

(No Model.)

2 Sheets—Sheet 1.

W. A. SLOCUM.
AUTOMATIC SWITCH LOCK FOR RAILWAYS.

No. 603,385.

Patented May 3, 1898.

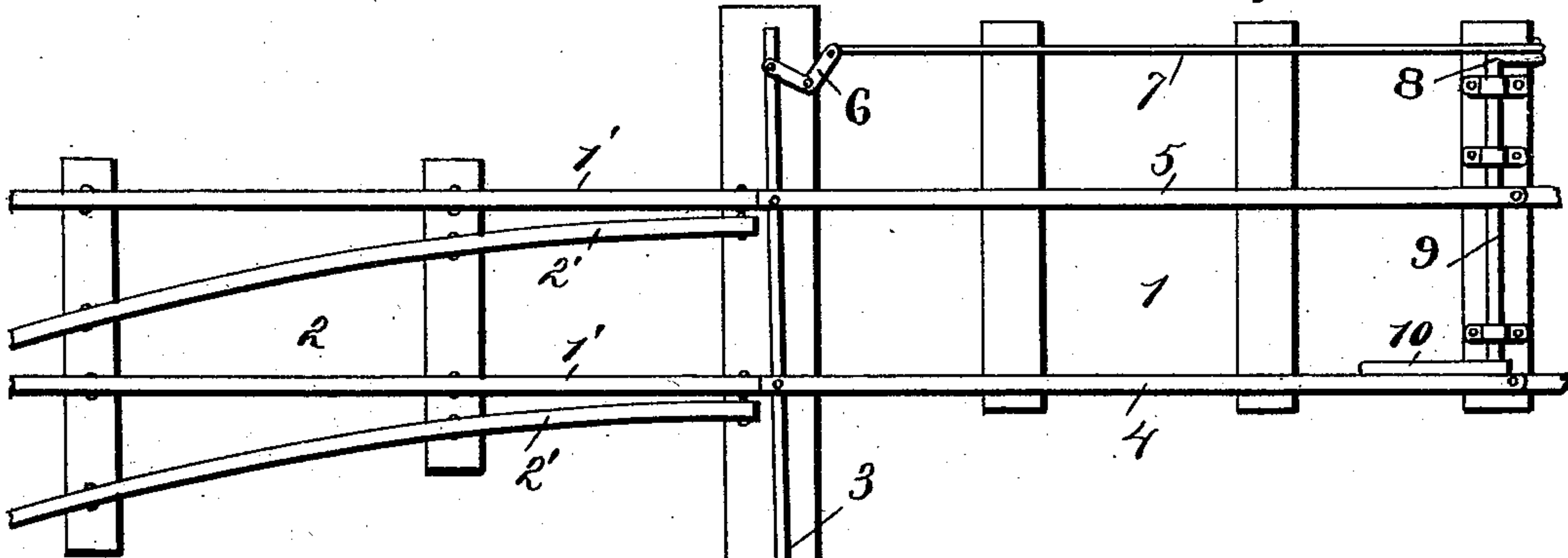


Fig. 1.

