

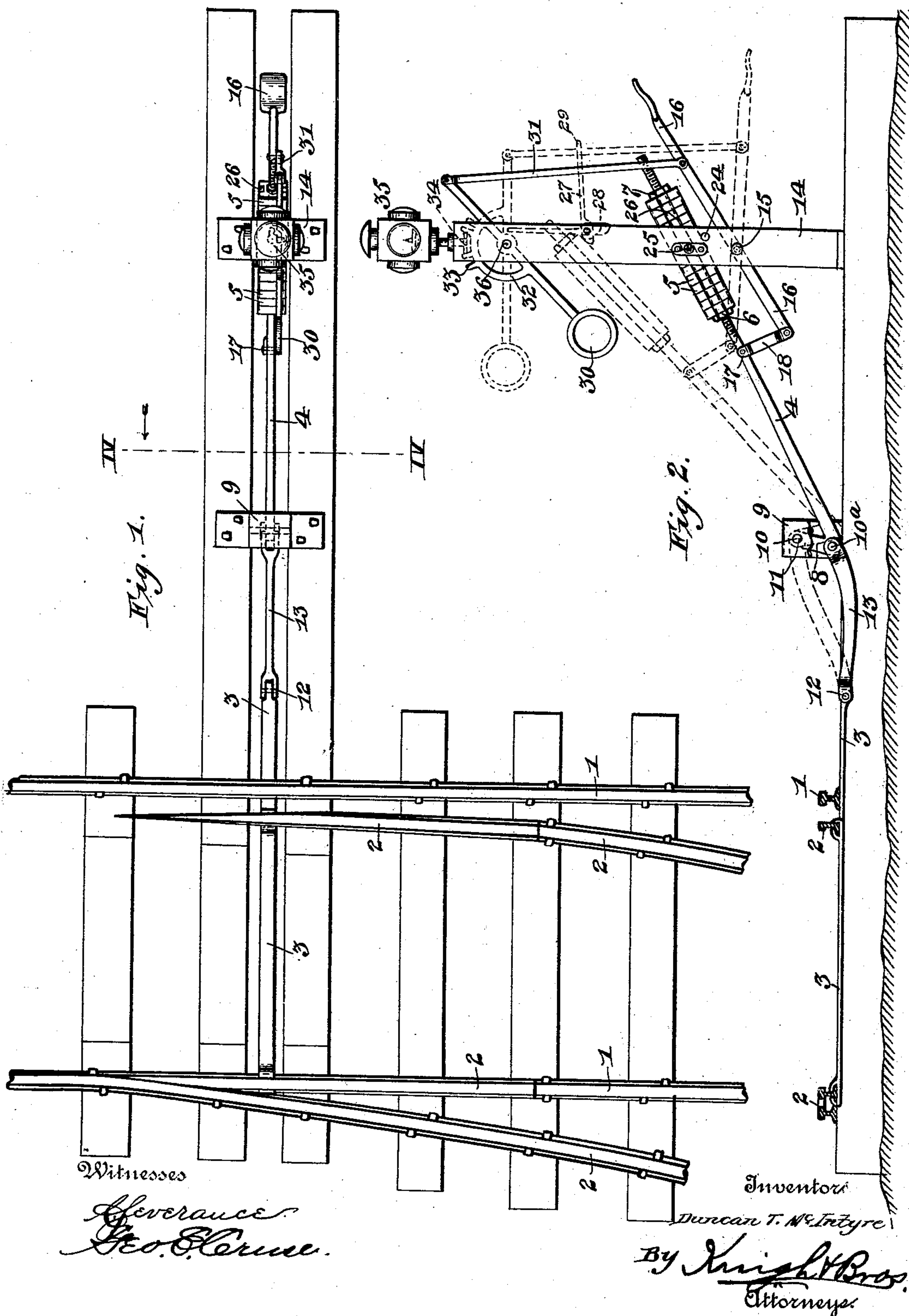
(No Model.)

2 Sheets—Sheet 1.

D. T. McINTYRE.
SAFETY SELF CLOSING RAILROAD SWITCH.

No. 506,602.

Patented Oct. 10, 1893.



