

No. 875,429.

PATENTED DEC. 31, 1907

W. R. HABERLIN.
TOY RAILWAY SIGNAL AND SWITCH.
APPLICATION FILED JUNE 1, 1907.

Fig. 1.

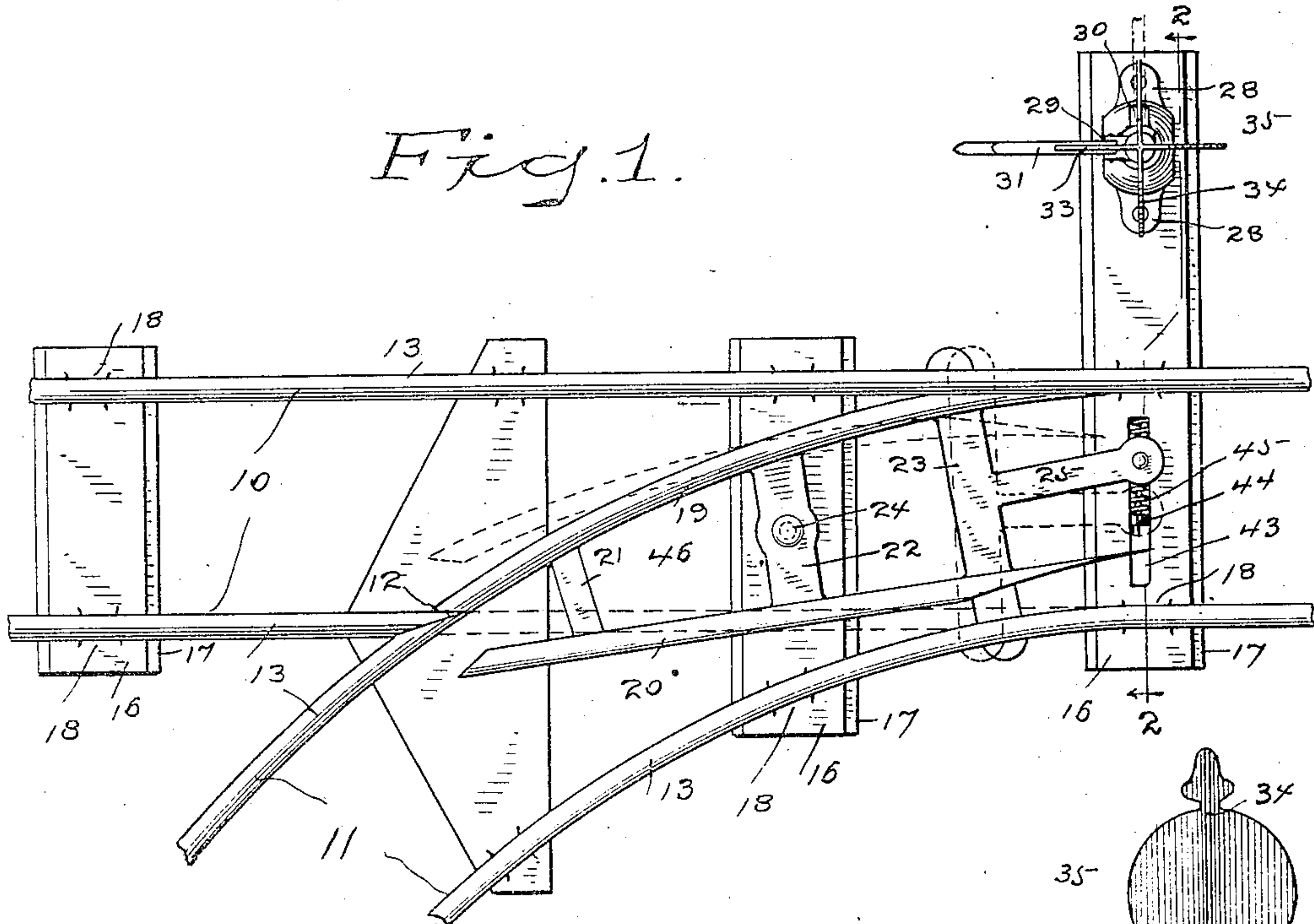


Fig. 2.