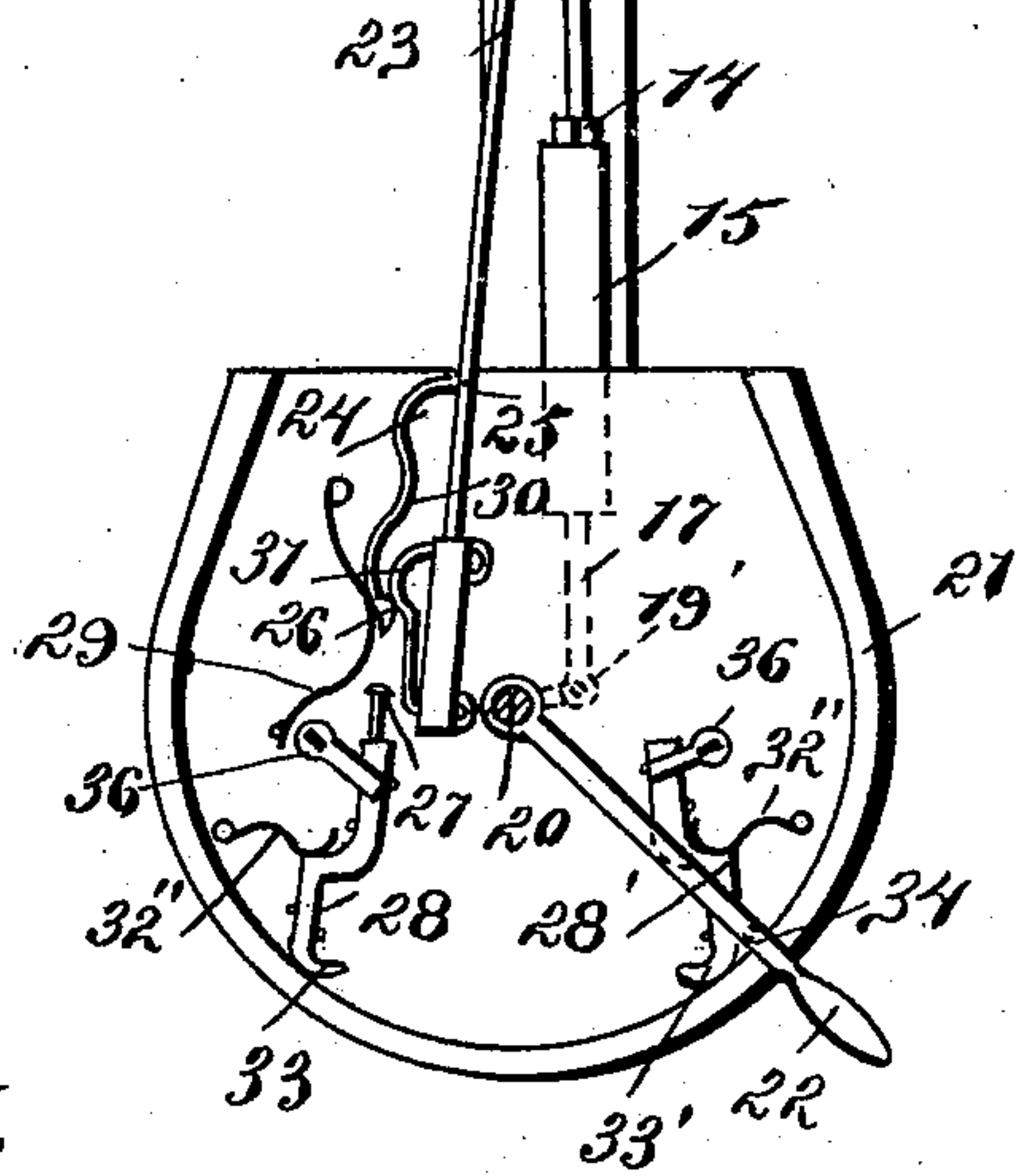
