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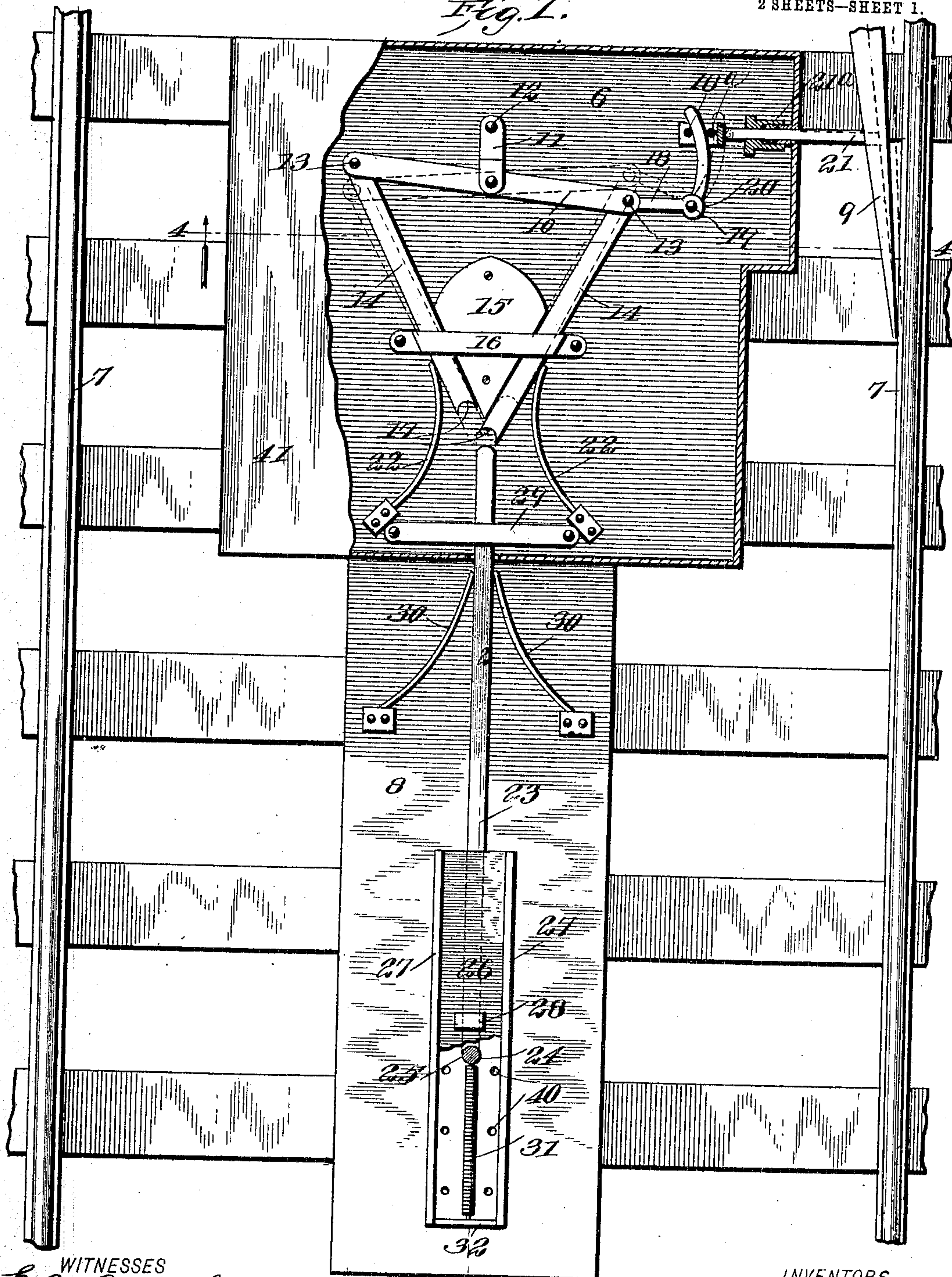
J. F. REESE & C. L. MINER.

RAILWAY SWITCH.

