

No. 706,950.

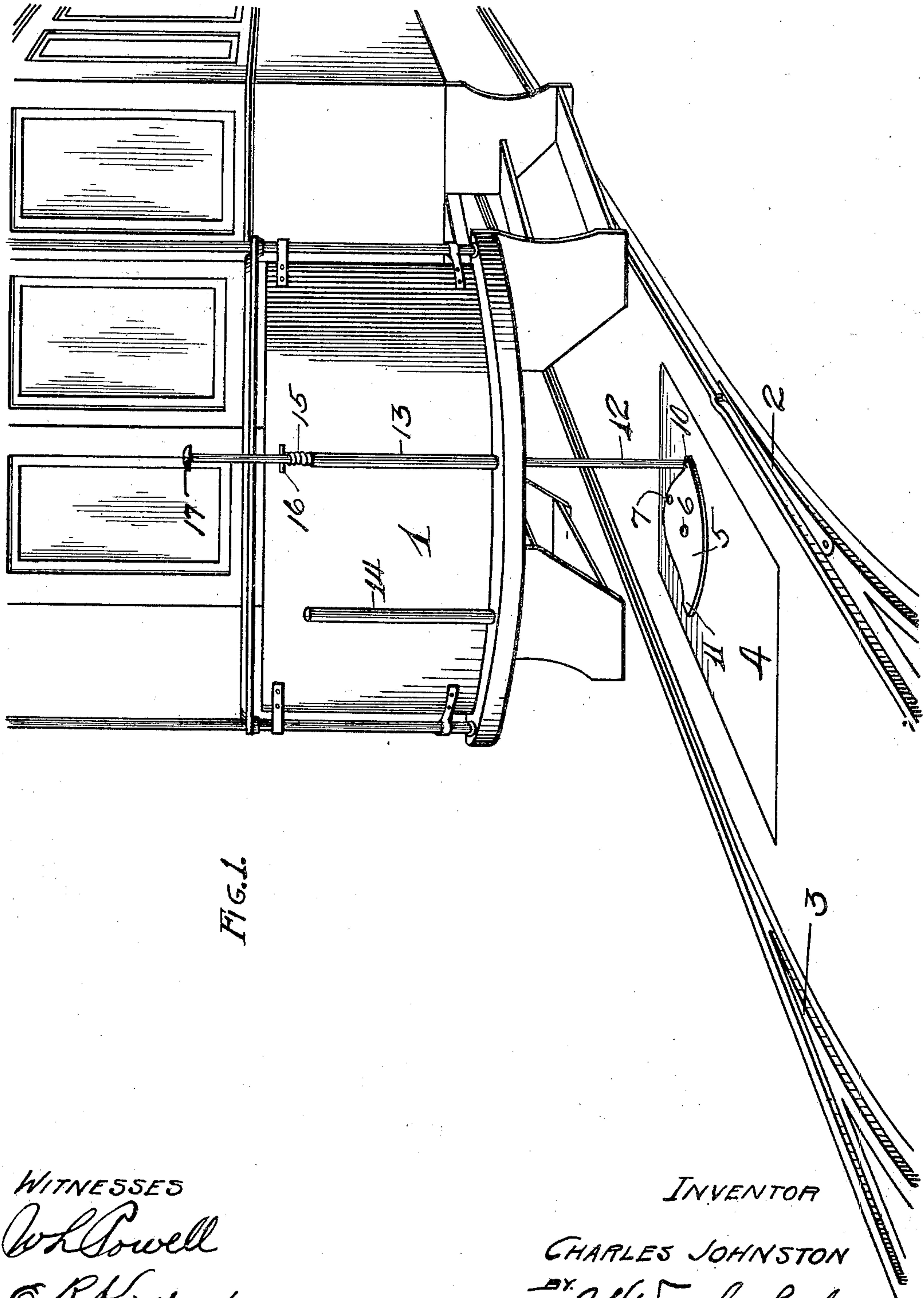
Patented Aug. 12, 1902.