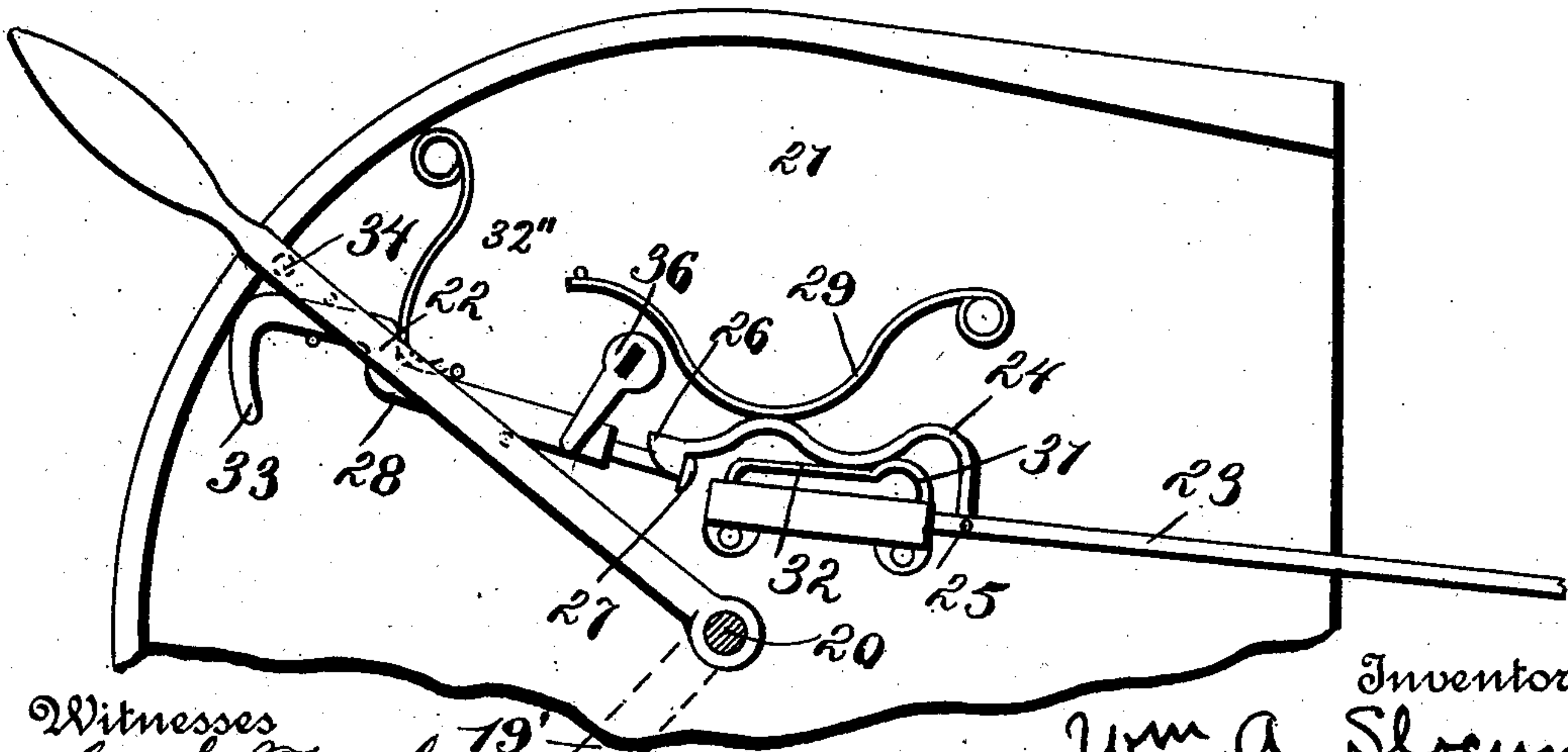


