

(No Model.)

A. MALM.
RAILWAY SWITCH.

No. 562,315.

Patented June 16, 1896.

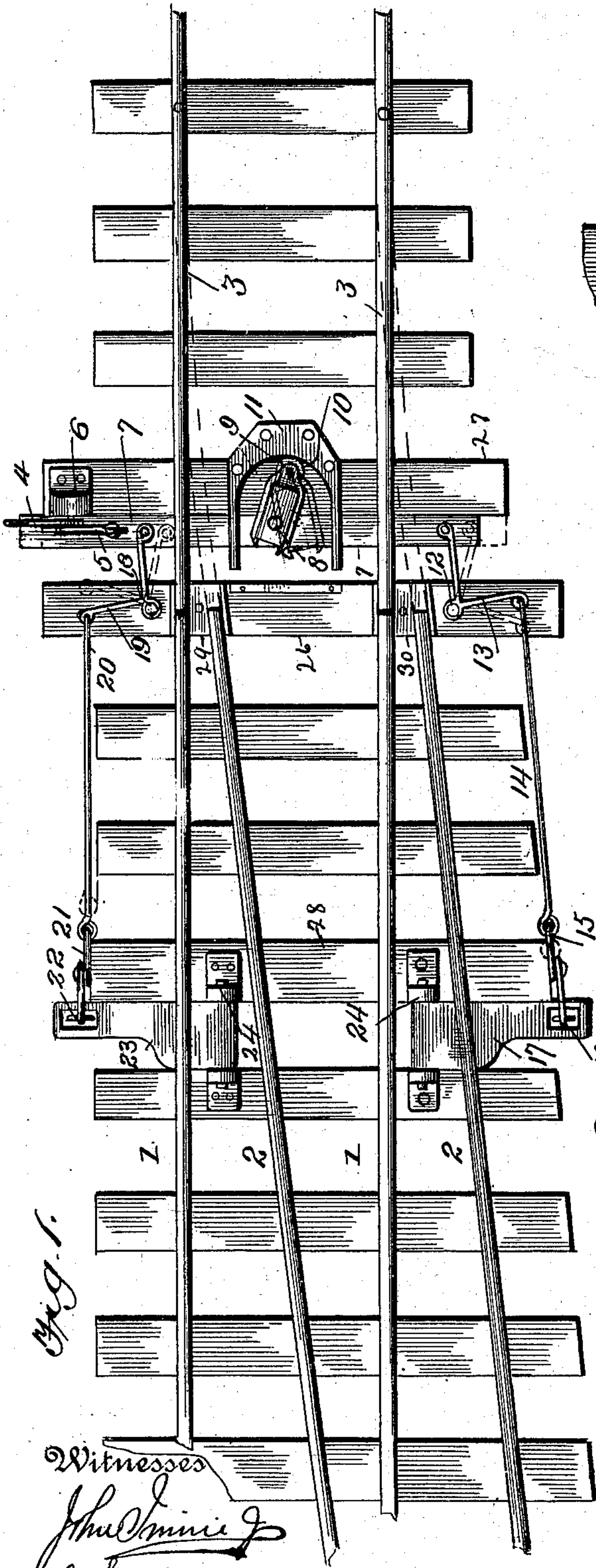


Fig. 1.