C. JOHNSTON.
RAILWAY SWITCH.

(Application filed May 3, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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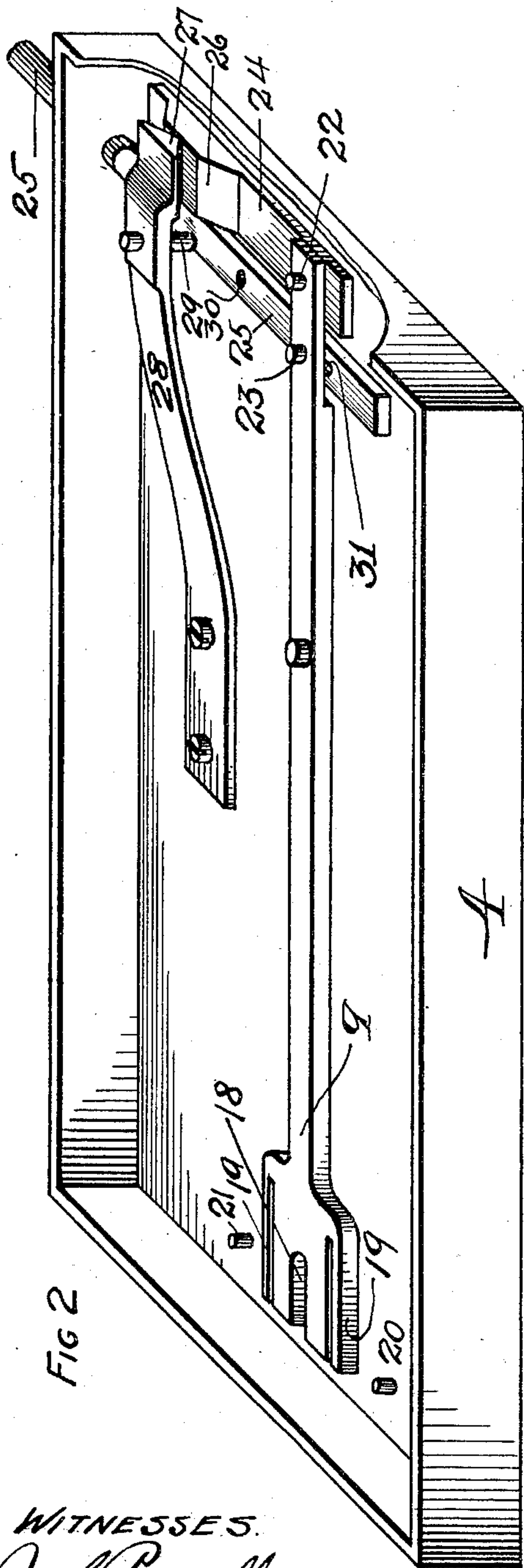
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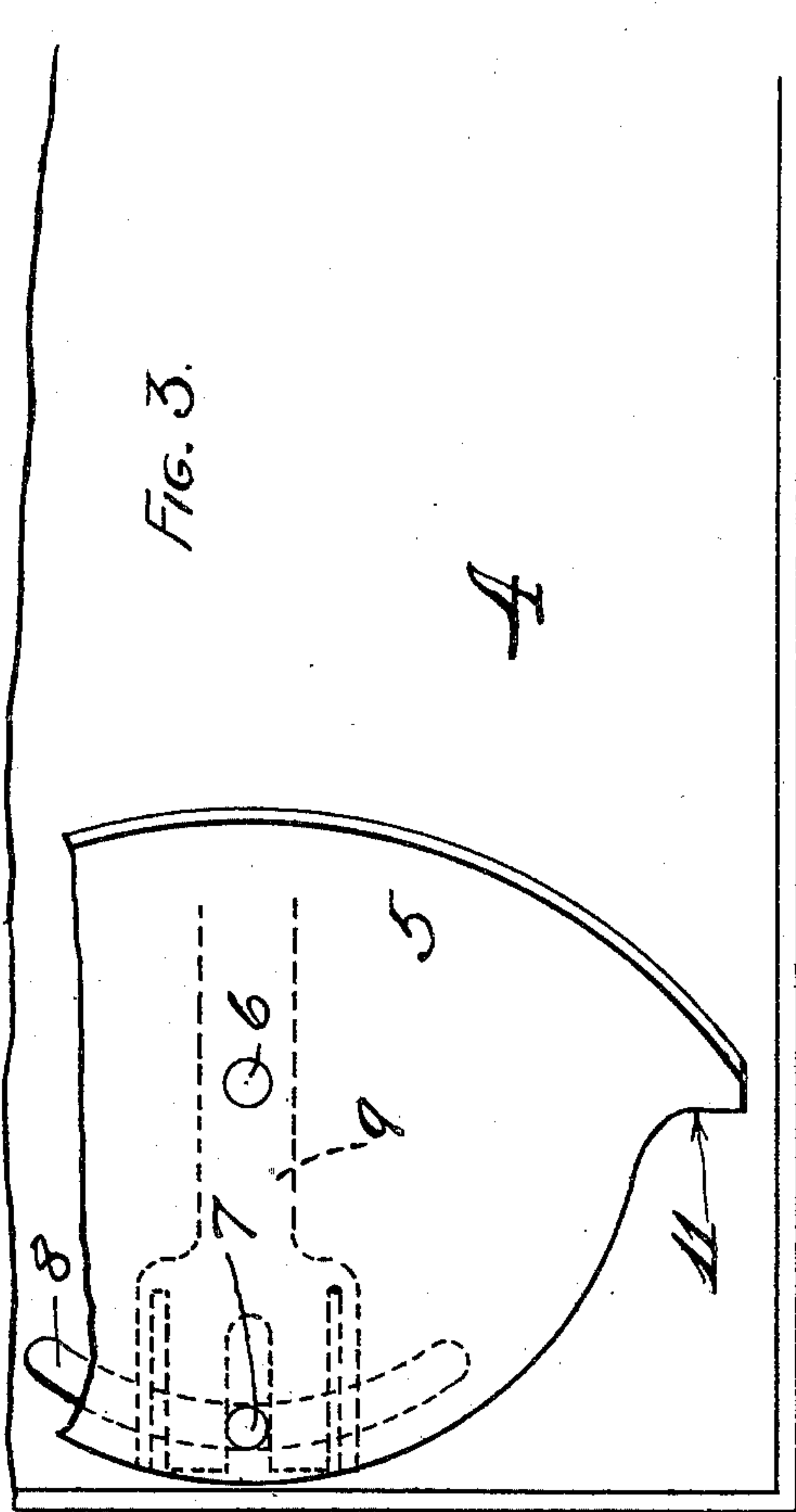
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CHARLES JOHNSTON, OF MEMPHIS, TENNESSEE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 706,950, dated August 12, 1902.