APPLICATION FILED MAR. 6, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



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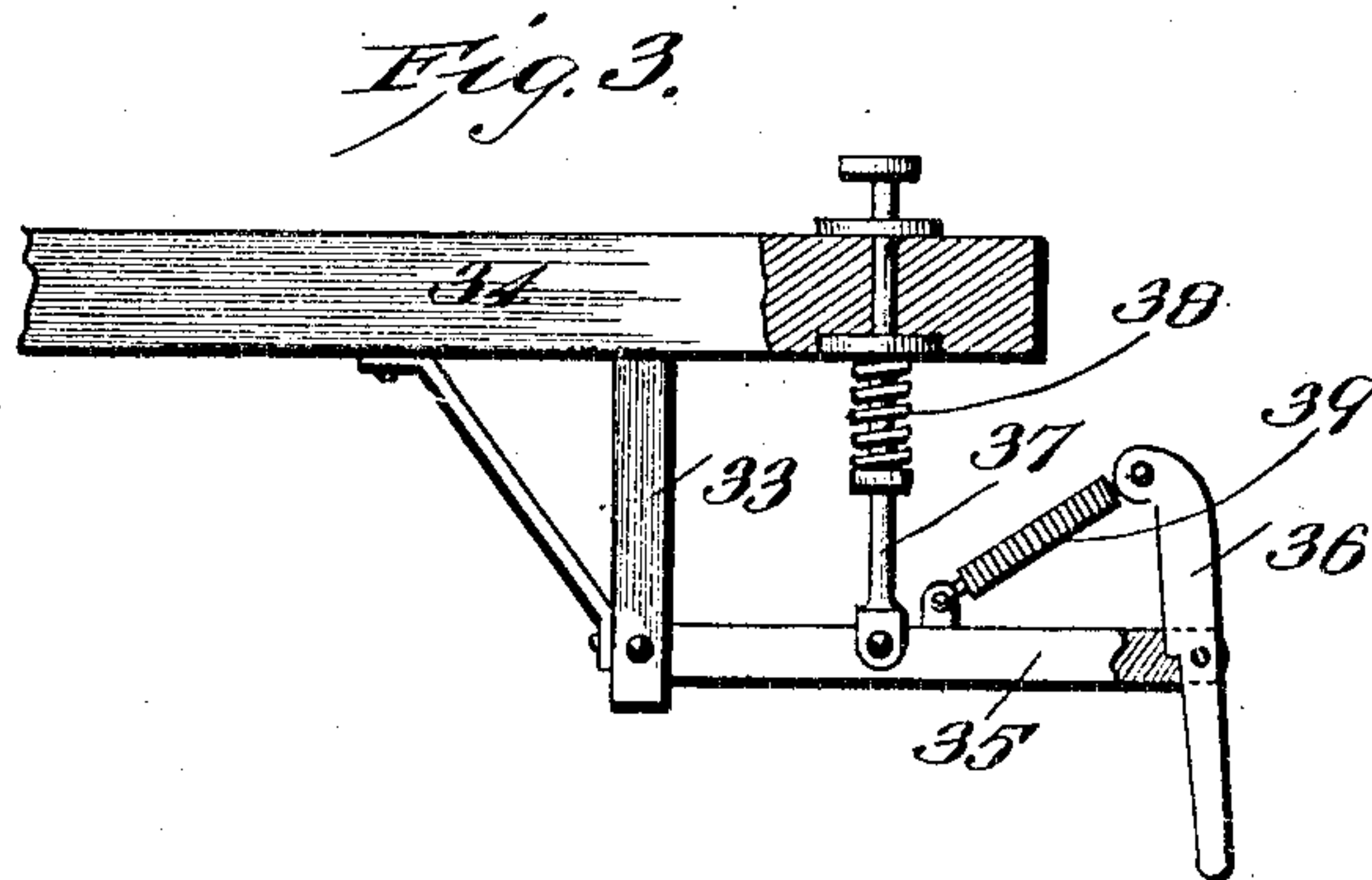
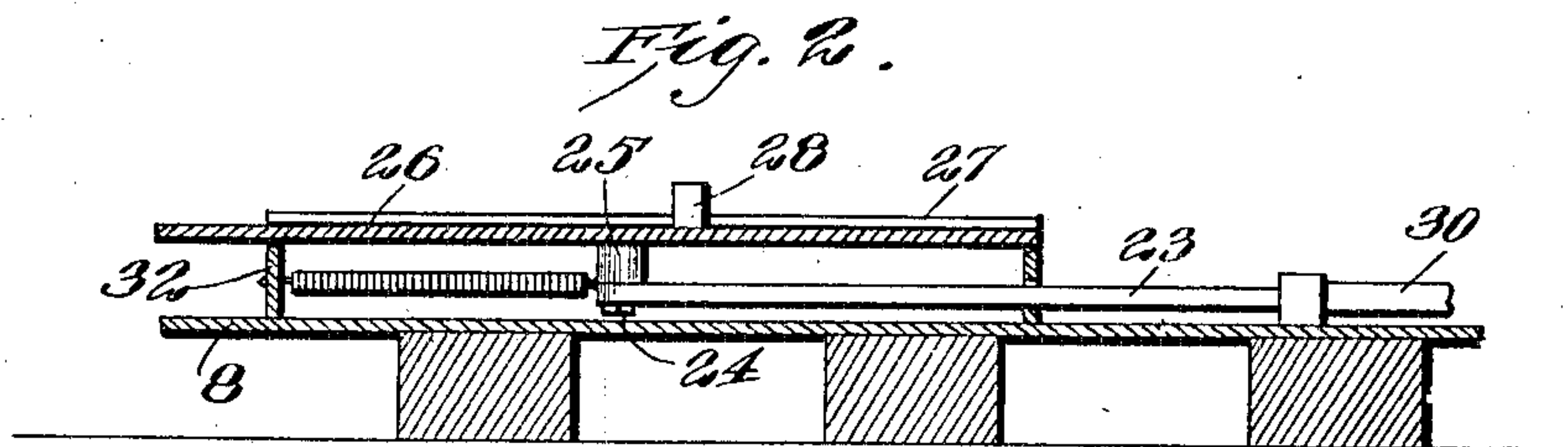
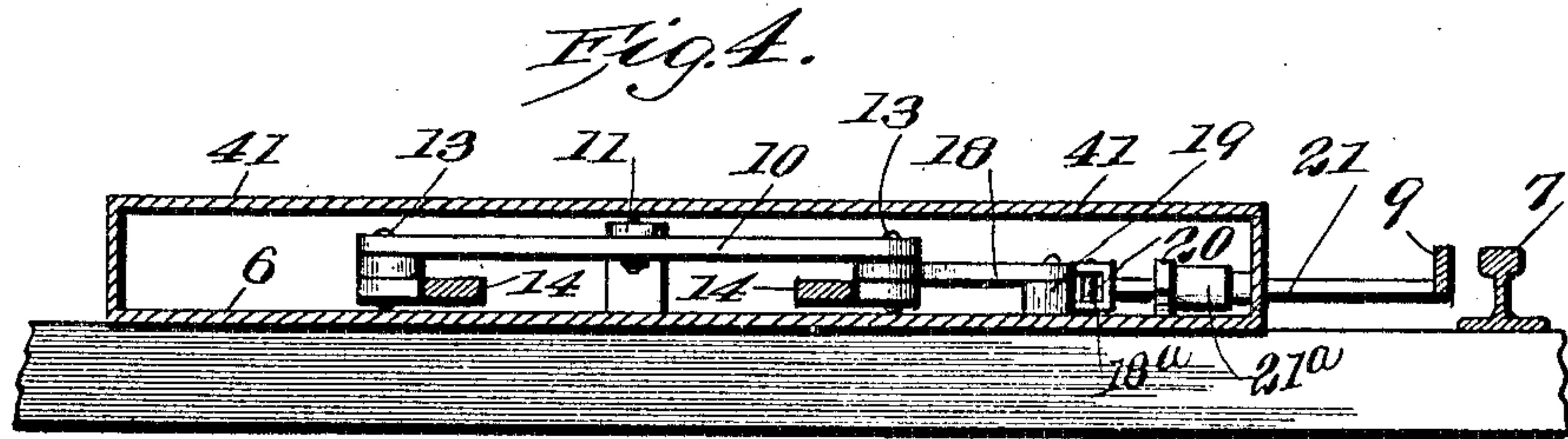
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UNITED STATES PATENT OFFICE.

