

I. DYER.
AUTOMATIC SWITCH.

APPLICATION FILED MAR. 31, 1909.

927,512.

Patented July 13, 1909.

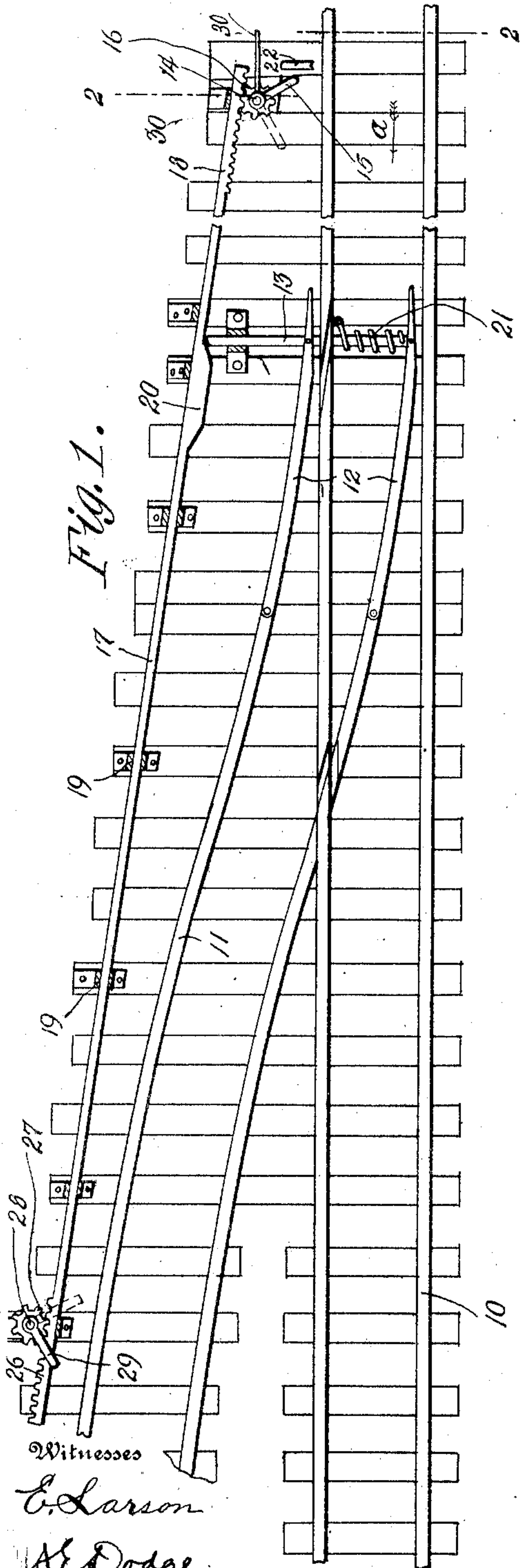


Fig. 1.