Application filed May 3, 1902. Serial No. 105,800. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHNSTON, a citizen of the United States, residing at Memphis, Shelby county, State of Tennessee, have
5 invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to certain new and useful improvements in railway-switches, and has
10 especial reference to a switch for steam or street railways which is adapted to be operated from the front end of the engine on steam-roads and from the front end of the car on
15 street-railways in a manner controlled by the engine-driver or motorman and the approach of the engine or car, as the case may be.

The object of my invention is to provide a simple and efficient switch which can be operated positively by the approach of the car,
20 which is simple, cheap, and positive, and which is locked and unlocked automatically by the same movement which throws the switch. I accomplish these objects as will be more fully hereinafter set forth in the draw-
25 ings, specification, and claims.

In the drawings, in which I have illustrated my invention more especially as adapted to a street-railway, Figure 1 is a perspective showing a car approaching a switch with my switch-
30 throwing device as it appears on the surface. Fig. 2 is a mechanical perspective of the throwing and locking mechanism inclosed in its protecting-box with the top removed. Fig. 3 is a plan showing manner in which throw-
35 ing-plate operates the mechanism in the box.

Referring now to the drawings, in which like numerals refer to like parts in all the views, 1 is the front dashboard of a car as it approaches the switch.

40 2 is the movable and 3 the stationary switch-point.

4 is the box containing the switch-throwing mechanism, on which box is a cam or throwing plate 5, pivoted at 6 and having a pin 7,
45 which extends downward through a slot 8, Fig. 3, to operate the throwing-lever 9. This plate is made of such size preferably that it covers the slot 8 in all positions and prevents the entrance of dust and, if carefully packed,
50 of water. It has ears 10 and 11 on diametrically opposite sides, which ears are engaged

by a rod 12, depending from the car, to move the plate 5 and throw the switch 2. This rod 12 is carried on the dashboard 1 of the car by one of the two holders 13 or 14, tubes or pieces
55 of gas-pipe fastened to the dashboard and in which the rod is placed.