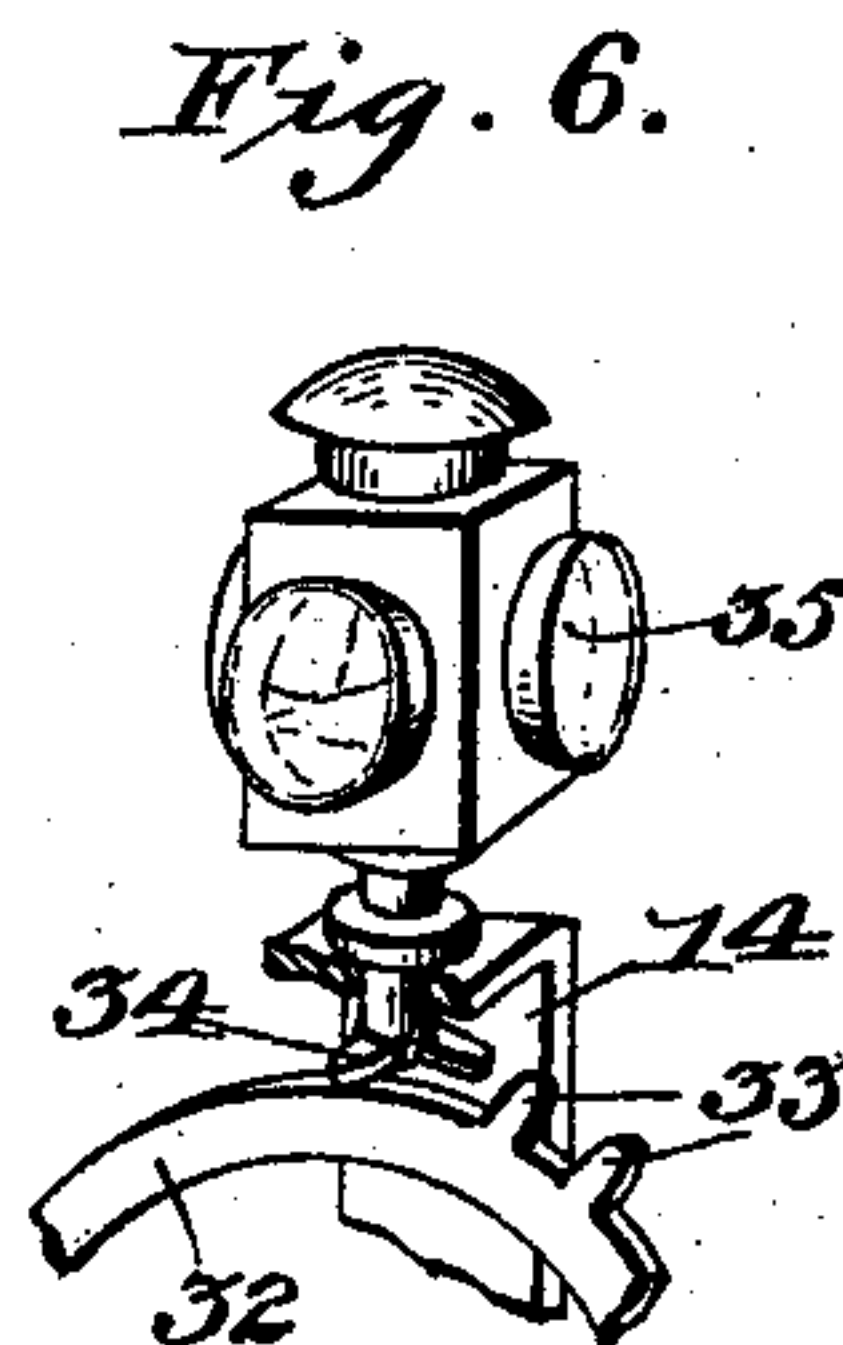
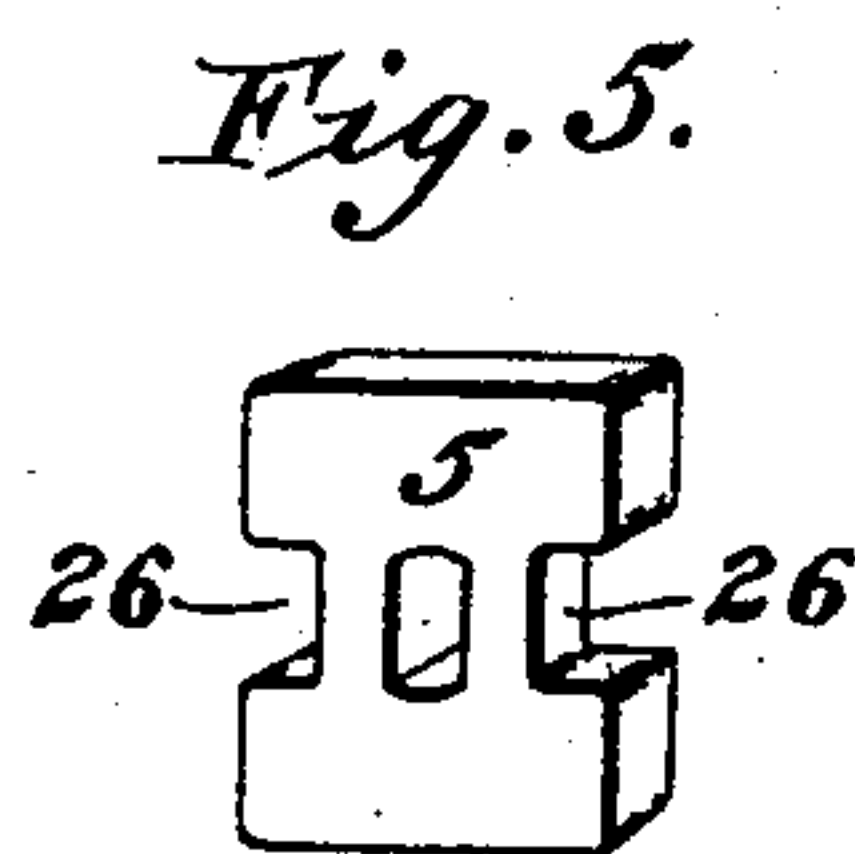