Fig. 4.



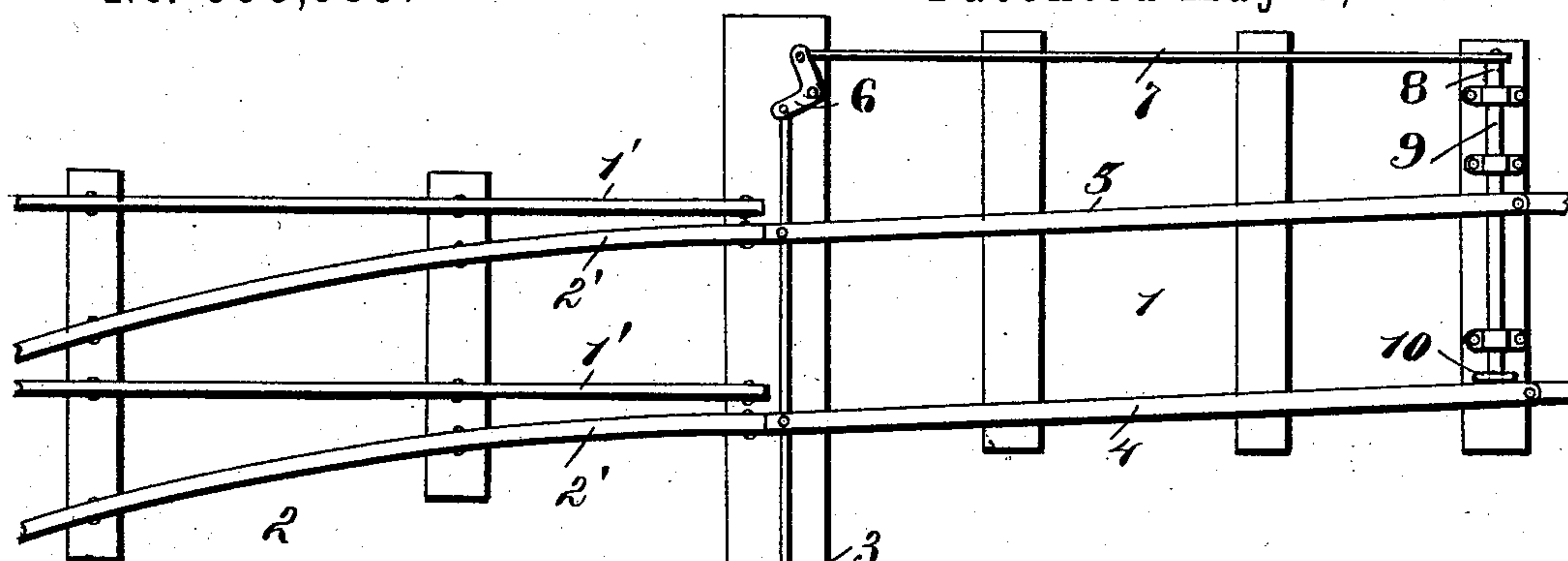
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2 Sheets—Sheet 2.

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Fry 2.