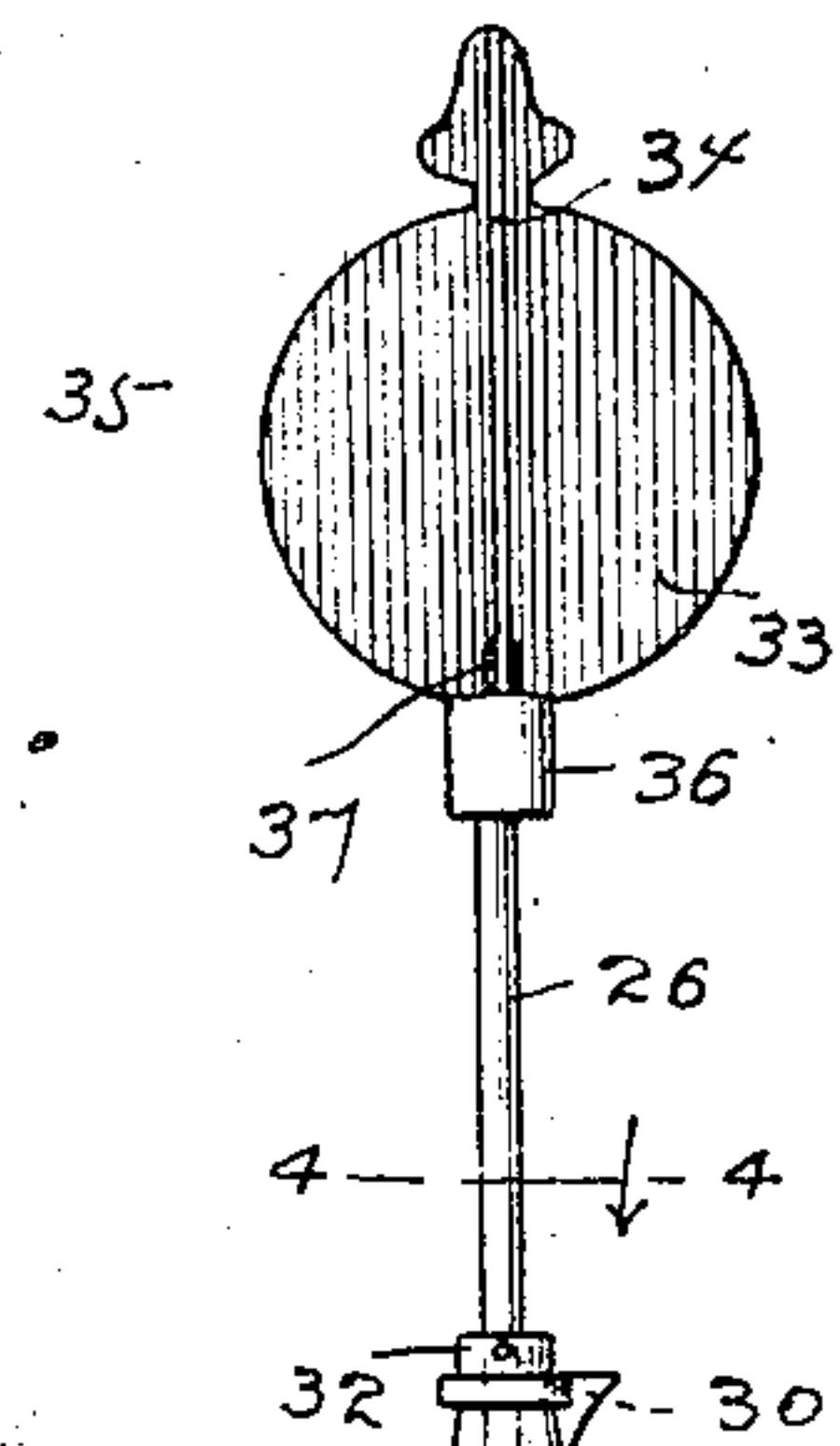


Fig. 3.