Witnesses
John Olson
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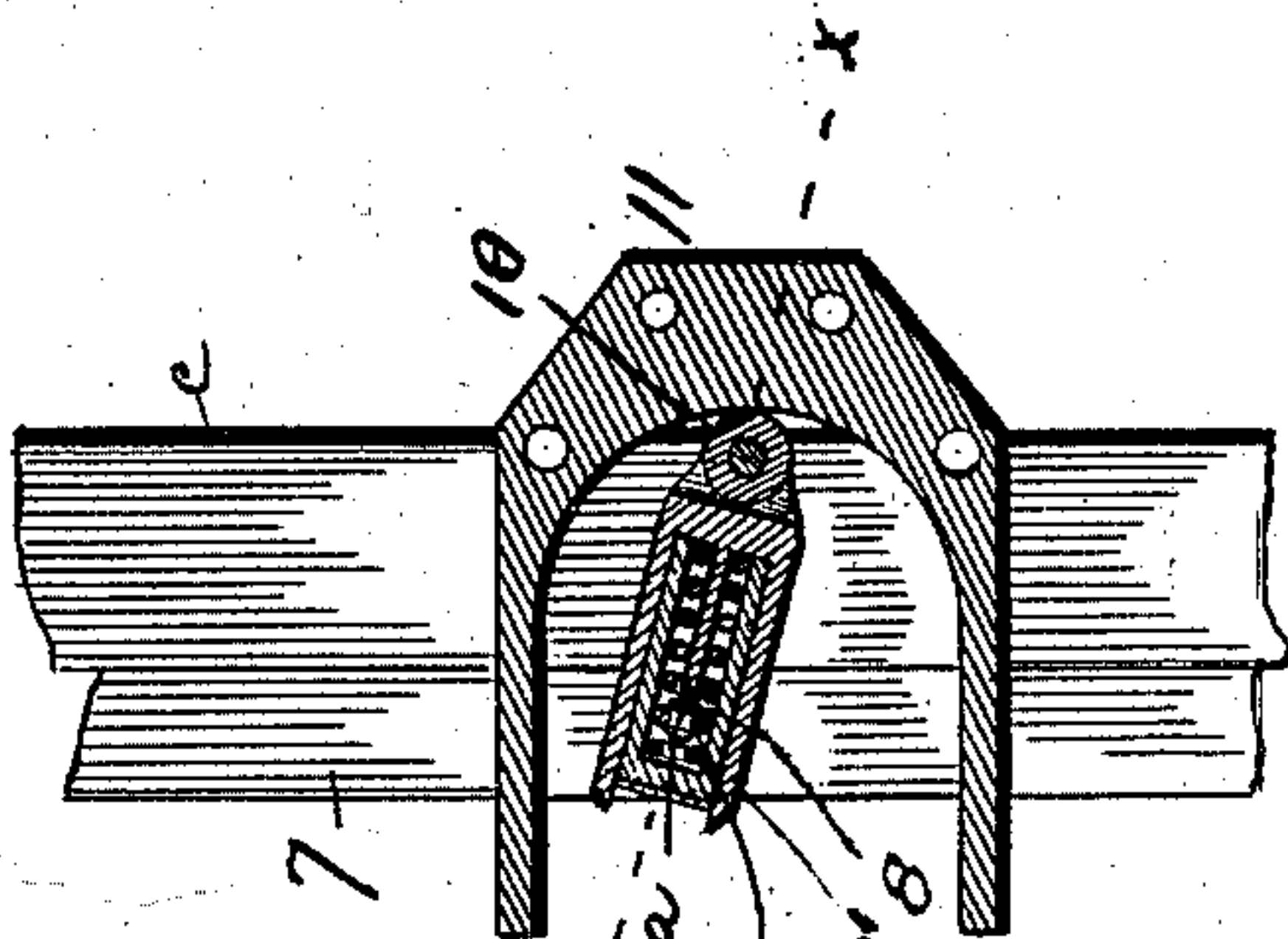


Fig. 3.

