means; substantially as described.

2. A railway switch lock adapted to be connected with a railway switch and comprising means independent of the switch operating mechanism for indicating the closing of the switch which consists in a rod connected with the switch rail and adapted to reciprocate a bar upon the operation of the switch, said bar having a plate mounted thereon and a locking pawl pivotally



mounted to contact with the plate when the switch is open.

3. A railway switch lock comprising a rod connected with the switch rail and  
5 adapted to reciprocate a bar upon the opening and closing of the switch, said bar having a plate mounted thereon, and a locking pawl pivotally mounted to contact with the plate when the switch is open.

10 4. A railway switch lock comprising a rod connected with a switch rail, a reciprocating bar and a compensating arm located between said rod and said bar, said bar having a plate mounted thereon, a latch stand  
15 having pivotally mounted therein a locking

pawl, said locking pawl being adapted to rest on said plate when the switch is open.

5. A railway switch lock comprising a rod connected with the switch rail, a bar reciprocably mounted within a casting and  
20 having a plate attached thereto, said rod being adapted to reciprocate said bar, and a locking pawl pivotally mounted to contact with the plate when the switch is open.

In testimony whereof, I have hereunto set  
my hand. 25

CHARLES P. KNOX.

Witnesses:

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ROBERT H. CUNNINGHAM, Jr.