15 is a compression-spring which is attached to the rod 12 at the stop-pin 16 and which rests on the end of the holder 13 and supports
60 the rod 12 clear of the track. When it is desired to use the switch, the rod is pressed down by the cap 17 until it comes into position to catch the lug 10 on the cam-plate 5. If it is desired to take the siding in the view
65 shown, the rod 12 is placed, as shown, in the holder 13, while to throw the switch for the main track the rod is placed in the holder 14 and depressed to engage the lug 11.

Referring now more especially to Figs. 2
70 and 3, when the plate 5 is rotated the pin 7, moving in the slot 8, engages the fork 18 in the end of the lever 9 and moves it from side to side.

19 represents springs on the side of the fork
75 18, and 20 represents limit-pins to check the motion of the fork 18.

The lever 9 is pivoted at 21 to the box 4 and carries two pins 22 and 23 at the end opposite the fork 18. These pins operate, re-
80 spectively, the unlocking-bar 24 and the switch-throwing bar 25. The unlocking-bar 24 is pivotally connected by the pin 22 to the said lever 9 and carries a cam 26, which engages a cam 27 on the under side of a spring
85 locking-bar 28.

29 is a pin projecting beneath the spring 28, which pin is raised or lowered by the movement of the cam 26. When lowered, the said pin 29 engages one of the holes 30 (the
90 other being behind the spring 28 is not shown) in the bar 25 and effectually locks said bar against movement. The switch-bar 25 is moved by the pin 23, which pin moves a limited amount in a slot 31, picking up and mov-
95 ing said bar. When, therefore, the lever 9 is thrown, the pin 23 moves in the slot 31, while the locking-bar 24 is moved sufficiently to raise the locking-pin 29 clear of the hole 30. The pin 23 then having reached the limit of
100 the slot 31 picks up the switch-throwing bar and moves it, throwing the switch to right or

left, as the case may be. It is not deemed necessary to illustrate the connection of the bar 25 to the switch.

The edge of the plate 5, with the exception 5 of the lugs 10 and 11, is beveled to permit wagons to pass over it.

In operation as the car approaches the switch the motorman places the rod 12 in the holder 13 or 14, which is on the side of 10 the track he desires to take, and presses down on same to bring it into contact with one of the ears 10 or 11. The plate 5 is rotated by this rod and through the pin 7 moves the throwing-lever 9. This lever 9 in turn oper- 15 ates the unlocking-bar 24 and raises the locking-pin clear of the bar 25, and as the motion of the lever 9 continues the bar is picked up and moved, and with it the switch-point 2. It will be seen that the bar 25 and switch 2 20 are effectually locked against movement except through the throwing-cam 5.

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

25 1. In a switch-throwing device the combination with a throwing-lever a cam-bar pivoted to said lever a spring locking-bar, resting on said cam-bar, a locking-pin depending from said bar a switch-throwing bar having 30 holes therein to be engaged by said locking-pin, a slot in said throwing-bar and a pin in said throwing-bar and a pin in said throwing-

lever a cam-plate having a pin depending therefrom to move said throwing-lever and means carried by the car for operating said 35 cam-plate, substantially as shown and described.

2. In a switch-throwing device the combination with a depressed box, a throwing-lever in said box, a cam-bar operated by said lever, 40 a locking-pin operated by said cam-bar, a switch-throwing bar, a slot in said bar and a pin in said lever having a limited motion in said slot, of a plate, pivoted on the top of said box a pin depending from said plate to oper- 45 ate said throwing-lever and means carried by the car of rotating said plate, substantially as described.

3. In a switch-throwing device the combination with a throwing-lever, a bar connect- 50 ing said lever with the switch-point and a cam-plate operating said lever, of the car, two tubular holders on the front of said car, a rod having a spring thereon resting in one of said holders and removable therefrom, and 55 projecting through said holder, substantially as and for the purposes set forth.

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

CHARLES JOHNSTON.

Witnesses:

J. H. WEATHERFORD,

P. J. MORAN.