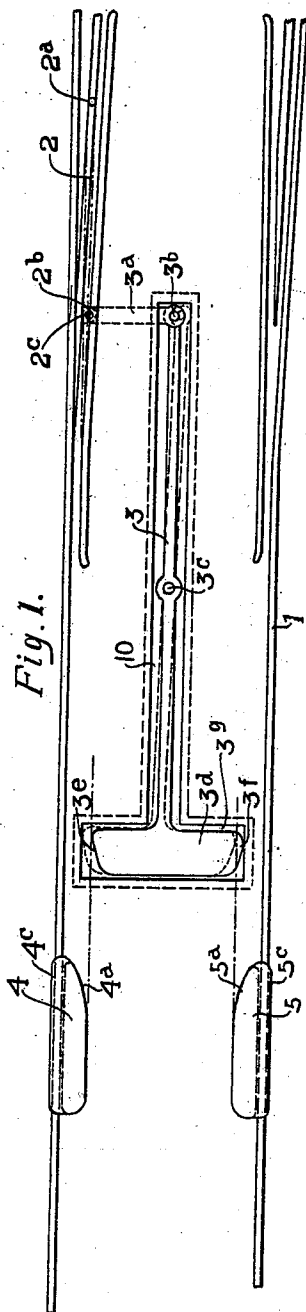


T. E. LEE.
 DEVICE FOR OPERATING RAILWAY SWITCHES.
 APPLICATION FILED AUG. 18, 1910.

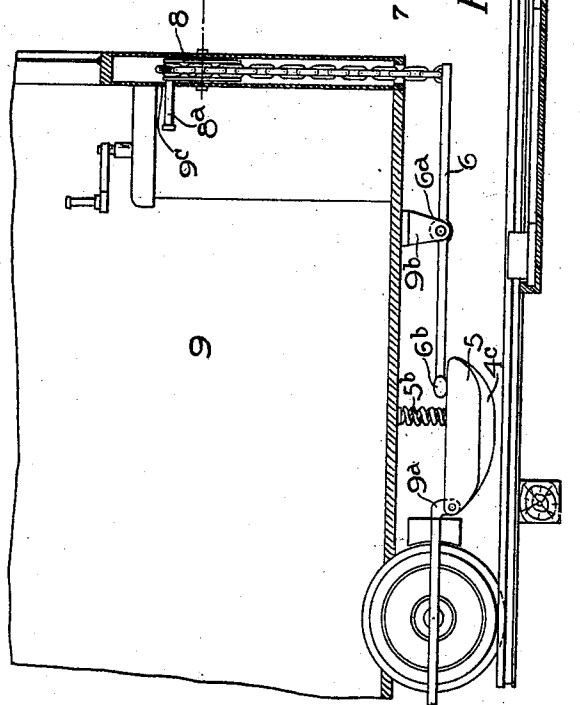
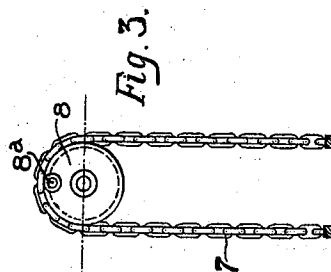
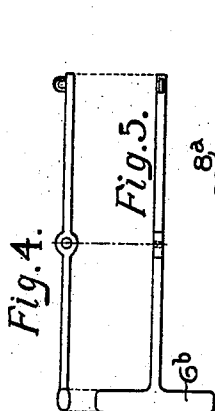
982,214.

Patented Jan. 17, 1911.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS E. LEE, OF SAN DIEGO, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO JAMES W. HASTAIN, OF SAN DIEGO, CALIFORNIA.

DEVICE FOR OPERATING RAILWAY-SWITCHES.

982,214.

Specification of Letters Patent.

Patented Jan. 17, 1911.

Application filed August 18, 1910. Serial No. 577,809.

To all whom it may concern:

Be it known that I, THOMAS E. LEE, a citizen of the United States, and a resident of San Diego, in the county of San Diego and State of California, have invented a certain new and useful Device for Operating Railway-Switches, of which the following is a specification.

My invention relates to improvements in devices for operating railway switches in which the switch is operated by the action of the operator from the vehicle and is more particularly adapted for street railway switches and the objects of my invention are, first, to provide a simple, economical, efficient and easily operated device for moving the switch from the vehicle, second, to provide a device that is positive in its action and will not be disturbed by the elements.

With these and other objects in view as will appear in the detailed description my invention consists of certain novel features of construction, combination and arrangement of parts hereinafter described and particularly set forth in the appended claims, reference being had to the accompanying drawings in which:—

Figure 1 is a plan view of the track portion of my device and including a plan view of the vehicle contact portion, Fig. 2 is a side elevational and sectional view of a section of track including my device and a portion of the car upon which it is attached, Fig. 3 is a front end elevational view of the operating wheel in connection with the chain, Fig. 4 is a side elevational view of the operating lever attached to the car, and Fig. 5 is a plan view thereof.