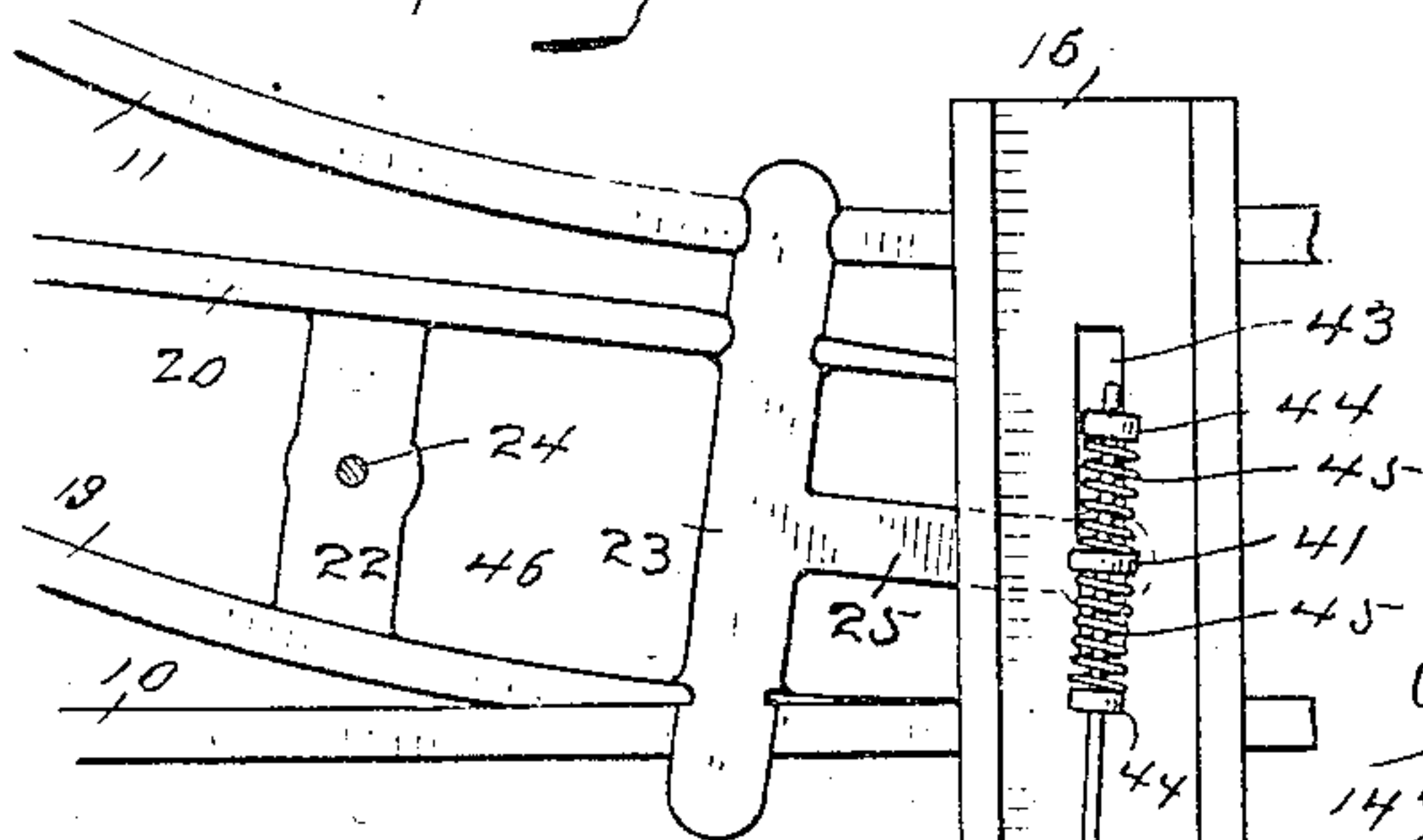
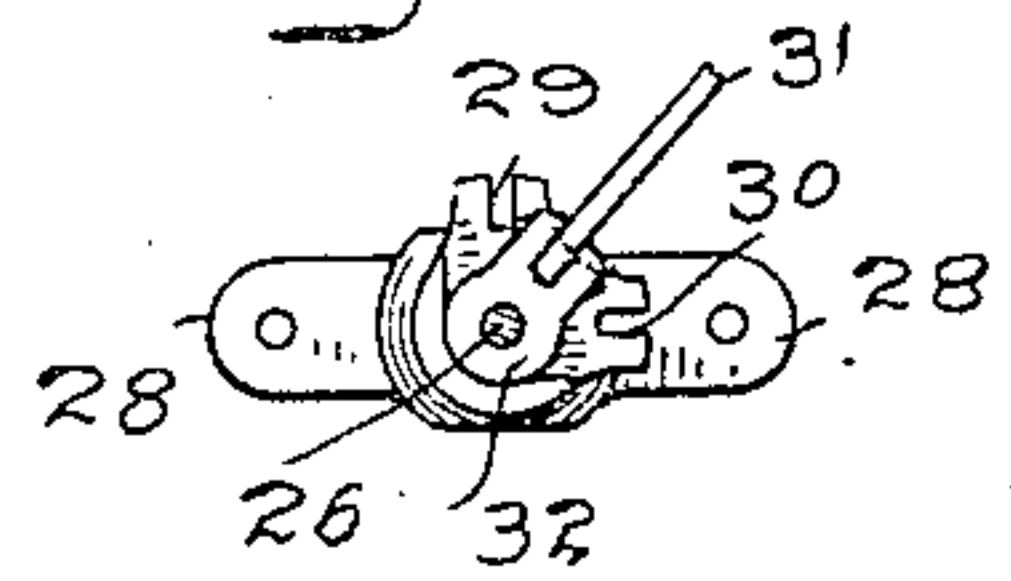