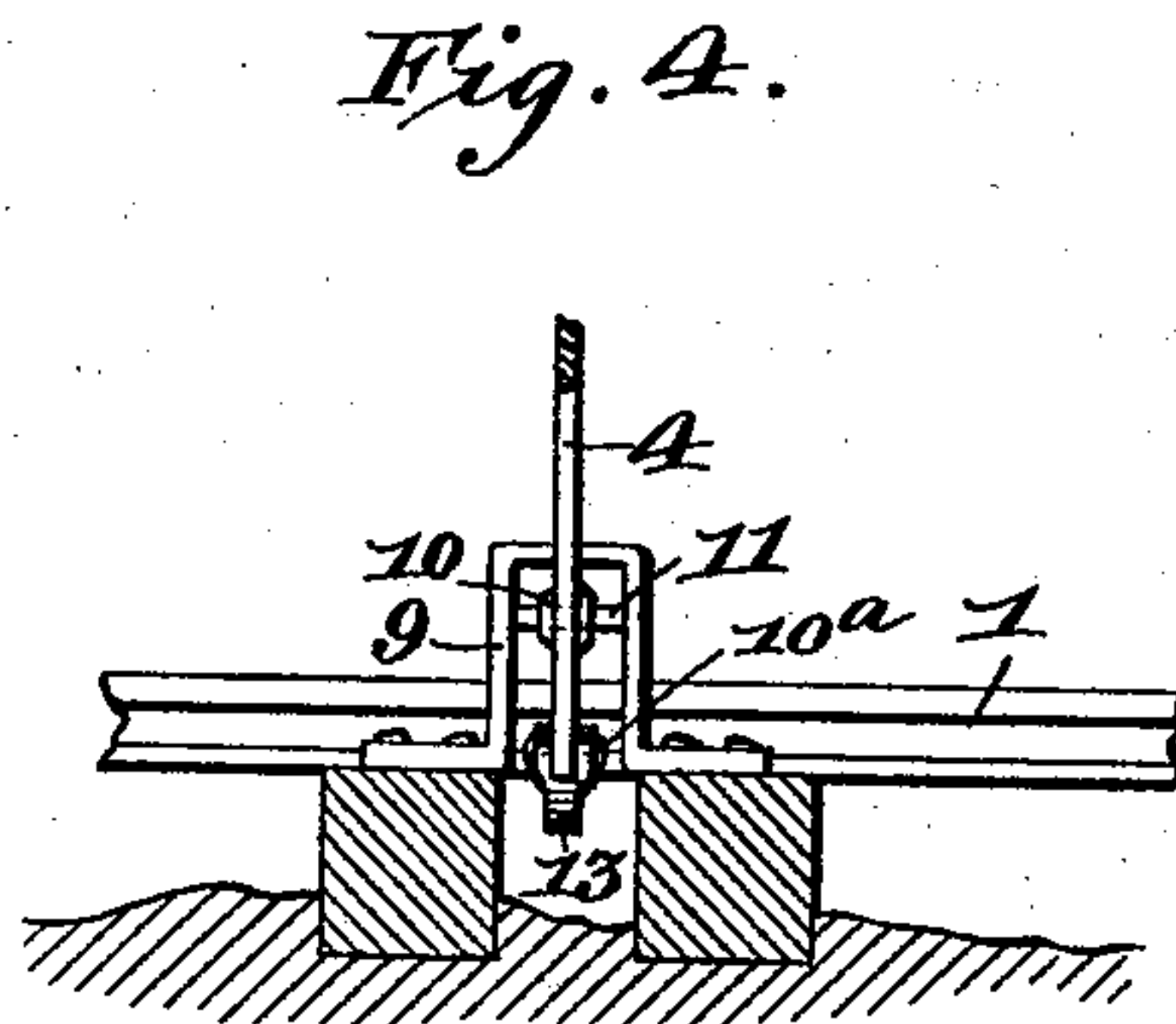
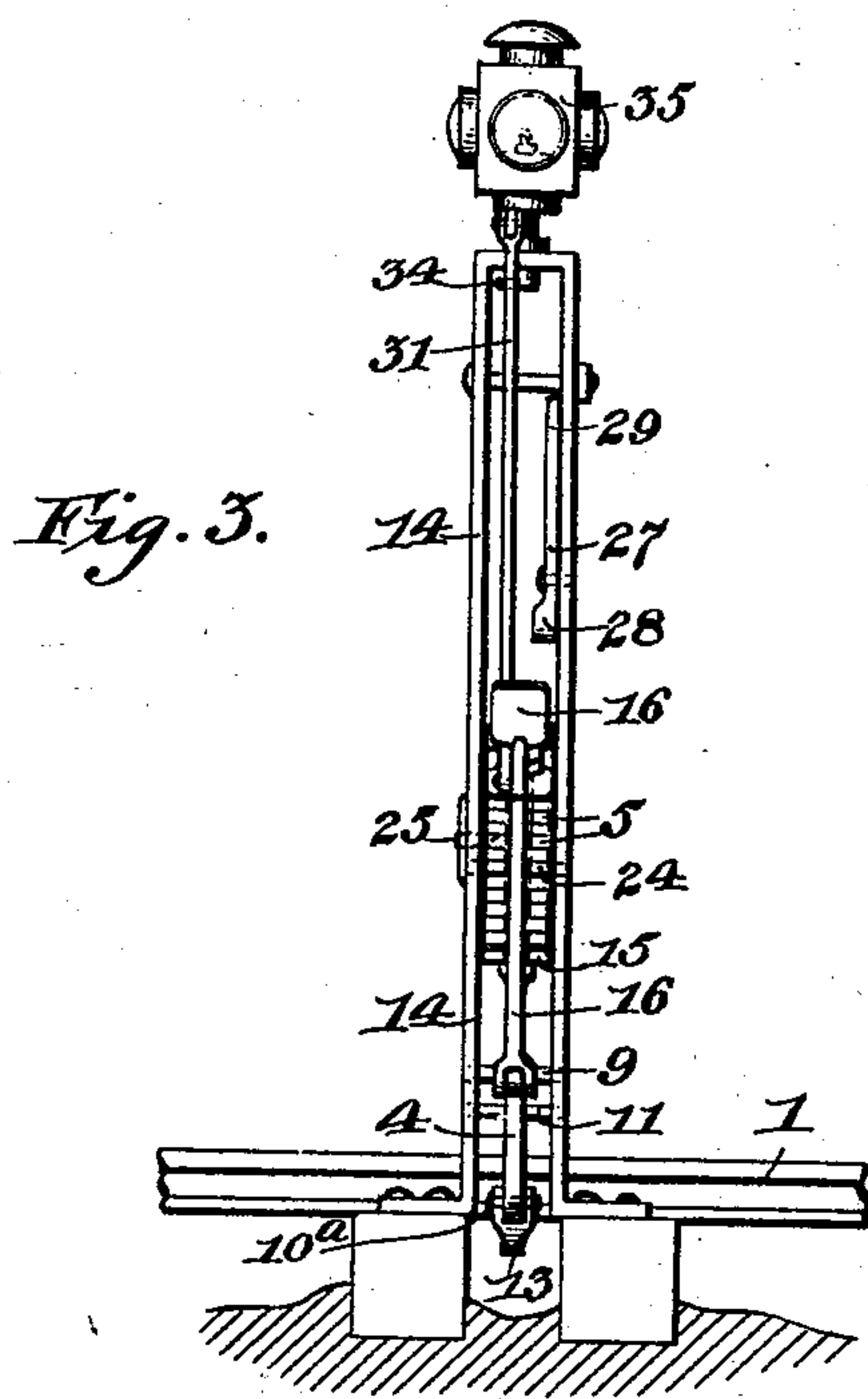
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Witnesses
Everance
Pro. E. C. C. C.

