

M. M. KANE.  
 TRACK DEVICE FOR RAILWAY SIGNALS.  
 APPLICATION FILED NOV. 17, 1908.

929,444.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

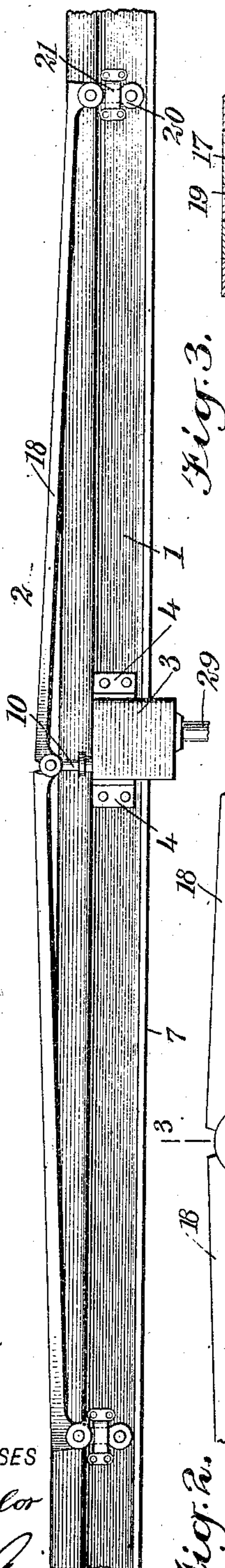


Fig. 2.