Similar characters of reference refer to similar parts throughout the several views.

I will illustrate and describe a particular construction showing a street railway switch in connection with a street car but do not wish to be limited to street railways, nor to the particular construction, but desire to include substantially all the principal elements embodied in my invention.

Referring to the drawings, numeral 1 represents a railway track, 2 the switch, 3 the track operating lever, 4 and 5 the inclined traveling contact shoes, 6 the contact operating levers 7 the operating chain, 8 the operating wheel, and 9 the car. The track 1 is of the usual type, the switch 2 is also of the usual type being pivoted at 2^a, but is

provided near its shifting end with a double lug 2^b adapted to connect with the outer end of rod 3^a and is pinned thereto by means of pin 2^c, the inner end of rod 3^a is pivoted on the end of lever 3 by means of pin 3^b and said lever is pivoted centrally between the two rails by means of pivot bolt 3^c and is placed longitudinally with said track, above the cross ties. The outer end of lever 3 is provided with a right angle bar 3^d, the ends of which are inclined as shown at 3^e and 3^f. This bar 3^d rests upon a plate 3^g and is adapted to operate reciprocally thereon, the two positions being shown by the solid and dotted lines in Fig. 1.

Upon the car 9 and pivoted to the brake frame at 9^a are inclined traveling contact shoes 4 and 5. These shoes are inclined on their front inner sides 4^a and 5^a adapted to engage with the inclines 3^e and 3^f on bar 3^d. These contacts 4 and 5 are held up above the rails by means of springs 5^b. A portion of the outer sides 4^c and 5^c is cut away directly over the rail leaving a shoulder which rests against the inner side of the rail, thus forming a wedge between the rail 1 and bar 3^d, when said contact 5 is down. Resting on the upper side of contacts 4 and 5 are contact operating levers 6 pivoted centrally at 6^a upon lugs 9^b attached to the bottom frame of the car and extending downward. These levers are provided with a right angle extension 6^b as shown best in Fig. 5, to provide a broad bearing on the contact shoes in cases where the inner end of said levers are moved radially by the turning of the car on short curves. To the front end of contact levers 6 is attached chain 7 which extends from said levers up through the casing of the car over wheel 8, said wheel 8 is provided with a handle 8^a which extends out through the casing into the car through a slot 9^c in said casing. This handle 8^a is the motor-man's operating hand piece. The lever 3 and its auxiliary pieces are inclosed by box 10, the top surface of said box 10 and the top surface of plate 3^d being flush with the top surface of the inside of the tracks.

It will be readily seen that with this construction, that the position of contact shoes 4 and 5 as shown in Fig. 2 is maintained at all times by means of springs 5^b except when operated upon by the operator, but for instance if the operator should turn the handle to the left with the mechanism as shown

in Figs. 1 and 2, the end 6^b of lever 6 pushes contact shoe 5 down against the rail and when it reaches bar 3^a it wedges between the rail and said bar, it being of sufficient width to throw the levers over as shown in Fig. 1 which operates switch 2 allowing the car to go straight ahead and that as soon as the lever is released springs 5^b immediately throw these contact shoes up in the position as shown in Fig. 2, and that the operation would be exactly the reverse were the wheel 8 turned in the opposite direction. It will also be noted that these contact shoes are so shaped that if they were accidentally pushed down they would not be damaged as they would rest upon the rails.

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

1. In a device of the character described, the combination with a traveling vehicle of a revoluble wheel mounted within the casing of said vehicle, levers pivotally mounted on the lower surface of said vehicle, a chain centrally mounted on said revoluble wheel and attached to said levers, inclined shoes pivotally mounted on the brake frame of said vehicle adapted to engage with the inner surface of the rail, springs in connection with said inclined shoes, and means adapted to engage with said shoes in connection with a railway switch for shifting said switch, all substantially as set forth.

2. In a device of the character described, the combination with a traveling vehicle of a revoluble wheel mounted thereon, a chain mounted on said revoluble wheel, levers

pivotally mounted on said vehicle and in connection with said chain, inclined contact shoes pivotally mounted on each side of said vehicle adapted to engage with the inner side of the rail, springs for holding up said inclined shoes, and inclined stationary means centrally and longitudinally located in a railway track in connection with a removable switch and adapted to shift the same, all substantially as set forth.

3. In a device of the character described, the combination with a traveling vehicle of a revoluble hand-wheel mounted in the casing of said vehicle, a chain centrally mounted on said revoluble hand-wheel and each end attached to a lever pivoted centrally on each side of said vehicle, said levers, inclined members attached to the brake frame on each side of said vehicle, springs for holding said inclined members in engagement with said pivoted levers, inclined stationary means pivotally mounted centrally and longitudinally in a railway track, a lever in connection therewith, a rod attached to the opposite end of said lever and in connection with a railway switch, the same adapted to be operated by said shoes between the rail and said means, all substantially as set forth.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS E. LEE.

Witnesses:

EDMUND K. BARNARD,
JOHN L. EDMONDS.