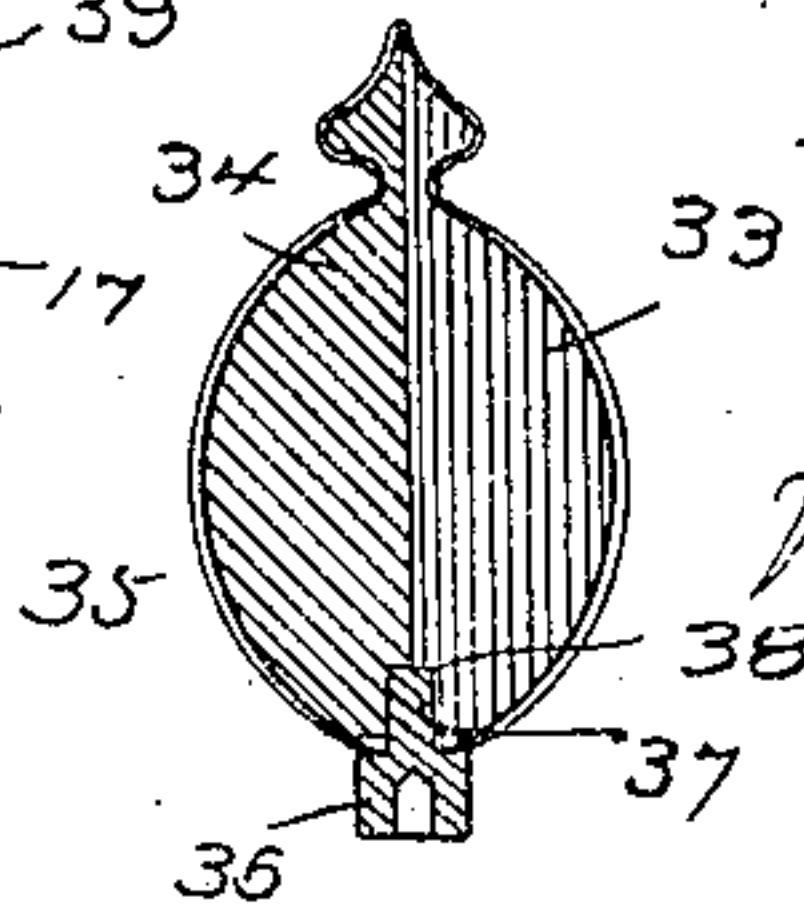
Fig. 4.