JOSEPH F. REESE AND COURT LEROY MINER, OF LUCERNE, INDIANA, ASSIGNORS OF ONE-THIRD TO BERYL A. CONRAD, OF ROYAL CENTER, INDIANA.

RAILWAY-SWITCH.

No. 870,992.

Specification of Letters Patent.

Patented Nov. 12, 1907.

Application filed March 6, 1907. Serial No. 360,805.

To all whom it may concern:

Be it known that we, JOSEPH F. REESE and COURT LEROY MINER, both citizens of the United States, residing at Lucerne, in the county of Cass and State of Indiana, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

This invention relates to that class of railway switches which can be operated by means of a trip or device carried by the car and operated by the motorman or driver as he approaches the switch.

The object of the invention is to provide an improved device of simple and cheap construction which can be readily applied to the switch and which will not interfere with the ordinary operation of the switch by means of a switch bar or the like.

A further object of the invention is to provide an improved tripper carried by the car for operating the switch. Other advantages will appear from the following description and the drawings.

In the drawings, Figure 1 is a plan view of the track apparatus, the top plates of the boxes being removed to show the working parts, and indicating different positions in full and dotted lines. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a side view of the tripper carried by the car. Fig. 4 is a cross section on line 4—4 of Fig. 1.

Referring specifically to the drawings, 6 indicates the bottom plate of a water tight box or housing set in the track bed between the rails 7 and beside the switch. This plate has an extension 8 which supports part of the devices. The switch point is indicated at 9 and is conveniently made to slide upon part of the bottom plate 6.

