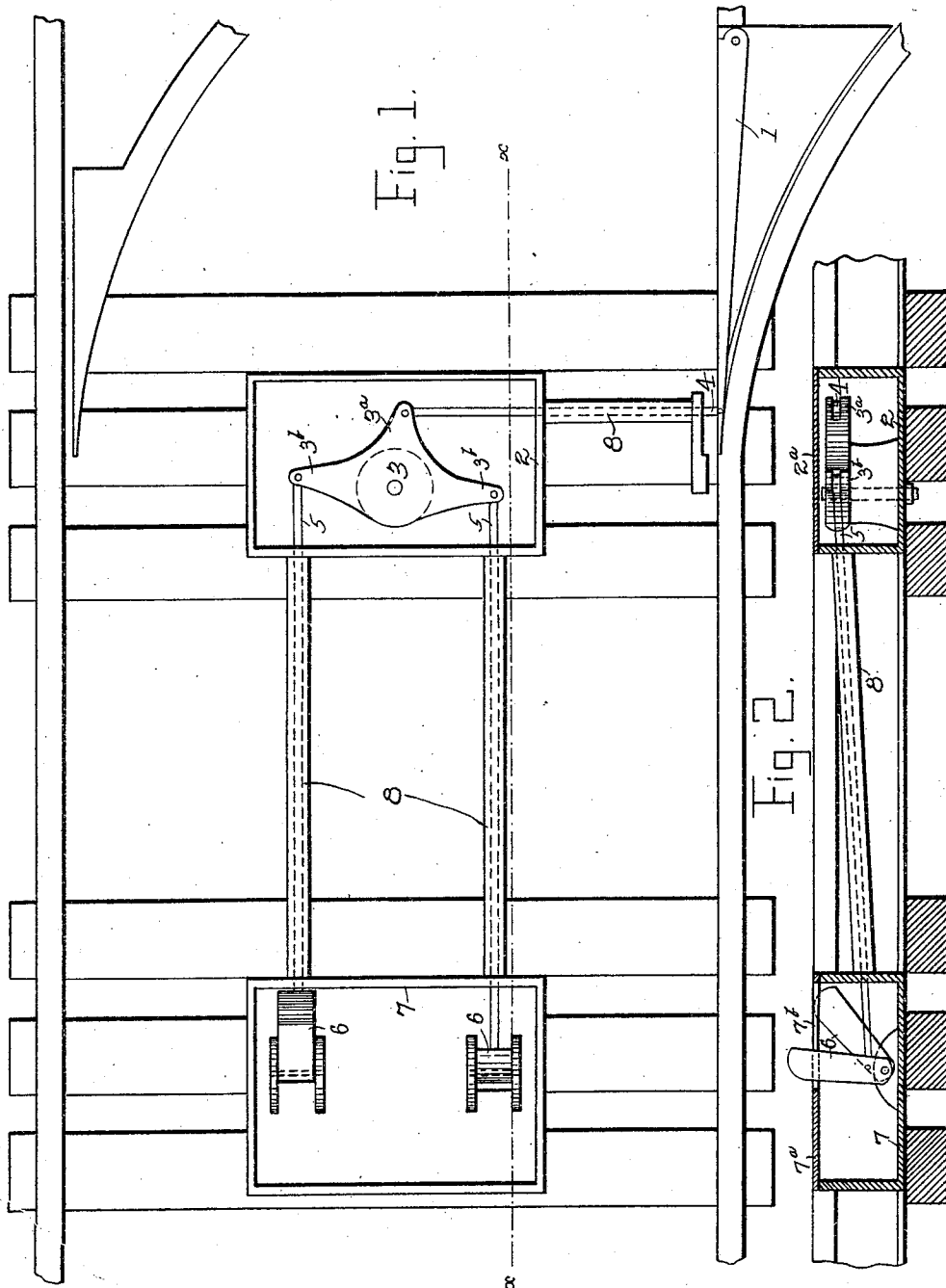


W. M. HILER.
RAILWAY SWITCH THROWING DEVICE.
APPLICATION FILED MAR. 12, 1909.

933,563.

Patented Sept. 7, 1909.
2 SHEETS—SHEET 1.