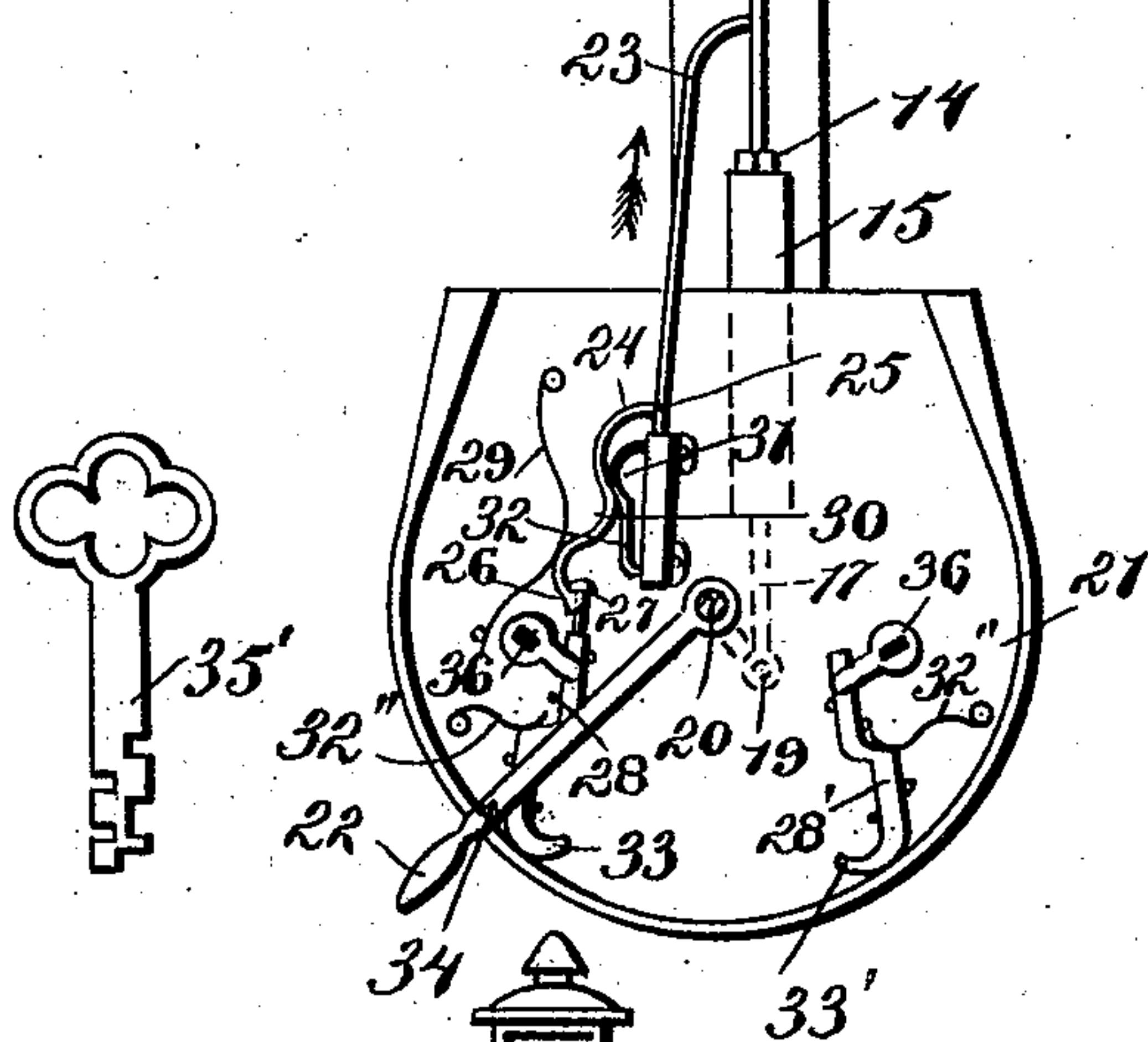
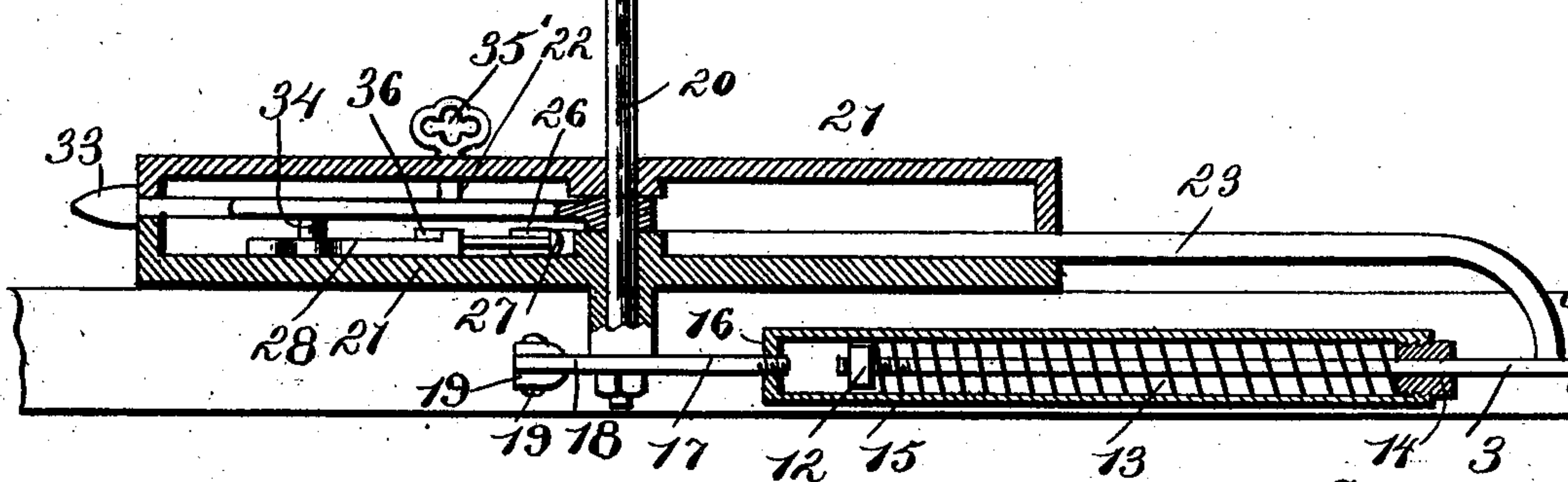