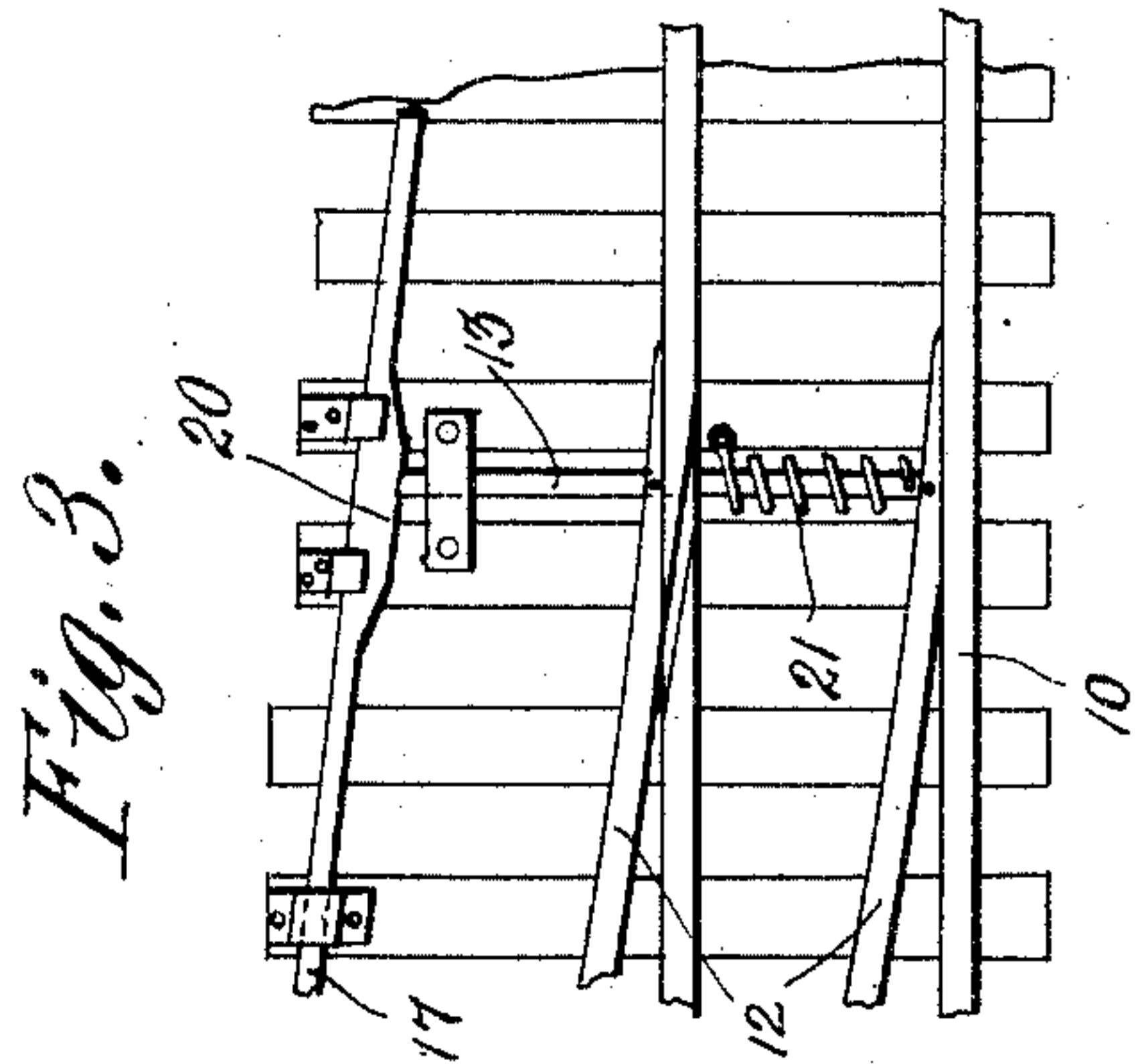


Fig. 3.