A horizontal cross lever 10 is fulcrumed at or about its middle to a pivot piece 11 pivoted at 12 to the bottom plate and is pivotally connected at its ends, at 13, to the rear ends of a pair of inclined thrust bars 14. These bars incline toward each other and are guided by means of a triangular block 15 which is secured to the bottom plate, and stands between the bars which slide along the opposite inclined sides of the block. A strap 16, secured to the block, extends at the ends over the bars and serves to hold them in place, down on the bottom plate. The front ends of the thrust bars have curved recesses or sockets 17, presented forwardly. The end of the lever 10 adjacent to the switch point is pivotally connected to one arm of a bent cam lever 18 which is fulcrumed at the elbow 19 upon a stud 20 on the bottom plate. The other arm of the lever projects between rollers 18^a on a rod 21 connected to the switch point. The rod works through a gland 21^a in the side of the box, so that water cannot enter. Flat springs 22, fastened to the base plate, bear against

the thrust bars and hold them against the sides of the block.

A plunger 23 extends lengthwise between the tracks, in line with the front ends of the thrust bars 14. This plunger is pivoted at its rear end, at 24, to a stud 25 depending from a sliding top plate 26 which is slidable upon the upper edges of the side pieces 27 of a box which is completed by the bottom plate 8. The top plate has an upwardly projecting lug 28 which extends two or three inches above the road bed. The front end of the plunger 23 is held and guided under a strap 29 and between flat springs 30 bearing against opposite sides thereof. A spring 31 is connected between the rear end of the thrust bar and a cross rod 32 in the box referred to.

The car carries an arm 33 depending from the platform 34 thereof and has a lever 35 pivoted at its rear end to the lower end of the arm. At the front end of the lever 35 is a vertical trip lever 36 the lower end of which projects in position to strike the lug 28 when depressed. The lever 35 is connected to a pedal rod 37 extending upwardly through the platform, and a spring 38, coiled around the rod, serves to normally hold the lever and trip in raised or inoperative position. The trip 36 has a spring 39 connected between its upper end and the lever 35.

In operation, if the switch point has to be thrown, the treadle rod and trip are depressed by the motorman and the trip 36 strikes the lug 28. This slides the plate 26 forwardly which advances the plunger 23 and the upper end thereof enters one of the sockets 17 and pushes the bar 14 forwardly. This swings the lever 10 accordingly and throws the switch. On the limit of the forward movement the spring 39 yields and allows the trip 36 to snap over the lug 28 and pass the same. The plunger is then retracted by the spring 31. The thrust bars 14 slide oppositely so that when one is pushed to throw the switch one way the other slides back to receive the impact of the plunger and throw the switch the other way at the next operation. The switch may be operated by hand or otherwise if desired. The box protects the plunger and associated parts from dirt and snow and the bottom plate 8 may have holes 40 for the escape of water. A top plate 41 is located over the thrust bars and levers to inclose and protect the same. The springs 30 allow the plunger to swing to either side of the block 15, to follow either bar 14.

We claim:

1. In a railway switch, the combination with a switch point, of a pair of inclined thrust bars connected to the point and arranged to throw the same in opposite directions and having sockets in their ends, a plunger adapted to enter either socket and actuate either bar, and means carried by the car to advance the plunger.

2. In a railway switch, the combination with a switch point, of a lever connected thereto, a pair of thrust bars connected to opposite ends of the lever and adapted to swing the same in opposite directions, a plunger arranged to strike either bar and advance the same, and means carried by the car to operate the plunger.

3. In a railway switch, the combination with a switch point, of a lever connected thereto and arranged to throw the switch either way, a pair of sliding thrust bars connected at one end to opposite ends of the lever and inclined toward each other with one or the other of their opposite ends in position to receive the impact of the plunger, a plunger slidable toward said bars and adapted to strike the end in said position, and means carried by the car to advance said plunger.

4. In a railway switch, the combination with a switch point, of a lever connected thereto and arranged to throw the switch either way, guides arranged at an angle to each other in front of the lever, thrust bars connected to opposite ends of the lever and slidable oppositely in the guides to bring one or the other of their free ends to a certain point, a plunger slidable toward said point and arranged to strike the end of the thrust bar thereat, to advance said bar and swing the lever, means on the car to advance the lever, and means to retract the lever after it is advanced.

5. In a railway switch apparatus, the combination of a

trip carried by the car, a plunger slidable in the roadbed and arranged to be struck and advanced by the trip, means to retract the plunger, throw rods connected with the switch, said rods inclining in opposite directions from the plunger, and means for guiding the plunger, said means being yielding to permit the plunger to move in the direction of length of the throw rods.

6. In a railway switch, the combination with a switch point, of a box located between the rails and having a sliding cover, a plunger slidable in the box and pivotally connected to the cover, springs bearing against opposite sides of the plunger, a lever fulcrumed between the rails and connected to the switch point and arranged to throw the same either way, thrust bars connected to opposite ends of the lever and inclined toward each other and toward the end of the plunger and arranged to stand respectively in line therewith according to the position of the switch, means carried by the car to advance the plunger and cause the same to strike and advance one or the other of the thrust bars, and means to retract the plunger.

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