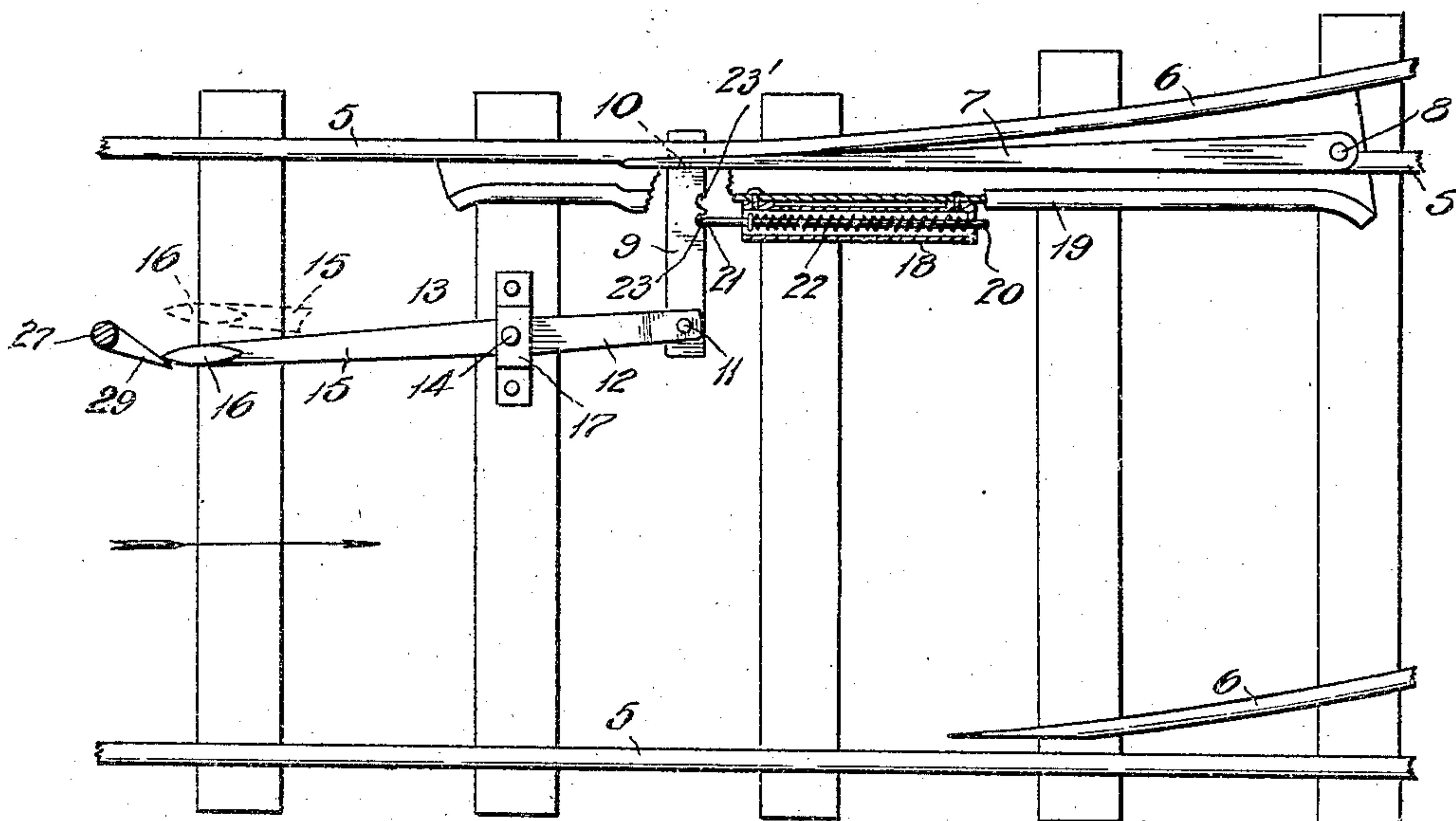
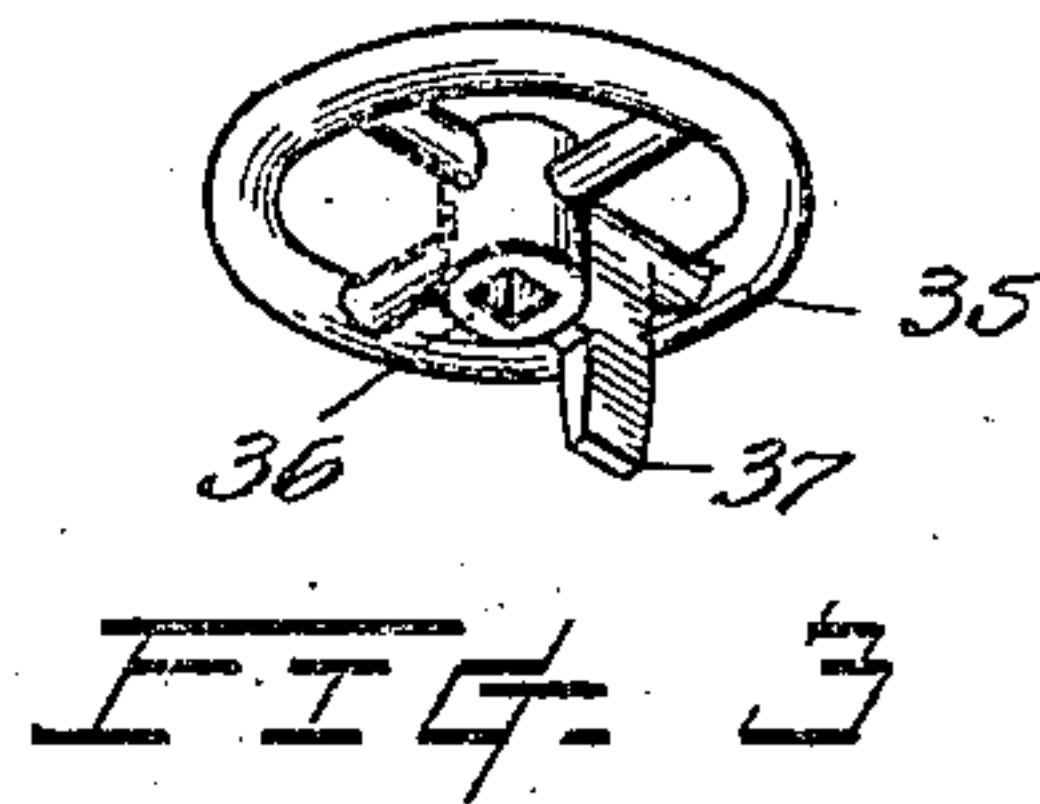