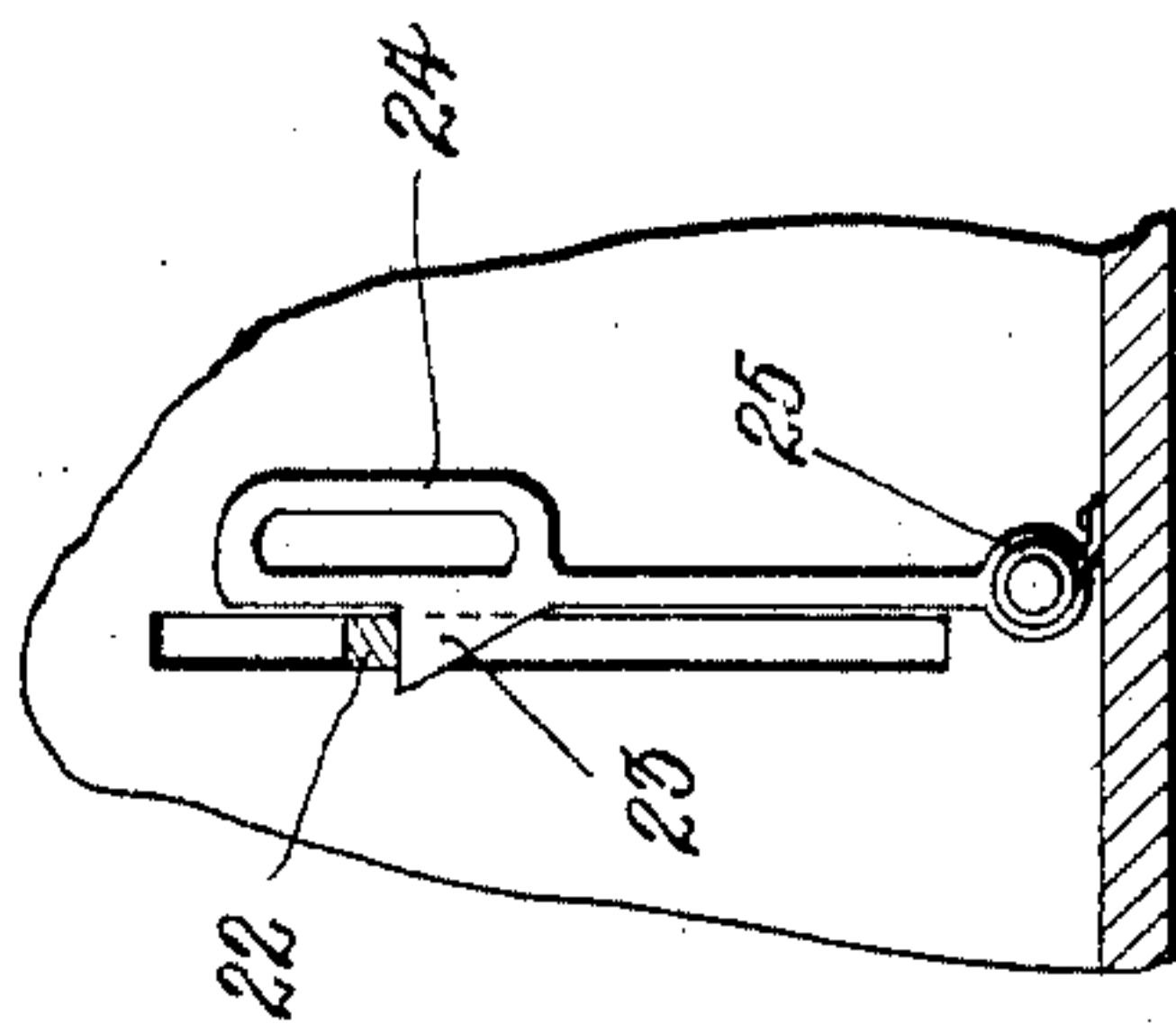


Fig. 4.