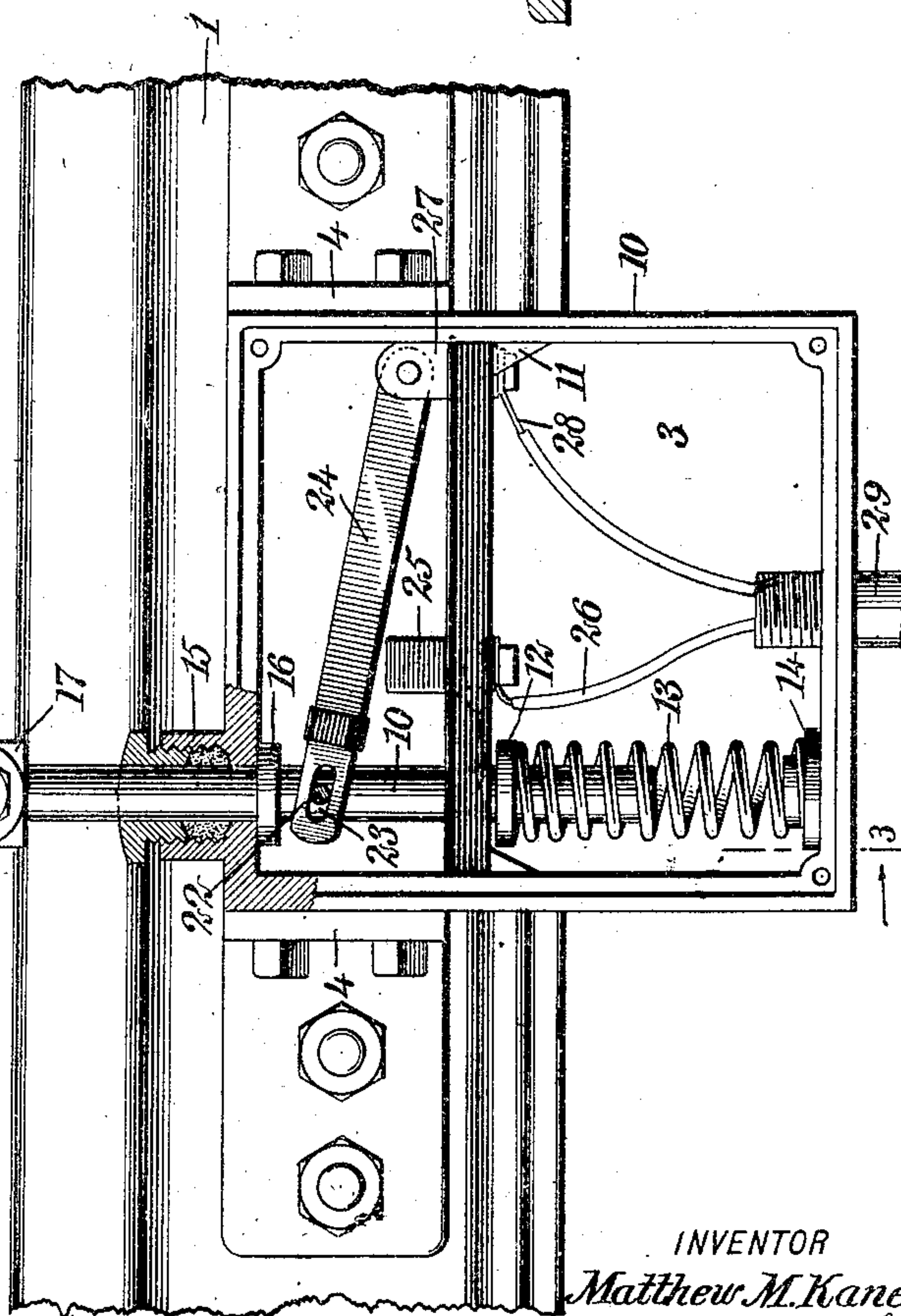
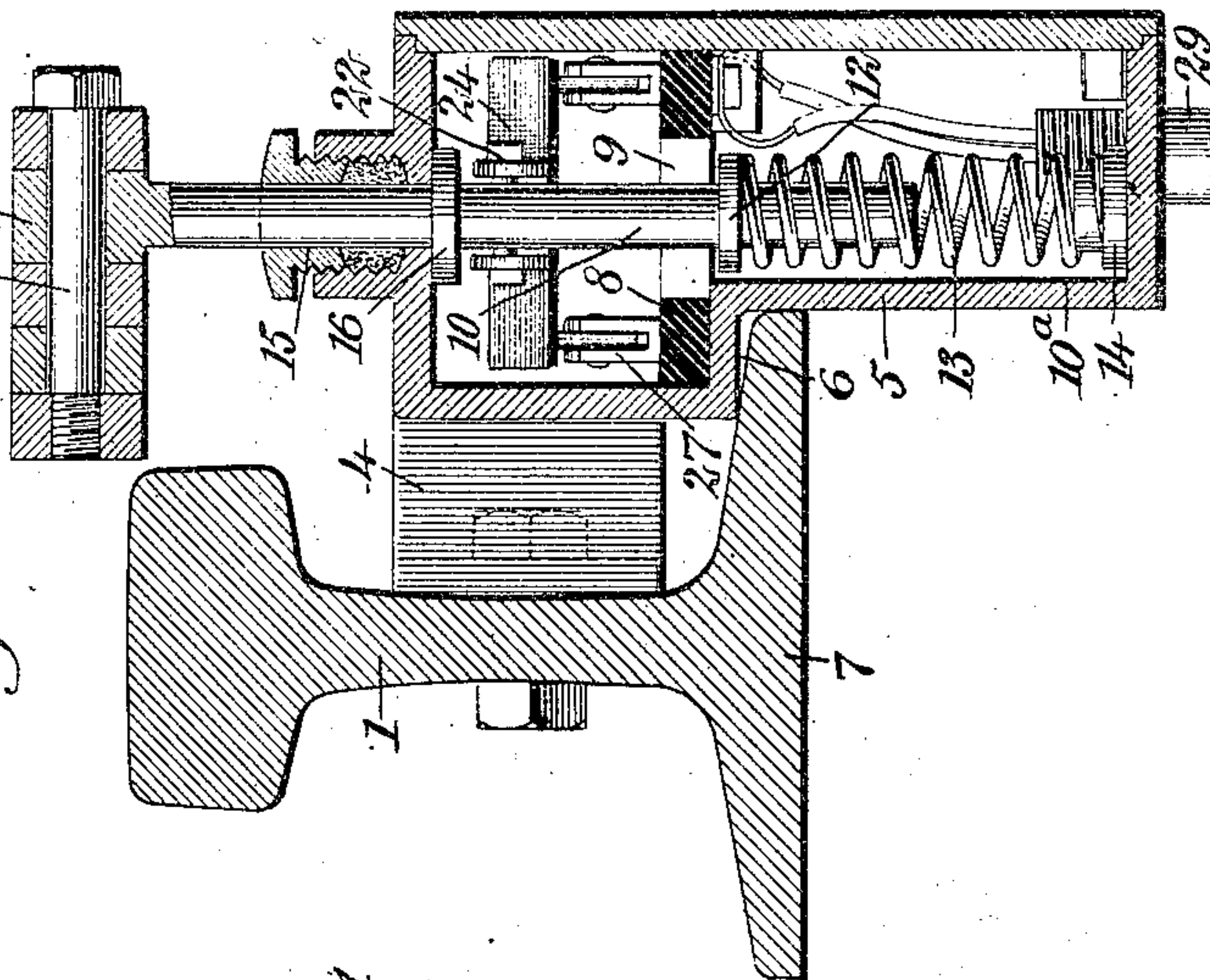