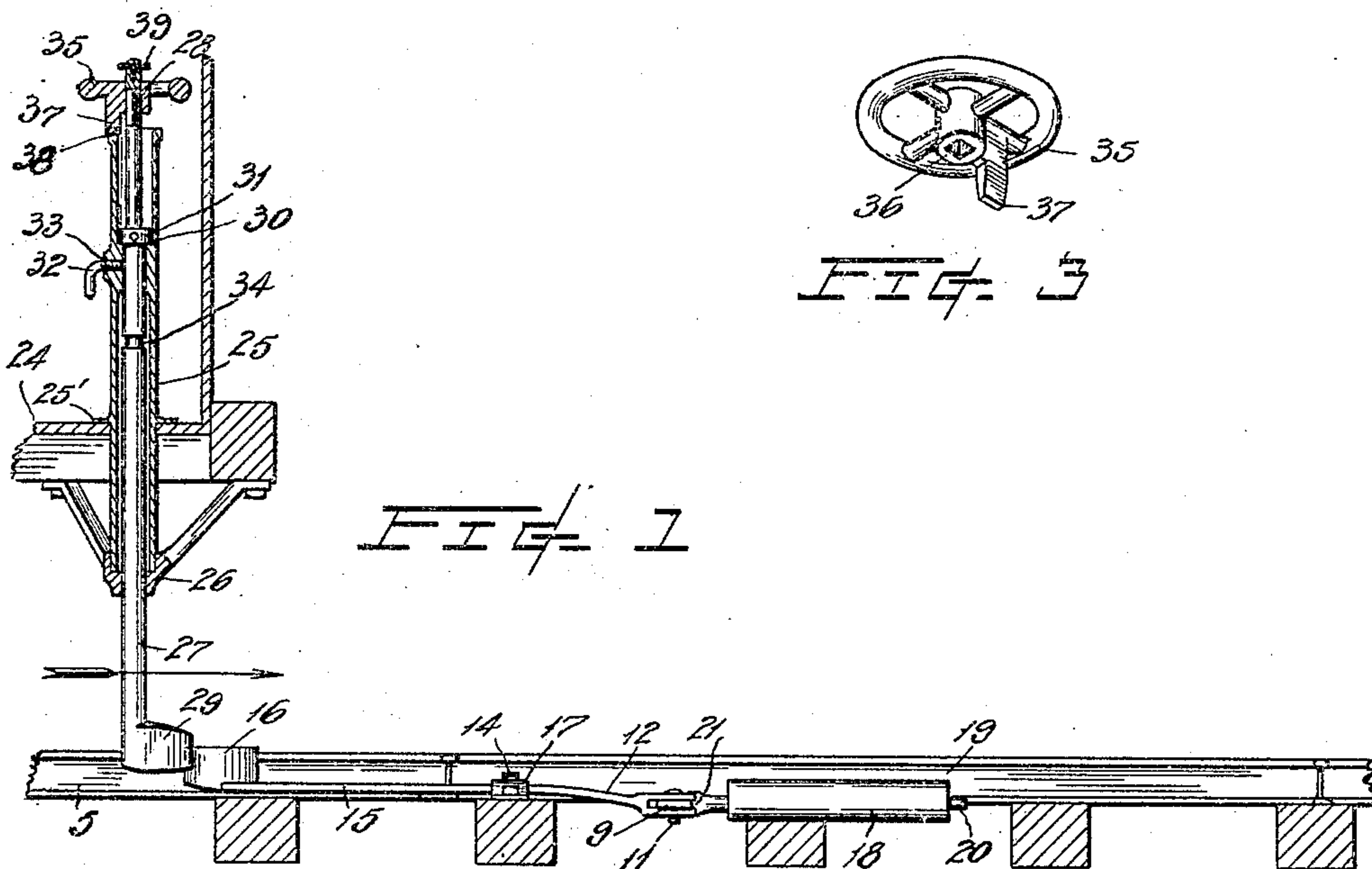