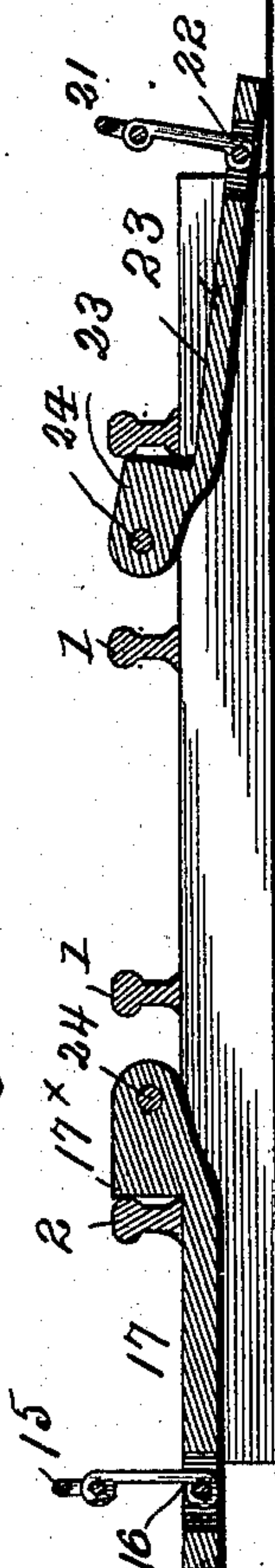


Fig. 2.

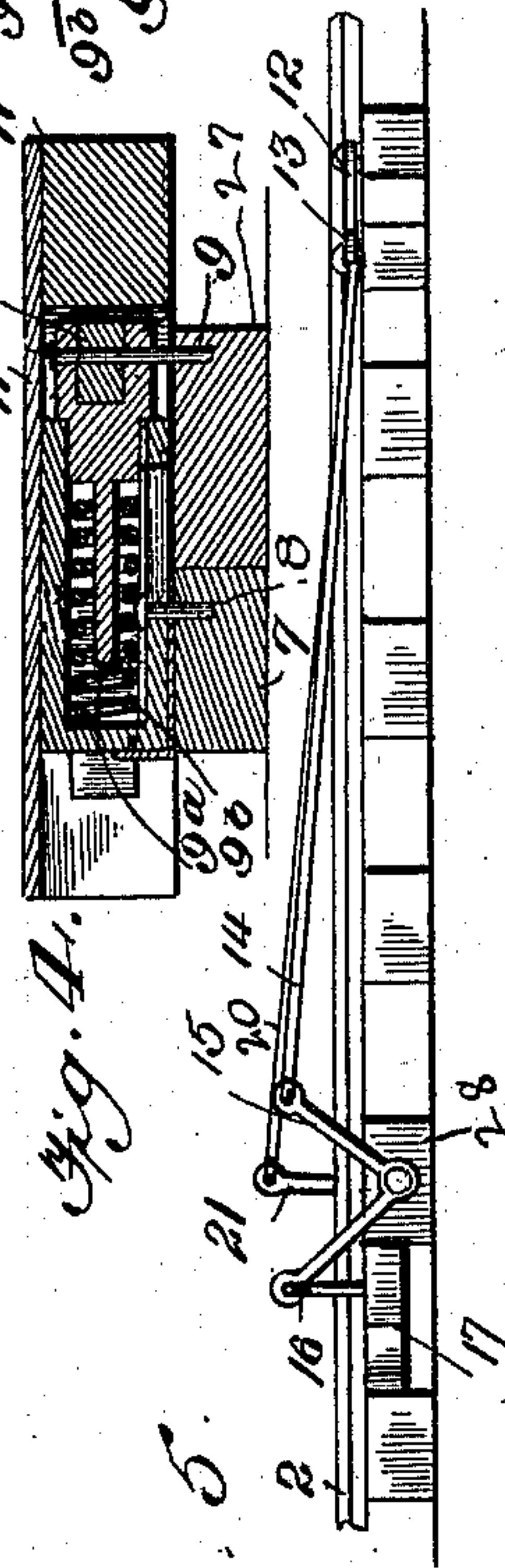


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ANDREW MALM, OF TWO HARBORS, MINNESOTA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 562,315, dated June 16, 1896.
Application filed February 29, 1896. Serial No. 581,413. (No model.)