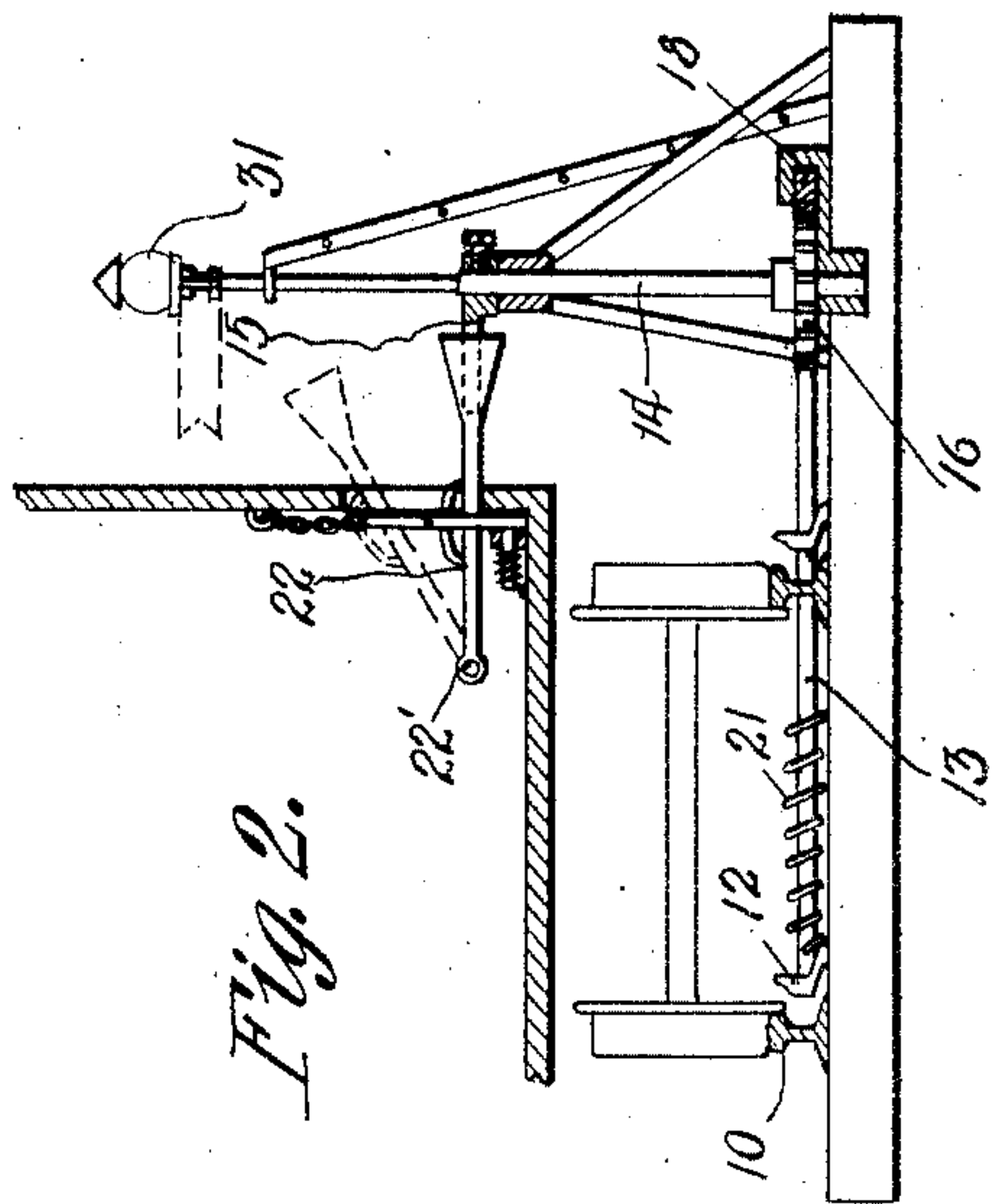


Fig. 2.

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AUTOMATIC SWITCH.

No. 927,512.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed March 31, 1909. Serial No. 487,058.

To all whom it may concern:

Be it known that I, IVAN DYER, a citizen of the United States, residing at Brazil, in the county of Clay and State of Indiana, have invented certain new and useful Improvements in Automatic Switches, of which the following is a specification.

This invention relates to railway appliances and particularly to a switch which may be automatically operated from a moving car or train.

The invention consists in certain specific novel features of construction hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the switch and operating devices therefor with main line open; Fig. 2 is a vertical transverse section on the broken line 2—2 of Fig. 1; Fig. 3 is a fragmentary plan showing the switch points indicated in Fig. 1 with main line closed, and Fig. 4 is a vertical detail of the shipping device.

Throughout the following detail description, and on the several figures of the drawings similar parts are referred to by like reference characters.