G. A. UGGELDAHL.  
RAILWAY SWITCH.  
APPLICATION FILED MAY 26, 1908.

915,129.

Patented Mar. 16, 1909.



WITNESSES:  
Horsev Barnes  
J. R. Hayton

FIG. 2

INVENTOR:  
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# UNITED STATES PATENT OFFICE.

GUSTAF A. UGGELDAHL, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-SIXTH TO JOHN ERICKSON AND ONE-SIXTH TO WALFRED E. MARKER, OF SEATTLE, WASHINGTON.

## RAILWAY-SWITCH.

No. 915,129.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 26, 1908. Serial No. 435,041.

*To all whom it may concern:*

Be it known that I, GUSTAF A. UGGELDAHL, citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

This invention relates to railway switches of that class which is actuated from and through the progressive movement of a railway car.

The object of the invention is the provision of simple and relatively inexpensively constructed devices for operating switch-tongues together with means for reliably holding such tongues in adjusted positions.

With these ends in view the invention consists in the novel construction and adaptation of parts, as will be hereinafter described and claimed.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a longitudinal vertical section of a railway truck and the front end of a car and showing an application of the invention thereto; Fig. 2 is a view partly in plan and partly in horizontal section of the same; and Fig. 3 is a perspective view of the wheel which is employed in manipulating the throwing of the switch.

The reference numeral 5 indicates the rails of the main line of a railway-track; 6, the rails of a turn-out or branch line; and 7 a switch-tongue which is pivoted at 8 so as to be free to swing, as ordinary, to direct a car, when traveling in the direction indicated by the arrow in Figs. 1 and 2, to continue upon the main-line beyond the switch or be caused to proceed therefrom upon the branch-line.

According to my invention a bar 9 is connected to the switch-tongue by a stud 10 depending from the latter and arranged to extend transversely toward the rail at the opposite side of the track. Connected with said bar and between the rails, as by a pin 11, is the arm 12 of a longitudinally disposed lever 13 which is fulcrumed to a pin 14 so as to vibrate in a horizontal plane and carries upon the extremity of its other arm 15 an upwardly extending block 16 which is desirably formed to taper from its mid-length toward both ends, as shown in Fig. 2.

The fulcrum-pin 14 may be secured to any

suitable and rigid support, such, for example, as a strap 17 bolted to a track-tie.

18 is a casing which is located adjacent of the bar 9 and secured to a rigid member of the track as, for instance, to the web of a guard-rail 19 and extending axially through the casing is a bolt 20 having a flattened end 21 which protrudes from the casing and urged by a spring 22, positioned within the casing, to seat within either of notches 23 and 23', provided in said bolt. These notches are so positioned and spaced with regard to the bolt as to lock the bar in either of its two positions when the latter is shifted in the opening or closing of the switch. This locking engagement, as will be evident, is maintained through the power of the spring and to afford means whereby the bolt may be retracted to allow of a longitudinal movement of the bar the notches are formed with sloping sides.

Extending through the front platform of a car, represented by 24, in an upright tubular standard 25 which is rigidly secured in place, as by bolting a flange 25' of the standard to such platform and socketing the lower end thereof in a frame, such as 26. Extending axially through the standard is a shaft 27 provided with a squared top end 28 and at the bottom with a foot 29 arranged radially of the shaft and of an approximately triangular shape in horizontal section. This shaft is adapted for rotation and is movable in an axial direction to an extent governed by the interference of the frame 26 as to elevation and by a shoulder 30 within the standard being engaged by a set-collar 31 upon the shaft to limit the downward movement of the shaft, the latter being, however, such as to permit the foot of the shaft engaging only the lever-block 16. A binding-screw 32 passes through a screw-threaded aperture 33 in the standard and serves to retain the shaft in raised position and to prevent any accidental loosening of the engagement between the shaft and such screw, one or more annular grooves, as 34, is advantageously employed upon the shaft and whereinto the end of the screw may be inserted and thus render the hold positive.