Fig. 3.



WITNESSES  
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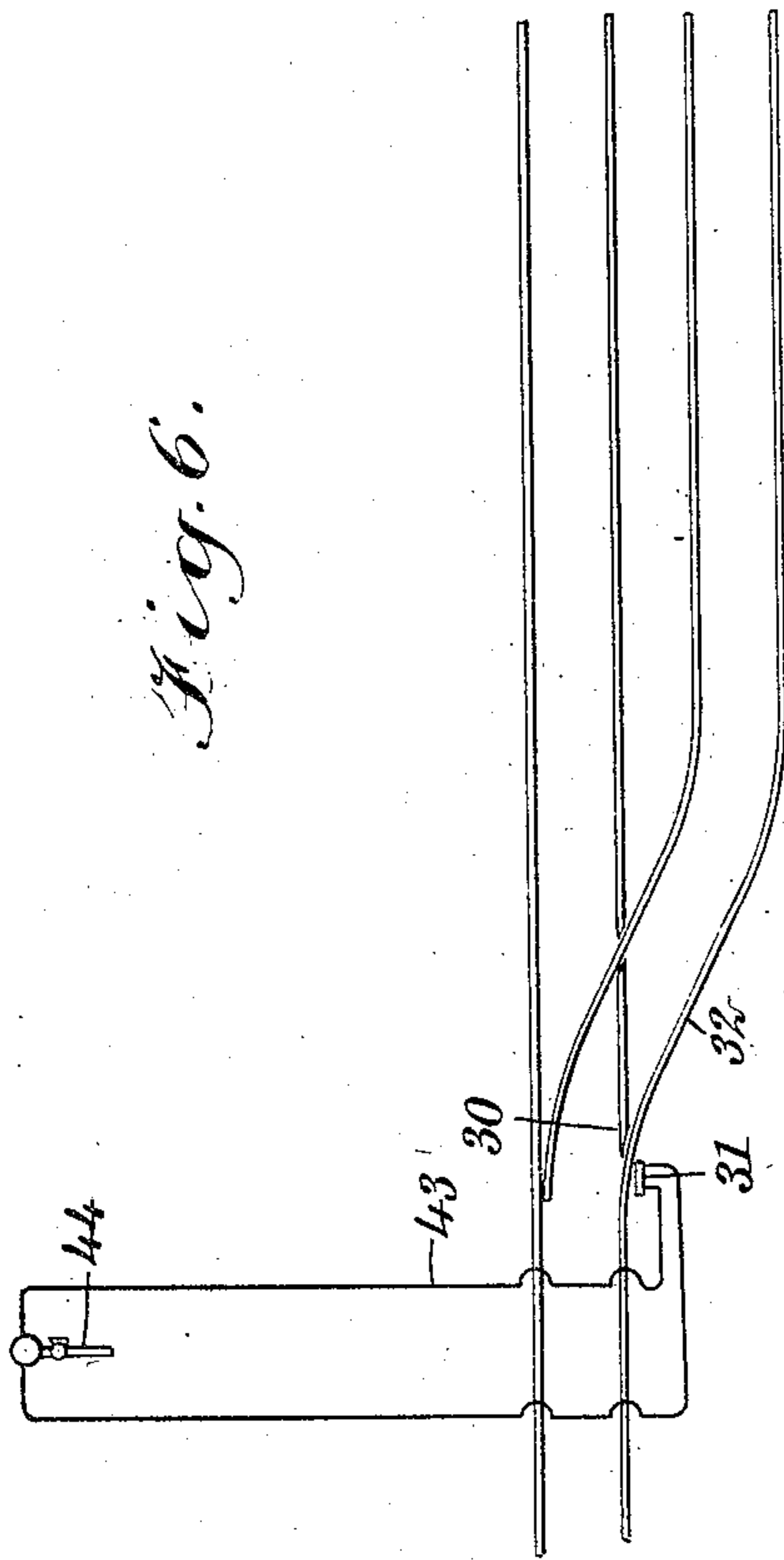