The main line of track is indicated at 10 and the switch at 11. The switch includes a pair of movable switch points 12 connected for simultaneous operation by means of a bar 13 projecting laterally to the outside of the switch. The normal position of the switch, leaving the main line 10 open, is indicated in Fig. 1. Assuming that a car or train is approaching the switch in the direction of the arrow *a* and the same is desired to take the switch, the switch will be moved to the position indicated in Fig. 3.

A vertical shaft 14 is suitably journaled and braced upon certain of the ties of the railway track and has connected thereto an operating arm 15 and at its lower end is provided with a pinion 16. An operating rod 17 having rack teeth 18 in mesh with said pinion 16 is mounted for sliding movement in a number of guides 19 connected to as many ties as desired. The rod 17 is provided with a cam 20 adapted to engage with the outer end of the bar 13 to operate the latter in one direction against the tension of a strong tensile spring 21 connected at one end to the bar 13 and at the other end to a tie or any other suitable fixed point.

The normal tendency of the spring is to maintain the switch points in the position indicated in Fig. 1.

An actuator 22 of any suitable character is carried by the locomotive or the front end of a car and is adapted to be brought into the path of the arm 15, whereby the said arm will be moved from the position indicated in full lines in Fig. 1 to the position indicated in dotted lines. During such movement of the arm 15 the pinion 16 will operate the rod 17 so as to bring the cam 20 into the position indicated in Fig. 3, effecting the change of the switch points, and permitting the car or train to pass upon the switch. Any convenient means may be employed for mounting and operating the actuator 22. As indicated diagrammatically said member is pivoted at 22' and is normally held elevated by means of a catch 23 which may be withdrawn from the actuator by a handle 24, against the tension of a spring 25. When the catch is withdrawn from the actuator the latter will drop into engaging position and after operation thereof the actuator may be operated by hand or otherwise into the position indicated in Fig. 4 and in dotted lines in Fig. 2. The opposite end of the rod 17 is provided with rack teeth 26 which engage a pinion 27 carried by a second vertical shaft 28. Said latter shaft has connected thereto an arm 29 whereby the rod 17 may be returned to its original position by contact of an actuator similar to that indicated hereinbefore and carried by the rear end of the train or car. The arm 29 operates in a reverse direction from the arm 15 by reason of the fact that the pinion at said end of the rod is on the opposite side from that one first mentioned. It will be seen, therefore, that a train or car may pass from the main line upon the switch without stopping or requiring the services of a switchman, and that while the train is passing upon the siding the switch points will be positively locked and furthermore after the train or car has passed upon the siding the switch will be again moved to normal position automatically.

If desired either of the vertical shafts 14 or 28 may carry indicating devices to show either by day or by night the position of the switch. As indicated the shaft 14 is provided with a paddle 30 extending parallel to or toward the tracks, indicating respectively

the different positions of the switch points. Likewise the upper end of the shaft 14 may be provided with a lantern 31 having the usual white and red bull's-eyes, for night indications.

The specific details of construction may be varied if desired within the spirit of the invention hereinafter claimed.

Having thus described the invention, what is claimed as new is:

1. In an automatic switch, the combination with a main line and siding, of movable switch points, a bar connecting said switch points and projecting laterally therefrom, a spring connected at one end to said bar and at its other end to a fixed point, a rod extending lengthwise of the switch and having a cam thereon cooperating with the end of said bar, means cooperating with one end of said rod to move the same longitudinally to cause the cam to operate the bar and hold it in position against the tension of the spring aforesaid, and means cooperating with the oppo-

site end of the rod to restore the same to its normal position, substantially as set forth. 25

2. In an automatic switch, the combination with a main line and siding, of movable switch points, a bar connected thereto and extending laterally therefrom, a rod extending substantially parallel with the switch and having a cam adapted to engage the end of the bar to move the same and switch points in one direction, a spring normally tending to restore the switch points to the opposite position, means cooperating with one end of the said rod to draw the same in one direction, said means including an arm and an actuator carried by the train, and means cooperating with the opposite end of the rod to restore the same to its normal position. 30 35 40

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

IVAN DYER.

Witnesses:

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