Mounted upon the aforementioned squared end of the shaft is a hand wheel 35 with a hub 36 of less length than that of such squared end and extending downwardly from the hub is a lug 37, see Figs. 1 and 3,



whose office is to engage in circumferentially disposed notches, such as 38, provided in the top of the standard 25. These notches, two in number, are spaced so that when said lug 5 is engaged in either, the shaft will be held in rotative position to correspondingly present the foot 29 in condition to engage the block 16 for swerving the same to change the condition of the switch. 39 is a washer secured 10 to the top end of the shaft to prevent the withdrawal of the wheel 35 when the latter is employed in raising the shaft into its in-operative position.

In Fig. 2 the switch-tongue is shown to 15 have the main-line of track open and also representing the positions assumed by the connecting bar and the lever under such a condition. When the tongue is to be swung to close this line and open the branch the 20 shaft is first lowered and then given sufficient rotation to cause the shaft-shoe to be directed so that as it is carried onward by the car it will engage the lever-block 16 and force the same into the position indicated 25 by broken lines in Fig. 2, and the lever being correspondingly swung effects through the connecting bar 9 the changed condition of the switch. In such operation the spring-pressed bolt 20 is by reason of the inclined 30 engaging edges of the notches 23, 23' wedged outward to permit of the movement of the bar and when the alteration in the switch is completed the tongue is prevented against displacement through the vibrations im- 35 parted from a moving car or other causes other than a strong force transmitted laterally as is accomplished by the lever when acted upon by the devices carried by a moving car.

40 To change the angular direction of the foot requires only sufficient elevation of the hand wheel to withdraw the lug thereof from the engaging notch, whereupon the wheel and shaft is turned in unison until the lug is in 45 the radial plane of the other notch and whereinto it is seated and affords a lock with the standard to receive any shock due to the impact of the shaft-foot with the lever-block and also to withstand the strains in over- 50 coming the inertia and the movement of the switch-tongue.

While I have illustrated the invention in connection with a switch as commonly used 55 in street-railways, I do not wish to be understood as confining myself to such application, inasmuch as the only modification required to adapt it to "steam" railways is to extend the bar 9 entirely across the track so as to be 60 connected to the switch-points that are there utilized instead of a tongue, as hereinbefore considered.

What I claim as my invention, is—

1. In combination with a switch tongue, and means whereby the same may be operated, means on the car for actuating said 65 first means composed of an upright tubular standard having spaced notches in its upper end, a shaft disposed in said standard and formed with an annular groove, a binding 70 screw carried by the standard and adapted to have its free end project in said groove, a shoulder formed in said standard, a collar carried by said shaft on the interior of said standard to seat on said shoulder, the upper 75 end of said shaft projecting beyond the upper end of the standard and being squared, a hand wheel on said squared part of the shaft, a downwardly extending lug on said hand wheel to engage in said notches of the stand- 80 ard, a washer on the upper end of said squared part of said shaft and spaced from said hand wheel to limit the upward movement of the latter, and a foot on the lower end of said shaft.

2. In combination with a switch tongue 85 and means for throwing the same, means on the car for actuating said throwing means composed of a tubular standard having spaced notches in its upper end, a shaft in 90 said standard having a foot on its lower end and a squared part on its upper end, a hand wheel arranged to slide on said squared part and adapted to rotate said shaft, means on the outer end of said squared part of the 95 shaft to limit the upward movement of said hand wheel, and a lug carried by said hand wheel to engage in a selected one of said notches of said standard.

3. In combination with a switch tongue, and means for throwing the same, means to 100 actuate said throwing means composed of a tubular standard on the car, a shoulder on the interior of said standard, a shaft arranged in said standard, means on the shaft to engage the shoulder to restrict the downward move- 105 ment of the shaft, said shaft having a groove therein, means carried by the standard to engage in said groove to hold the shaft in elevated position, a foot on the lower end of said shaft, a hand wheel for rotating said 110 shaft arranged on the upper end thereof to slide thereon, means whereby said hand wheel is secured against movement, and means to limit the upward movement of the hand wheel. 115

Signed at Seattle, Washington.

GUSTAF A. UGGELDAHL.

Witnesses.

HORACE BARNES,  
A. B. SMITH.