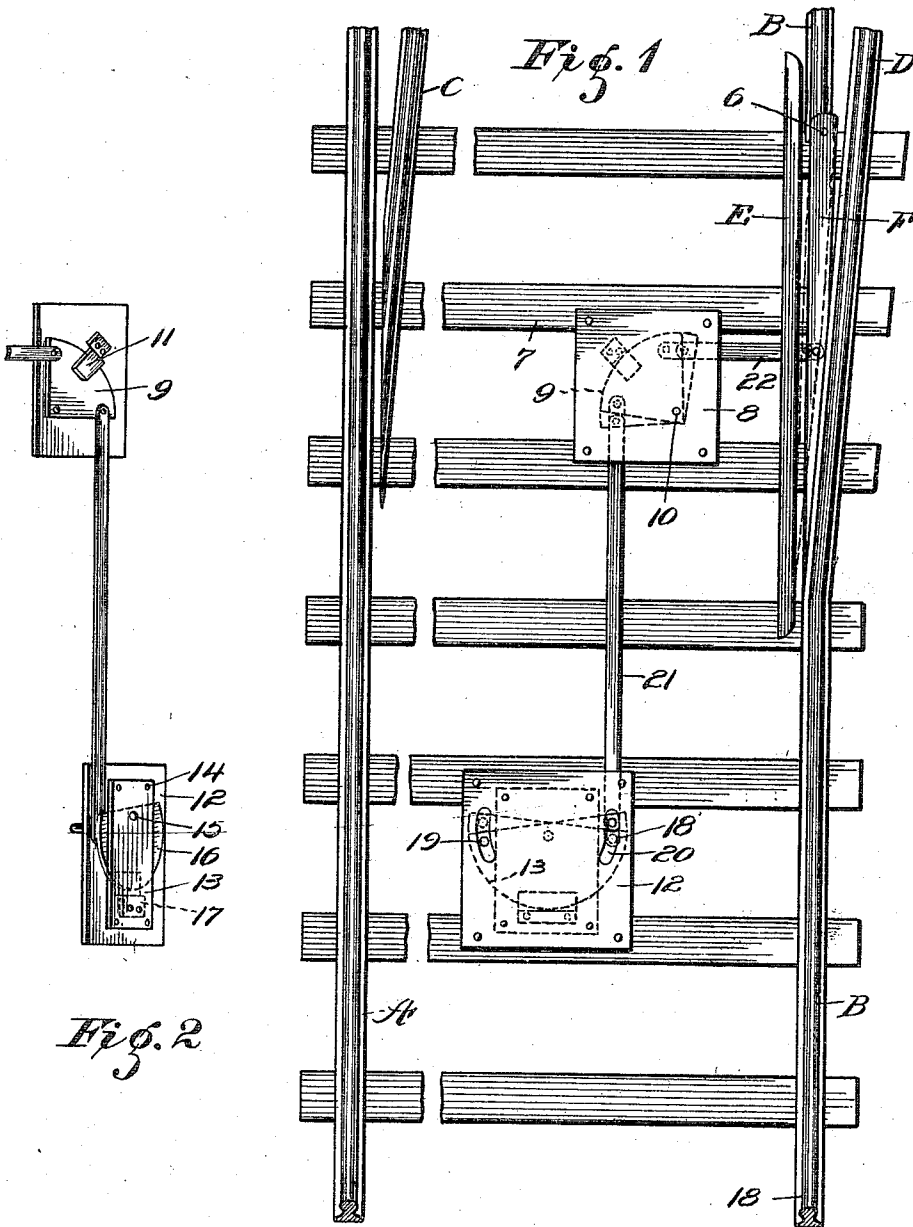


L. T. LIMPERT.
 SWITCH OPERATING DEVICE.
 APPLICATION FILED JULY 16, 1909.

985,814.

Patented Mar. 7, 1911.

2 SHEETS—SHEET 1.



Witnesses
 W. H. Jones.

Wm. Bagger.