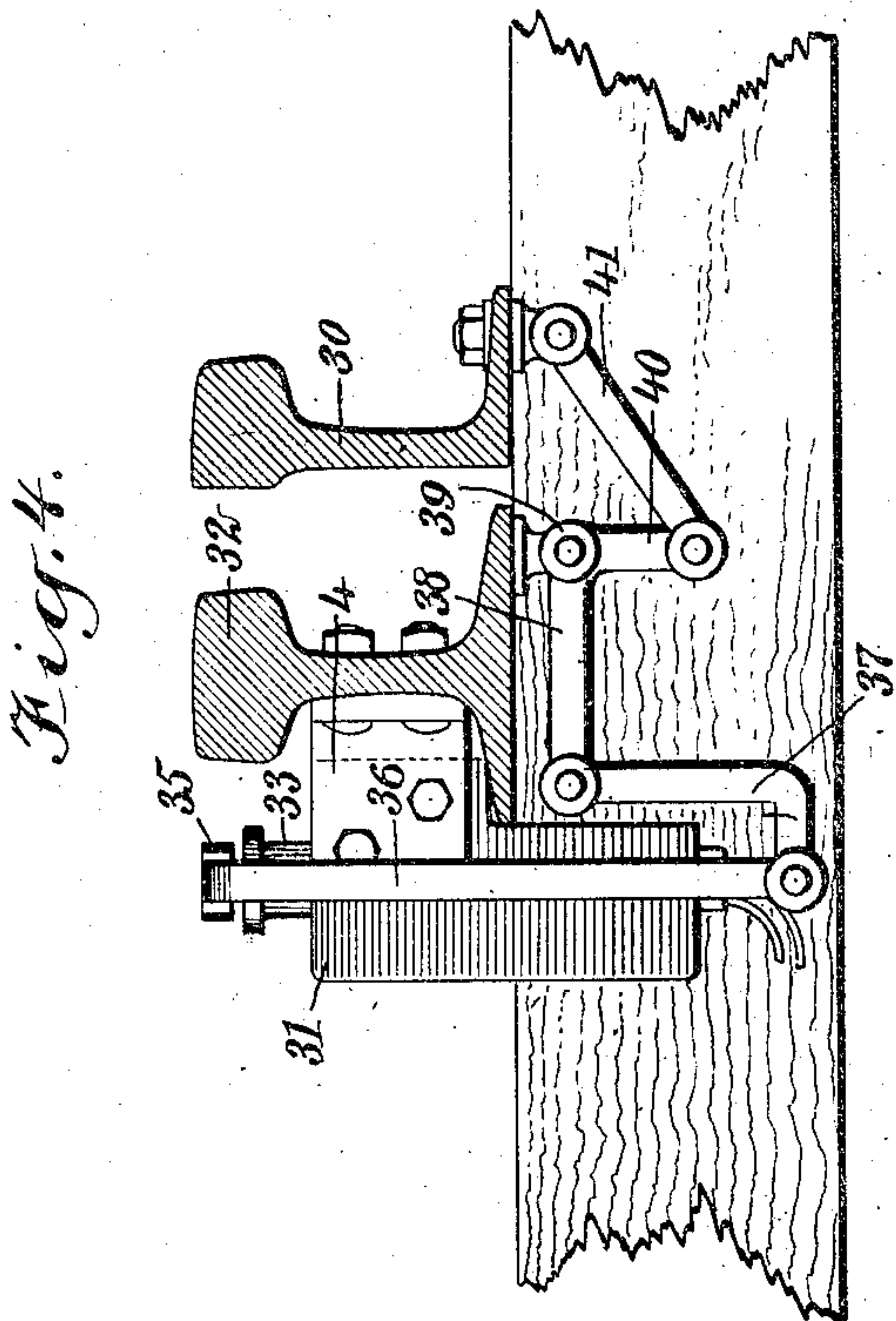
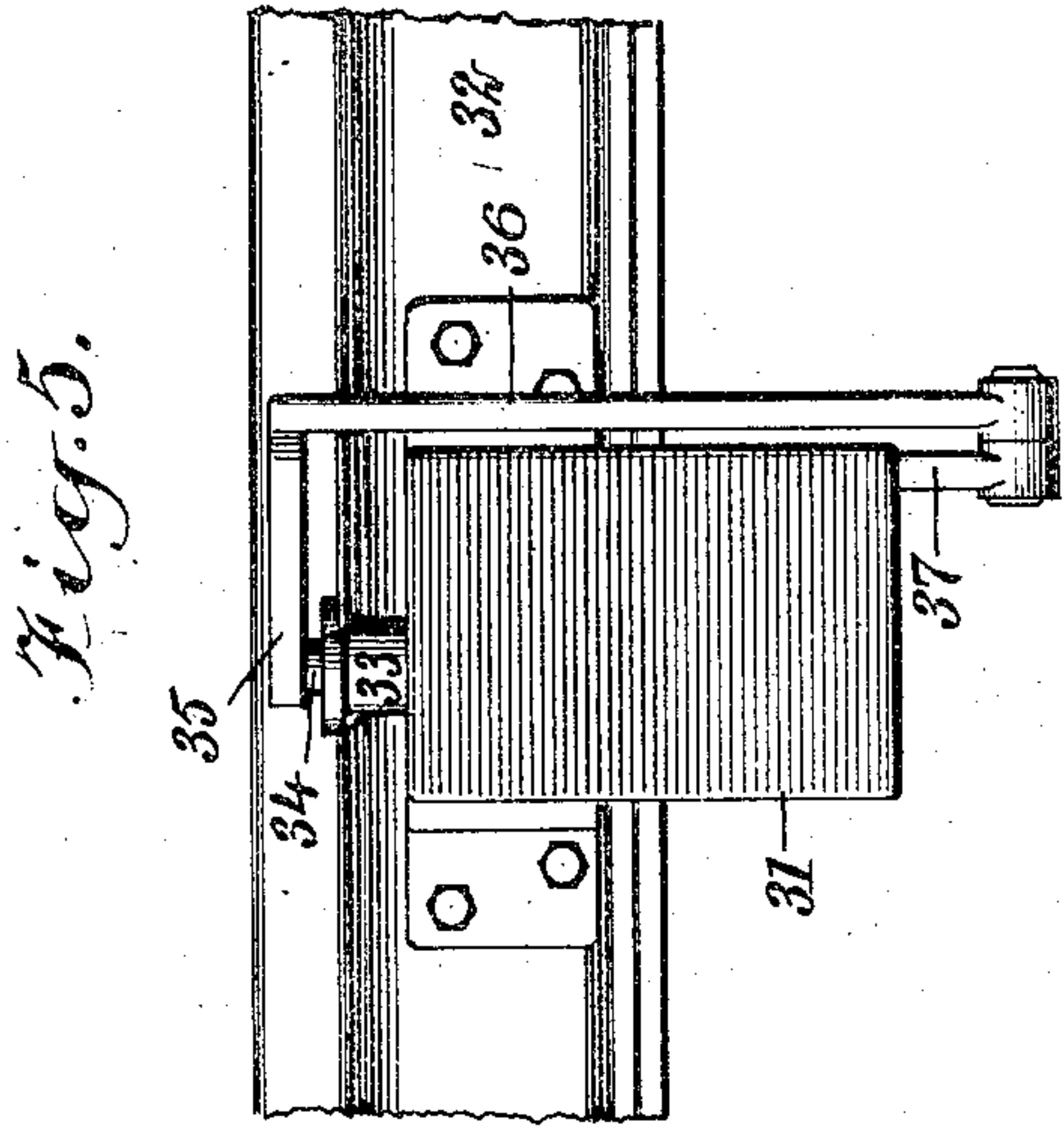
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 BY *Munn & Co.*  
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# UNITED STATES PATENT OFFICE.