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. SLOCUM, OF LANSING, MICHIGAN.

AUTOMATIC SWITCH-LOCK FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 603,385, dated May 3, 1898.

Application filed July 29, 1896. Renewed September 29, 1897. Serial No. 653,518. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. SLOCUM, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Automatic Switch-Locks for Railways; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in automatic switch-locks for railways; and the object is to provide the main line with a siding-switch which may be operated by hand to switch a train from the main line and which if carelessly left in line with the siding will be automatically set for the main line on the approach of a train in either direction on said main line.

To this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same figures of reference indicate the same parts of my invention.

Figure 1 is a top plan view of my automatic switch-lock as it appears in use with the main line clear. Fig. 2 is a similar view showing the switch set for the siding. Fig. 3 is a vertical section on the line of the switch-bar, and Fig. 4 is a detail top plan of one-half of the switch-stand with the top removed.

1 represents the main line, and 2 the siding.

3 is the switch-bar, passing transversely under the rails, the movable ends of the switch-rails 4 5 being secured thereto, so that as the switch-bar 3 is moved endwise the rails 4 5 may be placed in line with the main rails 1' 1' or the side rails 2' 2'.

One end of the switch-bar 3 is pivoted to one arm of a bell-crank lever 6, the other right-angular arm of which is pivoted to one end of a connecting-rod 7, the opposite end of which is pivoted to a crank 8, rigidly secured to a transverse shaft 9, journaled below the rails of the main track. This shaft 9 is provided with a rigid lever 10, extending parallel between the rails of the main track and contiguous to one of them, so that the

flange of the wheel in passing will strike this lever, press it down, and throw the switch, as will be hereinafter explained.

The inner end of the switch-bar 3 is screw-threaded and is provided with a nut 12, and a stout spiral spring 13 encompasses this end of the switch-bar, one end of the spring bearing against the nut 12 and the other end resting against the closed head 14 of the sleeve or tube 15, which forms a casing for said spring. To the opposite closed head 16 of said tube is secured a rod 17, the end of which is formed with an eye 18, through which a bolt 19 passes to connect it to the outer end of a crank 19', rigidly secured to the lower end of the vertical switch-shaft 20, journaled in the switch-stand 21.

The switch-shaft 20 is provided with a switch-lever 22, by means of which the switch-rails 4 5 may be set by hand in line with the main track or the siding.

23 is an arm rigidly secured to the switch-bar 3 and extending parallel with, a short distance above, and a little to one side of said switch-bar, and its free end projects into the casing of the switch-stand.

24 is a trigger pivoted to the arm 23 by the bolt or rivet 25, and its free end is formed with a claw 26, which engages the beveled head 27 of the bolt 28, sliding in the casing.

29 is a stationary spring secured at one end in the casing, its free end pressing against the trigger to force it inwardly toward the arm 23.