WITNESSES

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Fig. 5.



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TOY-RAILWAY SIGNAL AND SWITCH.

No. 875,429.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed June 1, 1907. Serial No. 376,769.

To all whom it may concern:

Be it known that I, WILLIAM R. HABERLIN, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Toy-Railway Signal and Switch, of which the following is a specification.

This invention has for its object to provide a simple, inexpensive, easily operated and reliable signal and switch for toy railway systems, which shall be so simple and inexpensive to produce as to enable toy railway systems to be provided with this desirable feature without appreciably adding to the cost of construction.

With this end in view I have devised the simple and novel mechanism which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts:

Figure 1 is a plan view of my novel signal and switch mechanism, the switch being set to throw a train of cars off from the main line upon a branch; Fig. 2 a section on the line 2—2 in Fig. 1, looking in the direction of the arrows; Fig. 3 an inverted plan view corresponding with Fig. 1; Fig. 4 a detail plan view of the switch operating and locking mechanism, the shaft being in section on the line 4—4 in Fig. 2; and Fig. 5 is a detail view partly in section, illustrating the construction of the signal.

10 denotes the main line rails of a toy railway system and 11 branch line rails, one of which may be made continuous with a main line rail, as shown. The other branch rail intersects a main line rail at an acute angle, as at 12. The rails are ordinarily made of sheet metal formed to shape and comprise treads indicated by 13, webs indicated by 14 and flanges indicated by 15.

16 denotes ties which are made of sheet metal and are broadly U-shaped in cross section, the tie to support intersection 12 being made widest at the center. The ties are shown as provided with outwardly extending flanges 17 which strengthen the ties and provide bearings for the ties and rails upon the floor or ground and enable the ties to be made of relatively light metal. The ties are provided with attaching lugs 18 which are formed by striking out tongues from the

metal of the ties, leaving one end of each tongue attached to the tie. These attaching lugs face each other and are just sufficient distance apart to engage the flanges of the rails on opposite sides of the webs, as clearly shown in Fig. 2.

46 denotes the switch piece which comprises switch rails 19 and 20 and cross-pieces 21, 22 and 23. Both ends of switch rail 20 are adapted to intersect a main line rail, and one end of switch rail 19 is adapted to intersect a main line rail and the other to intersect a branch rail, the ends of the switch rails being suitably beveled to make the connections without break. Cross-piece 22 is pivoted to one of the ties, as at 24, and cross-piece 23 is provided with an arm 25 extending at right angles therefrom.

26 denotes the signal shaft which is mounted to oscillate in a standard 27 provided with ears 28 by which it is riveted to one of the ties, this tie being extended outward from the tracks to support the standard. The upper end of the standard is provided with notches 29 and 30, which lie at right angles to each other. These notches are adapted to be engaged by an operating lever 31 which is pivoted to a collar 32 rigidly secured to the shaft. When the operating lever is in engagement with notch 29, the switch rails will be set to throw a train off from the main line and upon the branch line, as in full lines in Fig. 1, and when said lever is in engagement with notch 30, the switch rails will be set to retain a train on the main line, as indicated by dotted lines in Fig. 1.

35 denotes a double signal which comprises disks or plates 33 and 34 interlocked at right angles to each other, plate 33 being indicated as painted red on both sides and plate 34 painted green on both sides to indicate that the main line is open or closed.

At the upper end of shaft 26 is rigidly secured a hub 36 which has upon its upper side a smaller central hub 37.

One of the plates is slotted upward from the bottom, the other is slotted downward from the top and the two plates engage each other centrally and at right angles to each other by means of the slots, as will be understood from the drawing. The lower ends of both plates are provided with recesses 38 which receive central hub 37, the parts being

secured together by soldering the plates to hubs 36 and 37.