MATTHEW M. KANE, OF MONTGOMERY, ALABAMA, ASSIGNOR OF ONE-HALF TO WILLIAM J. GARDNER, OF MONTGOMERY, ALABAMA.

## TRACK DEVICE FOR RAILWAY-SIGNALS.

No. 929,444.

Specification of Letters Patent.

Patented July 27, 1909.

Original application filed November 2, 1907, Serial No. 400,362. Divided and this application filed November 17, 1908. Serial No. 463,067.

*To all whom it may concern:*

Be it known that I, MATTHEW M. KANE, a citizen of the United States, and a resident of Montgomery, in the county of Montgomery and State of Alabama, have invented a new and Improved Track Device for Railway-Signals, of which the following is a full, clear, and exact description.

This application is a division of my application for railway signal, Serial No. 400,362, filed November 2, 1907.

The present invention relates to track devices such as used for controlling a signal placed along a railway track or at sidings to prevent accidents.

The object of the invention is to produce a track device of simple construction which can be operated by a train passing in either direction, and which is constructed in such a way that it can be readily actuated by a switch point so that a signal near a switch may be controlled from the switch through the track device to indicate whether the switch is open or closed.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the track device and showing a short portion of a rail to which it is attached; Fig. 2 is a side elevation of the track device, showing the cover of its case removed, certain parts being shown in cross section and broken away; Fig. 3 is a vertical section taken on the line 3-3 of Fig. 2; Fig. 4 is a vertical section through a rail and a switch point, and indicating the manner in which the switch point is connected with the device when the signal is to be operated from the switch; Fig. 5 is a side elevation of the parts shown in Fig. 4; and Fig. 6 is a diagrammatic plan showing the arrangement of the device.

Referring more particularly to the parts, and especially to Figs. 1 to 3, 1 represents the rail to which the track device 2 is at-

tached. This track device comprises a case or box 3 which is attached to the web of the rail by means of brackets or angle clips 4, as shown. The inner wall 5 of this case is offset inwardly or toward the rail at its upper portion so as to form a jog or shoulder 6 adapted to rest upon the edge of the rail flange 7, as shown in Fig. 3. This shoulder 6 forms a shelf on the interior of the case, having a switch base 8 of insulating material, said switch base consisting of a heavy flat plate having an opening 9 near one end thereof through which a plunger 10 passes upwardly. The end walls 10<sup>a</sup> of the case are provided with inwardly projecting lugs 11 which support the switch base 8 opposite to the shoulder 6, as shown. Below the opening 9 the plunger 10 is formed with a fixed collar 12, and below this collar a helical or coil spring 13 is provided. The lower end of this spring rests upon a circular seat 14 in the bottom of the case, as indicated. The plunger 10 passes up through the upper wall of the case through a suitable stuffing box 15, and the plunger is provided near this point with a stop collar or stop 16 which is normally held against the upper side of the wall of the case by the force of the spring 13. The upper end of the plunger 10 is formed into a head 17, and to this head inclined treadles or levers 18 are pivotally attached by a pivot pin 19. The outer ends of these treadle levers 18 are attached pivotally to links 20, said links being pivotally attached at their lower ends to the web of the rail 1. On the web of the rail adjacent to the links 20, guide straps 21 of metal are attached, as shown. These straps 21 permit a limited swinging movement of the links in a vertical plane, as will be readily understood. In the upper part of the case the plunger 10 is provided with a transverse bolt 22, and this bolt passes through elongated slots 23 formed in the end of a double knife electric switch lever 24. In the illustration only one of the sides of this double switch is used. The socket 25 near the free end of the switch has an electric conductor 26 attached thereto, and the pivot post 27 at the other end of the switch, and corresponding to this socket 25, has a conductor 28 attached thereto. These conductors pass to the signal and find exit