When the claw 26 is in engagement with the head 27 of the bolt 28 and the arm 23 moved in the direction of the arrow, as shown in Fig. 2, the claw will draw the bolt 28 backward until the lug 30 on the trigger rides over the stationary lug 31 on the outside of the guide 32. The trigger is then pressed out from the arm 23, so that its claw 26 releases the head of the bolt, the spring 32' restoring the bolt to its normal position. The forward end of this bolt is formed with an integral curved arm 33, so that when the switch-lever is operated or turned in the direction to open the switch on the main line a stud 34 on said lever rides over the arm 33, pressing the bolt inwardly until the stud passes the free end of the bolt, which then flies outward again and locks the switch and switch-lever in that position until

it is released by a removable key 35 or by the approach of a train. When the key 35 is used, the bolt is withdrawn and the switch-lever is released.

5 When the switch-rails are in line with the sliding rails, the lever 10 projects upwardly in the path of the wheels of an approaching train. When the wheel strikes the said lever, it presses it down parallel with the rail in a
10 horizontal position. This movement operates the connecting-rod 7 and bell-crank 6 to move the switch-bar 3 laterally to move the switch-rails in line with the main rails. At the same time the switch-bar compresses the spring 13,
15 while the arm 23 draws the bolt 28 back and releases the stud 34. The spring 13 then throws the switch-lever 22 over to the other side, where the stud 34 strikes the curved arm 33' of a spring-bolt 28' in the lock 36, located
20 at this point. When the bolt 28 has released the switch-lever, the further movement of the arm 23 causes the lug 30 on the trigger 24 to ride over the stationary lug 31 in the casing and presses the trigger outwardly to release
25 its claw 26 from the head 27 of the bolt, which is then restored to its former position by the spring 32''. After the switch-lever 22 has passed the bolt 28' the spring 32' restores the bolt to its normal position and locks the switch
30 at that point, so that it can only be released by means of the detachable key 35'.

When it is necessary to throw the switch in line with the siding, the key 35' is inserted in the lock 36 to withdraw the bolt 28'. The
35 switch-lever is then thrown to the other side, where it is locked by the bolt 28, and, as above stated, when the switch is in this position the lever 10 projects upwardly in the path of the wheels of a train, and should a train ap-
40 proach its wheels would strike the lever 10 and automatically move the switch-rails in line with the main rails.

The upper end of the switch-shaft 20 is provided with the usual colored switch-signal
45 and the transverse switch-shaft 9 may be located at any suitable distance from the switch itself, and it may be located on either side of the switch. In some instances where the main line is a single track and trains pass in

both directions over it I prefer to have one 50 placed on each side of the switch, so that a train approaching from either direction will automatically move the switch should it be carelessly left set to the siding.

Although I have specifically described the 55 construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention 60 without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The switch-bar 3 provided with the 65 spring 13, the tube 15, and the rod 17 connected to the crank 19 secured to the switch-shaft 20 mounted in the switch-stand 21, and provided with a switch-lever 22 having a stud 34, in combination with the spring-bolts 28 70 28', having integral curved arms 33, 33', substantially as shown and described.

2. An automatic railway-switch comprising the switch-bar 3, the spring 13 mounted 75 on one end of said bar; a tube incasing said spring and connected to the crank 19 on the shaft 20, having a lever 22 provided with a stud 34, the spring-bolt 28 having the curved arm 33, the beveled head 27, the arm 23 rigidly secured to the switch-bar 3 and provided 80 with the pivoted trigger 24 and lug 30, adapted to travel over the path of the stationary lug 31, in combination with the bell-crank lever 6, one arm of which is secured to the switch- 85 bar and the other arm pivoted to one end of a connecting-rod 7, the transverse shaft 9, provided with the lever 10, arranged contiguous to one of the rails of the main track, and having a crank 8, the outer end of which is 90 pivoted to the opposite end of said rod 7, substantially as shown and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM A. SLOCUM.

Witnesses:

F. F. BALDWIN,
J. E. SHATZEL.