At the lower end of the signal shaft and lying under the top of the tie and between the flanges thereof, is a crank arm 39.

40 denotes a switch rod which is pivoted to the crank arm and passes through an eye 41 which is provided with a shank 42 extending upward through a slot 43 in the tie and pivoted to arm 25 extending from cross-piece 23.

44 denotes collars on switch rod 40 on opposite sides of the eye which are rigidly secured thereto by upsetting the metal of the rod or in any suitable manner, and 45 denotes springs on opposite sides of the eye which engage the collars respectively and provide a yielding connection between the switch rod and the switch piece.

The parts are so assembled that when the green signal shows from either direction the switch rails will be set to retain a train upon the main line, as in full lines in Fig. 1, and when the red signal shows from either direction the main line will be closed and the switch rails will be set to throw a train upon the branch line, as indicated by dotted lines in Fig. 1.

The operation will be readily understood from the drawing and the description already given. Briefly, when the red signal is in view, it means danger on the main line and that the branch line is open. When the green signal is in view, it means that the main line is clear, as indicated by dotted lines in Fig. 1. When the switch rails are set to throw a train upon the branch line, the switch is locked by swinging the lever downward into engagement with notch 29. To open the main line the switch lever is raised out of notch 29 and swung around a quarter turn, which carries the signal shaft, moves the switch rails from the full line position in Fig. 1 to the dotted position, closes the branch line, opens the main line and places the green signal in view from both directions. The switch is locked in this position by swinging the lever downward into engagement with notch 30.

Having thus described my invention, I claim:

1. In a toy railway system, the combination with main line rails and branch rails, of a pivoted switch piece comprising rails and cross pieces, one of said cross pieces being provided with an arm, a signal shaft carrying a double signal at its upper end corresponding with the position of said switch piece, a switch rod connected to the lower end of said shaft, and a yielding connection between said switch rod and said switch piece.

2. In a toy railway system, the combination with main line rails and branch rails, of a pivoted switch piece comprising rails and cross pieces, one of said cross pieces being provided with a laterally extending arm having a depending eye pivoted thereto, a signal shaft carrying a double signal at its upper end corresponding with the position of said switch piece, a switch rod connected to the lower end of said shaft, and a yielding connection between said switch rod and said depending eye.

3. In a toy railway, the combination with main line rails and branch rails, of a pivoted switch piece comprising rails and cross pieces, one of said cross pieces being provided with a laterally extending arm having a depending eye pivoted thereto, a tie provided with a longitudinal slot through which said eye extends, a signal shaft mounted on said tie, a switch rod connected to said signal shaft, and a yielding connection between said switch rod and said depending eye.

4. In a toy railway system the combination with main line rails and branch rails, of a switch piece comprising rails and end cross pieces and a pivoted center piece, one of said end pieces being provided with a laterally extending arm, a signal shaft, a switch rod connected therewith, and a yielding connection between said switch rod and said laterally extending arm.

5. In a toy railway system, the combination with main line rails and branch rails, of a pivoted switch piece comprising switch rails and cross-pieces, one of said cross-pieces having an arm 25, an eye pivoted in said arm, a signal shaft having a crank arm, a switch rod pivoted to the crank arm, passing through the eye and provided with collars on opposite sides of the eye and springs intermediate the eye and the collars to form a yielding connection between the switch rod and the switch piece.

6. In a toy railway system, the combination of the main line rails and branch line rails, a pivoted switch piece carrying switch rails, a signal shaft, a switch rod connecting said signal shaft with said switch piece, a hub carried by the upper end of said signal shaft, a second and smaller hub carried by the first mentioned hub, and signal plates arranged at an angle to one another and having an interlocking engagement and provided with a central recess for the reception of said smaller hub.

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

WILLIAM R. HABERLIN.

Witnesses:

A. M. WOOSTER,

S. W. ATHERTON.