from the case through a suitable tubular conduit 29. The switch may close two circuits instead of one, as suggested, by connecting the other side of the switch with  
5 wires, as will be readily understood.

It should be understood that the device is expected to be attached to the outer side of the rail so that when a train passes the wheels will strike the treadles 18 and depress  
10 the plunger 10 against the force of the spring 13; this closes the switch lever 24 against the contact 25, and closes the circuit through the conductors 26 and 28 passing to the signal. When the train has passed, the  
15 spring 13 raises the plunger to its normal elevated position and opens the switch.

Referring now to Figs. 4 and 5, the mechanism will be described by means of which the device may be operated by the opening  
20 or closing of a switch point 30 such as that shown in Fig. 6. When used in this connection the case 31 of the track device is preferably attached to the outer side of the rail 32, as shown in Fig. 4. The plunger  
25 33 which projects above the case is formed into a head 34 to which is attached the horizontal arm 35 of a vertical link 36, the said link extending down at the vertical end wall of the case, as indicated in Fig. 5.  
30 The lower end of this link 36 is pivotally attached to a laterally offset link 37 which extends up near the inner side of the case, and the upper end of this link is pivotally attached to the horizontal arm 38 of a bell  
35 crank lever 39, said bell crank lever or switch point lever having a vertical arm 40, to which a link 41 is attached, and this last link is connected to the movable switch point 30. From this arrangement, when the  
40 switch point 42 is moved away from the rail 32, the bell crank lever 39 rocks and depresses the link 36 and through the link 37 depresses the plunger 34 and closes the switch within the case. In this way the  
45 track device can be made to close a circuit 43 through a signal 44 which is placed adjacent to the track.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent,—

1. A track device comprising a case, means for attaching the case to the rail, a plunger guided vertically through said case, a coiled spring within said case disposed  
55 about said plunger and tending to hold the same in an elevated position, a transverse bolt carried by said plunger, a switch having a pivoted lever with a slot receiving said bolt, and means for depressing said  
60 plunger.

2. A track device comprising a case, an insulated switch base mounted in said case and having an opening therethrough, a vertically guided plunger passing downwardly through said opening, a coiled  
65 spring tending to hold said plunger in an elevated position, a switch lever pivotally mounted on said switch base and having a pin and slot connection with said plunger, and means for depressing said plunger.  
70

3. A track device comprising a case having an offset inner wall forming a shoulder adapted to engage the rail flange, means for attaching said case to a rail, a  
75 vertically guided plunger mounted in said case, a spring tending to hold said plunger in an elevated position, and a switch lever pivotally mounted in said case and having a pin and slot connection with said plunger.

4. A track device comprising a case having an offset inner wall forming a shoulder adapted to rest upon the rail flange, an insulating base resting on the inner side of  
80 said shoulder within said case, a switch lever pivotally mounted on said case, a vertically guided plunger passing downwardly within said case, a spring tending to raise said plunger, and a pin and slot connection between said plunger and said switch lever.  
85

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

MATTHEW M. KANE

Witnesses:

M. M. WEATHERBY,  
W. B. BAYLES.