No. 818,773. PATENTED APR. 24, 1906.

J. H. MEYER.

SWITCH THROWING DEVICE.

APPLICATION FILED DEC. 21, 1905.

Fig. 1

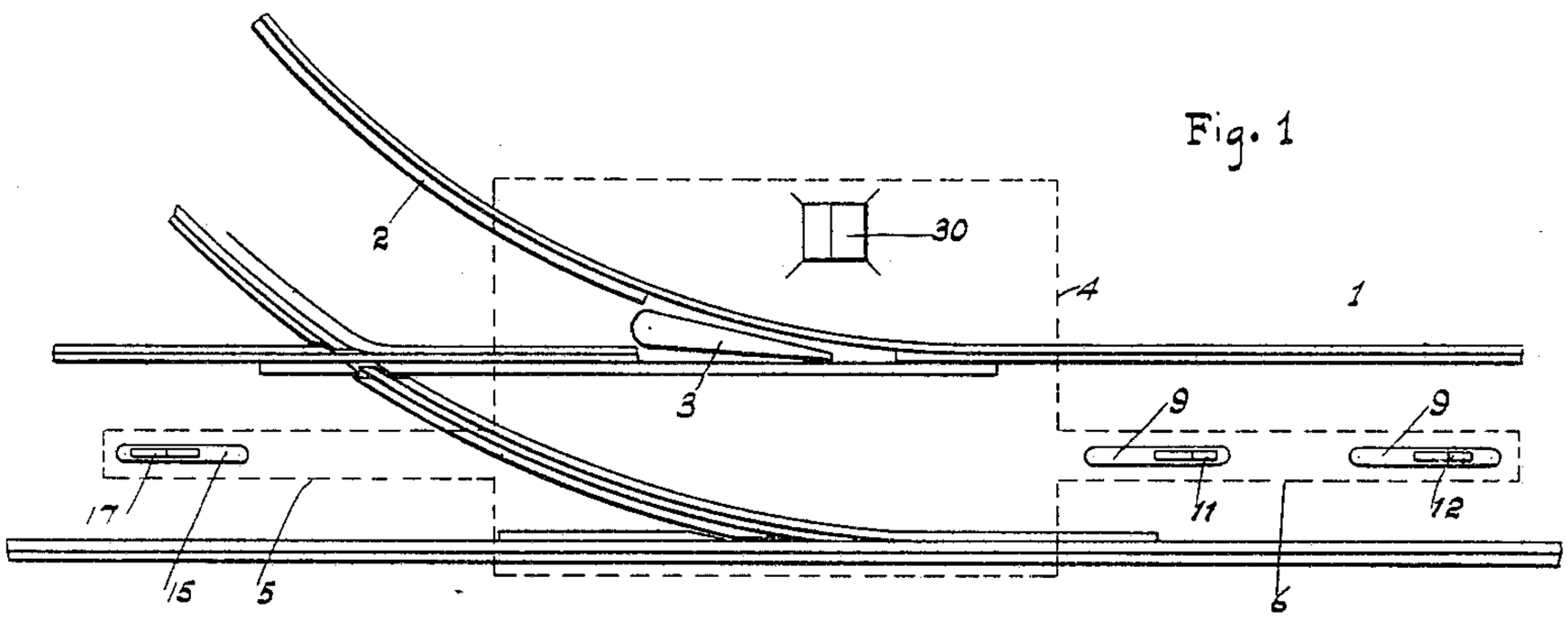


Fig. 2

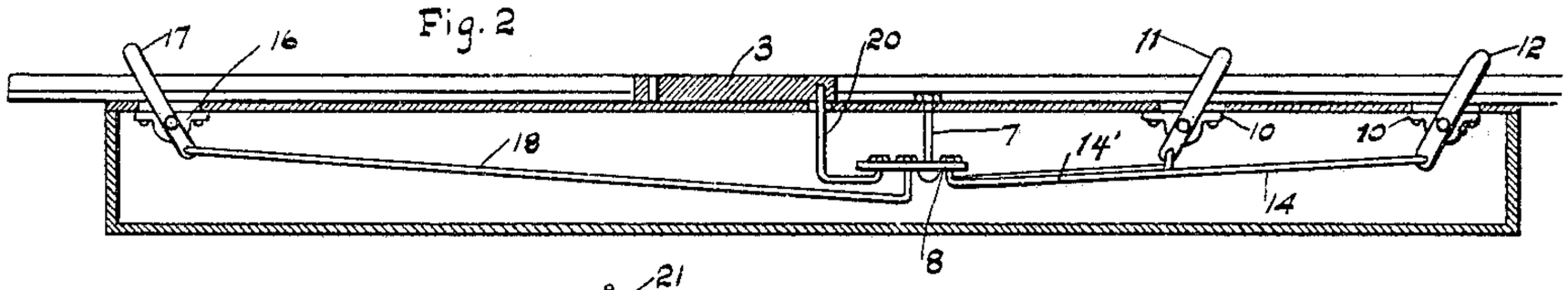


Fig. 3

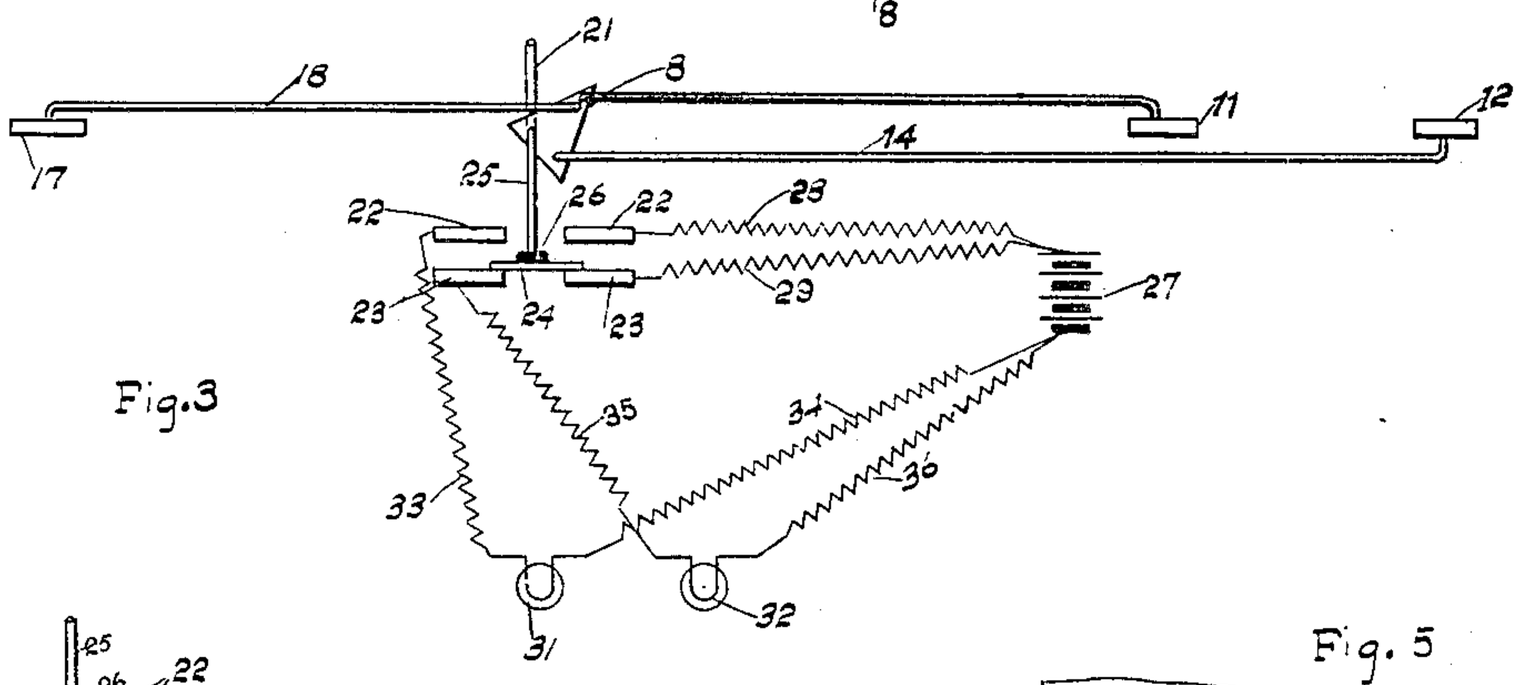


Fig. 4

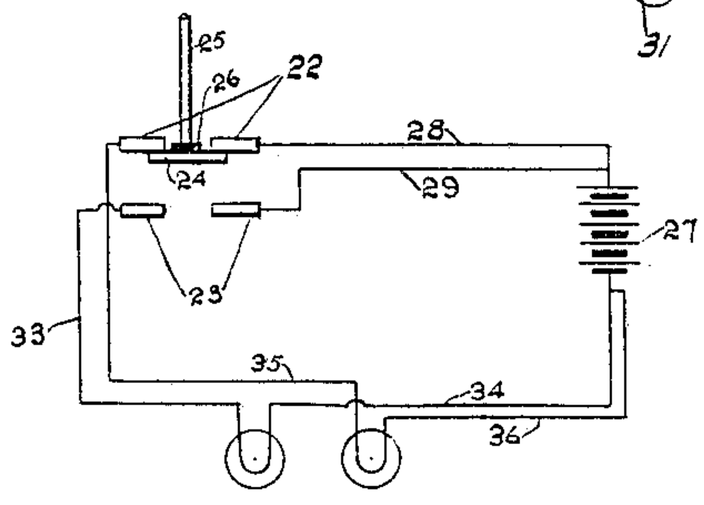
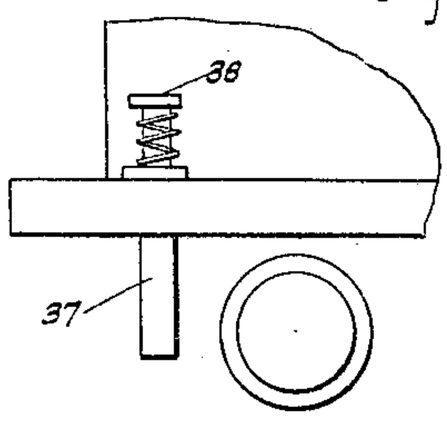


Fig. 5



WITNESSES

R. H. Butler

E. A. Prokop

INVENTOR

John. H. Meyer.

By H. C. Ernst & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN H. MEYER, OF NEW KENSINGTON, PENNSYLVANIA.

SWITCH-THROWING DEVICE.

No. 818,773. Specification of Letters Patent. Patented April 24, 1906.

Application filed December 21, 1905. Serial No. 292,758.

To all whom it may concern:

Be it known that I, JOHN H. MEYER, a citizen of the United States of America, residing at New Kensington, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Switch-Throwing Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in switch-throwing devices; and the primary object of the invention is the provision of novel means for displaying a visible signal simultaneously with the throwing of a switch-tongue, whereby the position of the switch-tongue can be determined by the motorman from a distance.