Inventor

Louis T. Limpert

By Victor J. Evans

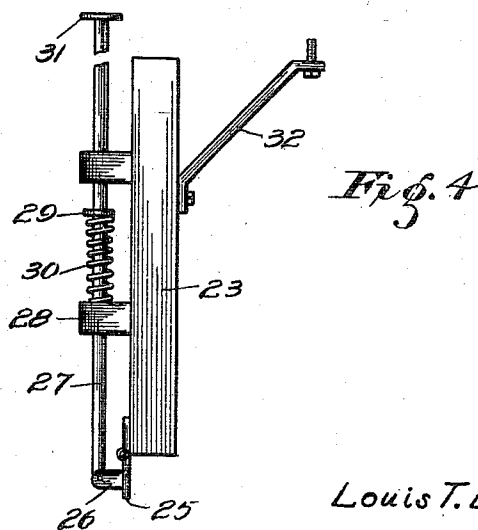
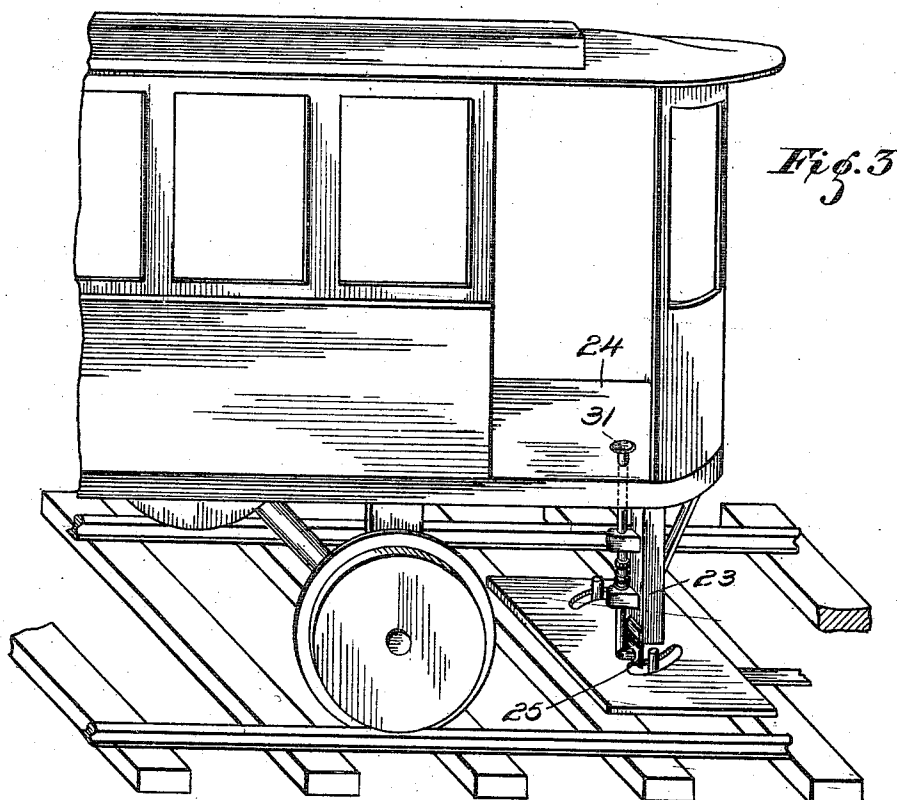
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UNITED STATES PATENT OFFICE.

LEWIS T. LIMPERT, OF TAMPA, FLORIDA.

SWITCH-OPERATING DEVICE.

985,814.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed July 16, 1909. Serial No. 507,961.

To all whom it may concern:

Be it known that I, LEWIS T. LIMPERT, a citizen of the United States, residing at Tampa, in the county of Hillsboro and State of Florida, have invented new and useful Improvements in Switch-Operating Devices, of which the following is a specification.

This invention relates to switch operating devices of that class in which the position of a switch tongue may be shifted by means connected with a car and controlled by the motorman without necessitating the stopping of the car; and it has for its objects to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the drawings hereto annexed has been illustrated a simple and preferred form of the invention; it being however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings: Figure 1 is a top plan view of a portion of a railroad track equipped with the improved switch operating device. Fig. 2 is a perspective detail view showing a portion of a switch operating device in inverted position. Fig. 3 is a perspective view showing a portion of the switch operating device and showing also one end of a railroad car equipped with means for actuating the switch operating device. Fig. 4 is a detail view in side elevation showing the actuating mechanism for the switch operating device, detached from the car.

Corresponding parts in the several views are indicated by like characters of reference.

A portion of a railroad track has been shown including the track rails A—B of the main track, the switch rails C—D, the guard rail E and the switch tongue F which is connected by a pivot pin 6 with an interrupted portion of the track rail B.