Inventor
Duncan T. McIntyre
By *Knight Bros.*
Attorneys

UNITED STATES PATENT OFFICE.

DUNCAN T. MCINTYRE, OF MATTOON, ILLINOIS.

SAFETY SELF-CLOSING RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 506,602, dated October 10, 1893.

Application filed April 18, 1893. Serial No. 470,880. (No model.)

To all whom it may concern:

Be it known that I, DUNCAN T. MCINTYRE, a citizen of the United States, residing at Mattoon, in the county of Coles and State of Illinois, have invented certain new and useful Improvements in Safety Self-Closing Railroad-Switches, of which the following is a specification.

My invention relates to that class of switches which employs a weight connected with the switch rod for keeping it in closed position, so that when the switch rails are changed from the main line to the siding the weight will be elevated, and when released will fall and automatically close the switch.

My invention consists broadly of a pivoted lever connected with the switch rod, and provided with a number of weights adjustably and detachably secured thereto, and of suitable means for elevating the said weighted lever for shifting the switch rails; and my invention further consists of certain features of novel construction to be hereinafter fully described with reference to the accompanying drawings and specifically pointed out in the claims.

In the accompanying drawings:—Figure 1 is a plan view of my improved switch. Fig. 2 is a side elevation of the same, showing in dotted lines the weighted lever in its elevated position. Fig. 3 is an end view thereof. Fig. 4 is a sectional view taken on the line IV—IV Fig. 1 looking in the direction of the arrow, and Figs. 5 and 6 are detail views.

In the said drawings:—1 represents the rails of the main road, 2 the rails of the switch and 3 the switch rod attached to the switch rails.

4 is the weighted lever provided at one end with the removable weights 5, and at its other end with the short integral arm 8, extending therefrom at an angle of about forty-five degrees. These weights 5 can be adjusted longitudinally on the lever by means of the nuts 6, 7 which work on the screw-threaded portions of the lever.

9 represents a U-shaped housing secured to two of the cross-ties of the railroad within which the lever 4 is fulcrumed at 10 by means of a bolt 11, said lever 4 being connected with the switch operating mechanism rod 3, at 12, by means of the pivoted link 13. When

the switch is on the opposite side of the track, it will be necessary to change the fulcrum point of the lever 4 from the point 10 to the point 10^a and the short arm connection from 10^a to 10 as shown in dotted lines Fig. 2.

14 represents an upright frame or standard which is securely bolted to the railway cross-ties and 16 is a foot-lever fulcrumed therein at 15, which foot-lever is adapted to elevate the weighted lever to change the position of the switch rails. This foot-lever is connected to the weighted lever 4 at 17 by means of the short link 18, and through the medium of said connection is adapted to raise the weighted lever. The weighted end of the lever 4 is straddled by or works in the frame 14.

When the switch is in its closed position the weighted lever 4 rests upon the cross rod 24 in the frame 14 and is locked in that position by means of the spring lock 25 secured to one side of the frame 14, the bolt of which lock fits in one of the recesses 26 formed in the weights 5. When the switch rails are shifted from the main line to the siding the weighted lever 4 is elevated (as shown in dotted lines Fig. 2) and it is held in its elevated position by means of the hand lever 27 which is also pivoted to the frame 14. This lever is provided with an enlarged or weighted head 28 which engages the weights on the lever 4, and, when out of engagement with said lever, is adapted to drop down out of the way and throw its handle 29 upward. A signaling device is arranged at the top of the frame 14 and it is adapted through connection with the weighted lever to indicate the position of the switch rails.