Witnesses
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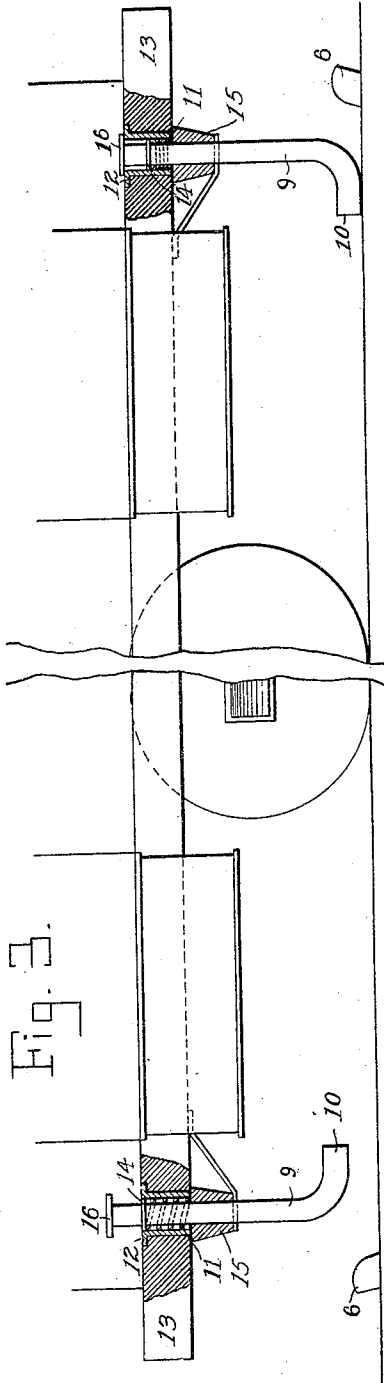


Fig. 3.

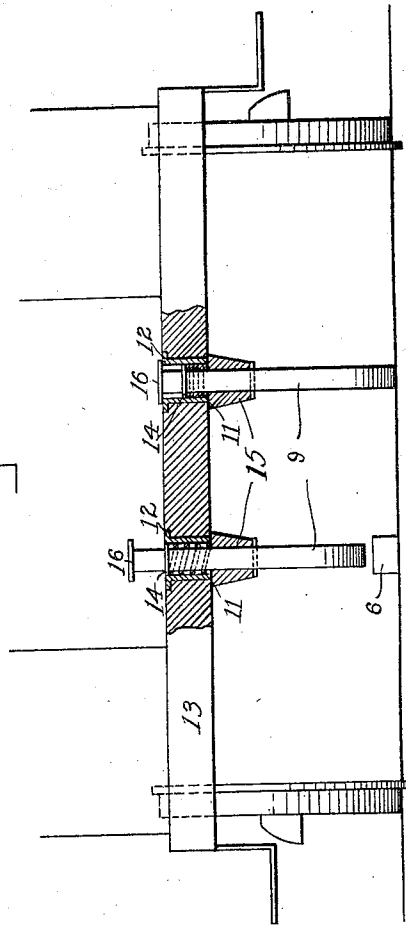


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM M. HILER, OF QUINCY, ILLINOIS.

RAILWAY-SWITCH-THROWING DEVICE.

933,563.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed March 12, 1909. Serial No. 483,008.

To all whom it may concern:

Be it known that I, WILLIAM M. HILER, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Railway-Switch-Throwing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to operating mechanism for railway switches, especially adapted for use on street railways.

It has for its object to provide a device of this character which is simple in construction, inexpensive to manufacture, does not obstruct traffic across the switch, will not be rendered inoperative by dirt, snow or ice, and which is capable of operating a switch point at either side of the track.

The invention consists of a pair of operating levers arranged between the rails of the track and mounted to swing downward and toward the direction of movement of a car along the track, means for throwing the switch in one direction when one of said levers is depressed and in the other direction when the other lever is depressed, and means for automatically raising one of said levers when the other is depressed whereby one always projects above the surface of the track in position to be operated.

The invention also consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawings illustrating the preferred embodiments of my invention: Figure 1 is a plan view of a section of track showing my invention applied thereto. Fig. 2 is a longitudinal vertical sectional view on the line *x-x* of Fig. 1. Fig. 3 is a broken side elevation of a car, partly in section, showing the means carried thereby for depressing the operating levers, and Fig. 4 is a broken front elevation, partly in section, showing the same parts.