Another object of this invention is the provision of novel means for automatically throwing a switch-tongue and operating a signal, and in this connection my improved switch is adapted to be used upon street-railways. To this end I mount visible signals adjacent to a switch-tongue, and in the roadbed of the track in connection with which the switch-tongue is used I mount a casing containing switch-throwing mechanism which will simultaneously move the switch-tongue and display a visible signal indicating the position of the tongue.

With the above and other objects in view, which will hereinafter more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described and claimed, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a plan of a portion of a track constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a diagrammatic view of the switch-throwing mechanism and the signals used in connection with the same. Fig. 4 is a diagrammatic view of an electrical circuit used in connection with the signals, and Fig. 5 is a fragmentary view of a car equipped with a portion of my improved switch-throwing device.

In the accompanying drawings I have illustrated a section of track 1, which is intersected by a siding-track 2, the passage-way at the intersection of said tracks being controlled by a conventional form of switch-tongue 3.

My invention resides in mounting a casing 4 in the road-bed of the tracks 1 and 2 directly beneath the intersection of the tracks. The casing is preferably constructed of metal and is provided with two outwardly-extending compartments 5 and 6, which extend centrally of the track 1 and in parallel alinement with the rails of said track. The casing 4 adjacent to the switch-tongue 3 is provided with a depending post 7, upon the lower end of which is mounted a triangular plate 8.

The casing of the compartment 6 is slotted, as at 9 9, and said casing adjacent to said slots is provided with depending brackets or hangers 10 10, to which are pivotally connected levers 11 and 12, said levers protruding through the slots 9 9 above the compartment 6. The lower end of the lever 12 is connected by a rod 14 to the triangular plate 8, while the lower end of the lever 11 is connected by a rod 14′ to the plate 8.

The switch-tongue is provided with a depending pin 20, which extends through a slot 19 formed in the casing 4, and said pin is connected to an outwardly-extending rod 21, carried by the triangular plate 8, whereby when said plate is moved the switch-tongue 3 will be thrown. In the casing 4 are mounted two sets of contact-blocks 22 and 23, and mounted between the two sets of blocks is a plate 24, carried by an arm 25, which is secured to the triangular plate 8. The plate 24 is insulated, as at 26, from the arm 25. Also located at a convenient place within the casing 4 is a storage battery or batteries 27, said battery being connected by wires 28 and 29 with the sets of contact-blocks 22 and 23, respectively.