The signal 30 which is used during the day time to indicate the position of the switch rails by its elevated or lowered position, is pivoted by means of a bolt 36 at the top of the frame and is connected to the foot-lever by the rod 31. Thus it will be seen that when the foot-lever is depressed to change the switch rails from the main line to the siding the signal 30 will be raised, but when the foot-lever is released the weight drops, returning the said lever to normal position, and the signal to its lowered position.

32 represents a semi-circular portion or segment on the arm of the signal 30, and 33

the teeth on said segment. These teeth are adapted to engage a forked projection 34 on the lantern 35 which is rotatably mounted upon the top of the frame 14. The lantern is used in the night time to indicate the position of the switch rails. The movement of the weighted lever gives to the said lantern a quarter turn forward and backward each time the weighted lever is raised and lowered, and thus displays a different colored light at each position of the switch.

The operation of my device is as follows:— When the switch rails are to be changed from the main line to the siding the lock is disengaged from the weights 5, and the foot-lever depressed. By this movement the weighted lever is elevated, to the position shown by dotted lines in Fig. 2, and, swinging on its fulcrum in the housing, pushes (or pulls as the case may be) the switch rails to their new position. During this movement of the lever, the connecting rod between the lever and signal, elevates the signal, as seen in dotted lines in Fig. 2, and the teeth on the semi-circular segment give the lantern a quarter turn to indicate during the day or night, the position of the switch rails. The lever is held in elevated position by the hand lever 27. When it is desired to return the switch rails from the siding to the main line the weighted lever is allowed to fall into its locked position, as shown in full lines in said Fig. 2.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a railway switch, the combination of the rails, the switch rod attached to said rails, a lever provided with a number of weights detachably and adjustably secured thereto connected to said rod for keeping the switch in closed position, and suitable means connected to said lever for raising the same to change the position of the switch-rails substantially as shown and described.

2. In a railway switch, the combination of the rails, the switch rod attached to said rails, a lever provided with a number of weights detachably and adjustably secured thereto, connected to said rod, a support secured to the cross-ties in which said weighted lever is pivoted, a frame also secured to the cross-ties, in which said lever works, and suitable means in said frame for raising said lever to change the position of the switch rails, substantially as shown and described.

3. In a railway switch, the combination of the rails, the switch rod attached to said rails, a weighted lever pivoted to a housing secured to the cross-ties and connected to said

frame, a frame also secured to the cross-ties for supporting the free end of the weighted lever, a foot-lever pivoted in said frame and connected to said weighted lever for raising the same when the positions of the switch rails are to be changed, and a signal mounted on the said frame and connected to the weighted lever, substantially as described.

4. In a railway switch, the combination of the rails, a switch rod attached to said rails, a weighted lever pivoted in a housing secured to the cross-ties and connected to said rod, a frame also secured to the cross-ties for supporting the weighted end of said lever, a spring lock on said frame for holding the lever in its closed position, a signal at the top of said frame, a foot-lever pivoted in said frame, and a connection between the said signal and foot-lever, substantially as and for the purpose set forth.

5. In a railway switch, the combination of the rails, a switch rod attached to said rails, a weighted lever pivoted at one end in a housing secured to the cross-ties, connection between said rod and lever, a frame also secured to the cross-ties for supporting the weighted end of said lever, a spring lock on said frame engaging the lever for keeping it in its lowered position, a foot-lever pivoted in said frame and connected by a rod to the weighted lever, substantially as and for the purpose set forth.

6. In a railway switch, the combination of the rails, a switch rod attached to the rails, a weighted lever connected to said rod, a frame secured to the cross-ties for supporting said lever, a foot-lever pivoted in said frame, a segment pivoted in said frame and having connection with said foot-lever and a signal provided with a depending forked arm rotatably mounted on said frame, said segment being provided with teeth or projections for engaging the forked arm of the signal, substantially as and for the purpose set forth.

7. In a railway switch, the combination of the rails, the switch rod attached to said rails, a lever provided with a number of weights detachably and adjustably secured thereto, and pivoted to a support and connected to said rod, a frame secured to the cross-ties for supporting one end of the weighted lever, and a foot-lever pivoted in said frame and connected to the weighted lever for raising the same, substantially as shown and described.

DUNCAN T. MCINTYRE.

Witnesses:

T. W. GAW,
C. E. WILSON.