To all whom it may concern:

Be it known that I, ANDREW MALM, a citizen of the United States, residing at Two Harbors, in the county of Lake and State of Minnesota, have invented certain new and useful Improvements in Railway-Switches; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in railway-switches and has for its object, among other things, to prevent the accidental running off the track should the switch be open; also to provide a switch which can be worked automatically by the engine or cars or non-automatic and operated by a lever.

To these ends my invention consists in certain novel mechanism comprising pressure-actuating devices by the action of which the switch-rails are automatically shifted from one track to the other and may also be shifted by a lever, as hereinafter more fully set forth, illustrated, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the tracks, switch, and the actuating mechanism. Fig. 2 is an enlarged transverse sectional view of Fig. 1. Fig. 3 is a detail plan sectional view of locking device 10 and spring-box 11, protecting said device shown in Fig. 1. Fig. 4 is an enlarged transverse sectional view of Fig. 3 on lines X X, and Fig. 5 is a side view of Fig. 1 on a smaller scale.

In carrying out my invention I employ the switch-bar 7, arranged to extend transversely under the switch-rails 3 3, and connected by link 5 to operating-lever 4, pivoted on block 6, said block being secured to support 27 by suitable bolts. Box 11, provided with cover 11^x, is intended to protect the locking device for the switch represented by reference-character 10. Said locking device consists of yoke 9', secured to support 27 by way of a bolt 9. Said yoke carries slide 9^a, in which spring 9^b is placed. The slide 9^a is attached to switch-bar 7 by way of bolt 8. As switch-bar 7 is secured to the switch-rails and

yoke 9 is secured to the adjacent support 27 and both being placed side by side, it is intended to compress the spring when placing it in the slide 9^a and when thus compressed will have a tendency to straighten out and in so doing will keep the switch-bar and switch-rails in the desired position for either track. Said spring and yoke in connection with plates 29 and 30 will keep the switch at the desired position. Bell-cranks 13 and 19, being pivoted on support 26 through bolts or pins 12 and 18, and having one arm connected to rod 20 or 14, said rods being connected to bell-cranks 15 and 21, they being pivoted on supports 28, actuating devices 17 and 23 being hinged on supports 24, secured to support 28. Links or bars 16 and 22 connect bell-cranks 15 and 21 with actuating devices 17 and 23.

The operation is as follows: Suppose a train to be approaching on the side-track 2 2, the switch being in position as shown, the wheels on the engine or cars in passing over actuating device 17 would depress said device and through link 16, bell-crank 15, rod 14, and bell-crank 13 would shift switch-bar 7, and with it rails 3 3, over and in alignment with said rails 2 2, and said rails would be held in place by the spring in yoke 10, which is connected to said switch-bar. If the train should approach on track 1 1 and the switch should be set for line 2 2, the operation would be exactly the same, and should the train approach from the opposite direction the switch may be operated through the lever 4 for any said tracks.

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

1. In a railway-switch the combination of a switch-bar attached to the switch-rails an automatic locking device consisting of a yoke provided with a slide having a spring placed in said slide and pivoted to a support adjacent to said switch-bar, a box protecting said locking device and secured to the support, a lever connected by a rod to the switch-bar and pivoted to a bracket secured to said support, substantially as described and shown.

2. In a railway-switch the combination of a locking device pivoted to a support

adjacent to the switch-bar, two bell-cranks
pivoted to a support provided with plates for
the guidance of and support for the switch
and track rails, two rods connected to said
5 bell-cranks the other ends of said rods con-
nected to other bell-cranks placed on a pivot
secured to a support at a distance from the
other bell-cranks and connected by a bar
or link to an actuating device for the auto-
10 matic operation of the switch by the engine or

car and hinged to supports secured
able supports, substantially as described and
shown.
In testimony whereof I affix my signature
in presence of two witnesses.

Witnesses:

ANDREW MALM.

CHARLES M. FLOATHE,
JOHN OLSON.