The top of the casing 4 at one side of the track 1 is provided with a standard or post 30, which is adapted to support incandescent lamps 31 and 32, the lamp 32 being provided with a red globe to indicate "danger," while the globe of the lamp 31 may be white or its natural color to indicate a "clear" position. The lamp 31 is connected by a wire 33 with the set of contact-blocks 22 and by a wire 34 with the battery 27. The lamp 32 is connected by a wire 35 with the set of contact-blocks 23, also by a wire 36 with the battery 27.

The cars traveling over the tracks 1 and 2 are equipped with a spring-held plunger 37,

carrying a button 38. The plunger 37 is preferably located upon the forward end of the car and is adapted to be actuated by the motorman or operator of the car, said motorman striking the button 28 with his foot and depressing the plunger.

In operation I will assume that a car is traveling from the right of the track 1 and desires to continue upon said track. By referring to Fig. 1 of the drawings it will be observed that the switch-tongue 3 is in position for a car to pass upon the siding-track 2, and in such a position the "danger-lamp" 31 is illuminated, indicating to the operator of a car traveling toward the switch that it is necessary that the switch be thrown to continue upon the main track 1. The motorman by pressing upon the button 38 of the plunger 37 lowers the plunger to engage the lever 11. When the plunger 37 strikes the lever 11 the triangular plate is partially rotated, which through the medium of the pin 19 and the rod 21 throws the switch-tongue to "clear" the main track 1. Simultaneously with this operation the plate 8 has moved the contact-plate 24 into engagement with the set of contact blocks 22 and caused the lamp 31 to indicate the clear position. To return the switch to its normal position, together with the mechanism just described and employed for actuating the same, I have provided the lever 17 and the rod 18, said lever being struck by the plunger 37 and thrown into the position shown in Fig. 2 of the drawings, whereby the levers 11 and 12 will be returned to their normal inclination. Should a car be traveling upon the track 1 in the opposite direction and it is desired to throw the switch-tongue, the lever 17 is struck by the plunger 37, and after the switch has been passed over the lever 12 is struck to return the switch to its normal positon. It will of course be understood that the levers 11, 12, and 17 are located a suitable distance away from the switch to permit of a train of cars passing over the switch.

From the foregoing it will be observed that I have devised an inexpensive and durable switch-throwing mechanism which can be easily and quickly operated by the motorman of a car. I do not care to confine myself specifically to street-railways, as locomotives and the trackways of steam-roads can be easily and quickly equipped with my improved switch-throwing mechanism.

Such changes in the construction and operation of my improved switch-throwing device as are permissible by the appended claims may be resorted to without departing from the spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a switch-throwing device, the combination with a main track intersected by a siding-track, a switch-tongue controlling the passage-way of said tracks, of a casing located beneath said tracks, a plate pivotally mounted in said casing, said casing having slots formed therein, levers pivotally mounted in said casing and protruding through said slots, said levers being connected with said plate, a rod carried by said plate and connected with said switch-tongue, contact-blocks mounted in said casing and in circuit with a battery, signal-lamps carried adjacent to said track and in circuit with said blocks, an outwardly-extending arm carried by said plate, and adapted to contact with said blocks, substantially as described.

2. In a switch-throwing device, the combination with a switch-tongue, of a casing mounted beneath said tongue, a plate pivotally mounted in said casing and connected with said tongue, a plurality of levers pivotally mounted in said casing, and connected with said plate, and protruding outside of said casing, two sets of contact-blocks mounted in said casing and in circuit with a suitable source of electrical energy, lamps mounted adjacent to said casing, and in circuit with said source of electrical energy, a contact-arm carried by said plate and adapted to engage either one of said sets of blocks, means carried by a car to mechanically actuate said levers successively, to complete a circuit through one of said lamps and then through the other of said lamps, substantially as described.

3. In a switch-throwing device, the combination with a switch-tongue, of a casing mounted beneath said tongue, sets of contact-blocks mounted within said casing, a contact-arm adapted to engage said contact-blocks, said contact-arm being connected indirectly with said switch-tongue, lamps mounted adjacent to said switch-tongue, and in circuit with said blocks and a suitable source of electrical energy, means carried by a car to mechanically actuate said arm, to complete a circuit through one of said lamps and mechanically throw said switch-tongue, and means to mechanically return said arm and said switch-tongue to their normal positions, substantially as described.

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

JOHN H. MEYER.

Witnesses:
R. H. BELLMAN,
LUTHER ANDERSON.