Referring more particularly to the drawings, 1 designates the switch point which is loosely connected by means of a rod 4 to the third arm 3^a of the three-armed lever 3. Said three-armed lever is pivoted to turn in a horizontal plane upon the bottom of the metal box 2 suitably secured to the ties of the track. The upper edge of said box is

preferably flush with the surface of the track.

The oppositely extending arms, 3^b of the three-armed lever are connected respectively to a pair of operating levers 6 by means of rods 5. Each of these operating levers is pivotally mounted on the bottom of a second box 7, and is adapted to swing to a substantially vertical position where it projects above the surface of the track or to a depressed position below the surface of the track. Suitable covers 2^a and 7^a are used respectively on the boxes 2 and 7, as shown in Fig. 2. These covers are omitted from Fig. 1 in order to disclose the mechanism arranged in the boxes. The cover 7^a is slotted as at 7^b to accommodate the operating levers. The latter preferably have their rear projecting corners rounded for the purpose hereinafter explained. To insure easy working of the parts of the device, the rods 4 and 5 are housed in tubular casings 8.

Each car is equipped with a pair of vertically movable rods 9 near each end thereof, preferably arranged to extend through the front and rear platforms. The lower end 10 of each of these rods is bent rearwardly and is curved to facilitate its engagement with the rounded projecting end of the operating lever. Each of said rods is normally supported in a raised position, so that its lower end will not engage the operating lever, by means of a coiled spring 11 mounted in a sleeve 12 extending through the platform 13 and abutting at its opposite ends against a collar 14 on said rod 9 and an inwardly extending flange 15 on said sleeve. The upper extremity of each of the rods 9 may be flattened, as at 16, to form a suitable foot piece designed to be depressed by the motorman or driver of the car. One of the rods 9 is shown in a raised position and another in a depressed position in each of Figs. 3 and 4 to more clearly illustrate its operation. It will be understood that the two vertically movable rods 9 at each end of the car are arranged the same distance apart as the operating levers secured to the track. It will also be noted that by reason of the connections between said operating levers and the three-armed lever, one of the former will always be projected above the track and the other depressed below its surface. The motorman or driver can, therefore, readily observe which one of the operating levers is projecting as his

car nears the switch and can depress the corresponding one of the vertically movable rods by placing his foot upon it, if it is desired to change the position of the switch.

5 A pair of the rods 9 is arranged at each end of the car to provide for railways which are not equipped with loops at their terminals.

It will be noted that by reason of the switch throwing apparatus being located between the rails of the track, it can be connected up with a switch point on either rail so as to operate with equal success. It will also be seen that the arrangement whereby one operating lever is raised automatically as the other is depressed, insures one of said levers being always projected in position to be operated.

I claim:—

1. The combination, with the rails of a track and a switch point, of a box arranged between the rails with its top flush with the surface of the track, a pair of operating levers pivotally mounted in said box to swing downward and toward the direction of movement of a car on said track, the top of said box being provided with two slots therein, each of said levers adapted to project through one of said slots above the track, a second box arranged between the rails opposite said switch point, a three-armed lever mounted in said box to turn in a horizontal plane, rods connecting said operating levers and the oppositely extending arms of said three-armed lever, whereby one of said operating levers will be raised when the other is depressed, another rod connecting the third arm and the switch

point, said rods extending through perforations in the sides of said boxes, tubular casings arranged around said connecting rods for the purpose specified, and means carried by a car for engaging said operating levers. 40

2. The combination, with the rails of a track and a switch point, of a box arranged between the rails with its top flush with the surface of the track, a pair of operating levers pivotally mounted in said box to swing downward and toward the direction of movement of a car on said track, the top of said box being provided with two slots therein, each of said levers adapted to project through one of said slots above the track, a second box arranged between the rails opposite said switch point, a three-armed lever mounted in said box to turn in a horizontal plane, rods connecting said operating levers and the oppositely extending arms of said three-armed lever, whereby one of said operating levers will be raised when the other is depressed, means of connection between the third arm and the switch point, said rods extending through perforations in the sides of said boxes, tubular casings arranged around said connecting rods for the purpose specified, and means carried by a car for engaging said operating levers. 45 50 55 60 65

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

WILLIAM M. HILER.

Witnesses:

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C. G. DICKKORT.