Firmly secured upon the cross ties 7 adjacent to the guard rail is a plate 8 upon the under side of which a segmental plate or

quadrant 9 is pivotally supported by means of a pin 10; the free edge of the segment plate 9 is also supported by means of a bracket 11 firmly secured to the under side of the plate 8.

Firmly secured upon the cross ties at a suitable distance from the plate 8 is a plate 12 adjacent to the under side of which is supported a plate 13; the latter being spaced from and connected with the plate 12 by means of pins or bolts 14. Pivotaly supported between the plates 12 and 13, upon a pin 15 is an approximately semi-circular segment plate 16, the free edge of which is supported by means of a bracket 17 connected with the plate 13. The segment plate 16 is provided with pins 18—19 extending upwardly through slots 20 in the plate 12, said slots being concentric with the pivot 15 upon which the segment plate 16 is supported, and said pins being equidistant from the center of the track. The pin 18, which is located in proximity to the side of the track equipped with the switch tongue F, is connected with the segment plate 9 by means of a link rod 21, and the opposite end of the segment plate 9 is connected with the switch rail F by means of a link rod 22.

It will be readily seen that when the segment plate 16 is oscillated upon its pivot or fulcrum, an oscillating movement is transmitted to the segment plate 9 and from the latter, by means of the link rod 22 to the switch tongue F the position of which will thus be shifted according to the direction of oscillation of the plates or levers 16 and 9. The plate or lever 16 is actuated by means connected with the cars passing over the track, said means including a beam or bracket 23 depending from the platform of the car 24 and carrying at its lower extremity a plate 25 which is hingedly connected therewith in such a manner that it may be swung through an arc of 45 degrees. The plate 25 has a laterally extending lug 26, which is suitably connected with the lower end of a vertically movable rod 27 which is slidably supported in bearings 28 upon the beam or bracket 23. The rod 27 is provided with an annular flange 29 and a spring 30 which is coiled upon the rod 27 between the flange 29 and one of the bearings 28 serves to normally force the rod 27 in an upward direction. The upper end of the rod 27 is equipped with a foot piece or treadle 31;

and a brace 32 serves to reinforce the beam or bracket 23. The latter is located in such a position as to clear the pin 18 adjacent to that side of the track which is equipped with the switch tongue F when the car approaches the switch point from the main track; the bracket 23 of a car approaching from the opposite direction will clear the pin 19. It follows that when the spring actuated operating rod 27 of a car approaching from either direction is depressed by the foot of the motorman, the hinged plate 25 will be depressed to an edgewise position presenting its entire face in the path of one of the operating pins, thus oscillating the segment plate 16 and throwing the switch point by means of the intermediate connecting mechanism herein described. As soon as the switch point has been thrown, the plate 25 and the operating rod 27 will be restored to their initial position against the pressure of the motorman's foot which will readily be overcome by the pressure of the pin 18 or 19 engaging the plate 25.

By this construction, an engaging plate 25 which is very light and easily manipulated may be used, it being strongly reinforced by the operating rod 27 which when depressed, as shown in Fig. 4, lies directly in rear of the hinge, whereby said plate 25 is connected with the bracket 23. In order to insure success and certainty of operation, it has heretofore been necessary to use a relatively heavy and bulky engaging member; a stout spring has been necessary to overcome the weight of the latter and the pressure required to be exerted by the operator has been correspondingly heavy. Under this construction, a light engaging plate and a

light spring may be used, as well as a correspondingly light rod 27, the strain exerted upon the latter being mainly in a longitudinal direction, so that it will not be liable to become distorted by such strain.

Having thus described the invention, what is claimed is—

In a device of the character described, a railroad track including a switch point, operating means for the switch point including a segment plate supported for oscillation and having upwardly extending pins disposed equidistantly from the center of the track, a car having a downwardly extending bracket, a plate hingedly connected with the bracket and adapted to be depressed to an edgewise position presenting its entire face in the path of one of the upwardly extending pins of the segment plate, a lug extending laterally from the hinged plate approximately at right angles to said plate, and a vertically movable spring-supported rod suitably connected with the lug of the hinged plate, which latter may thereby be moved from an approximately horizontal to an approximately vertical position, and vice versa, said rod having a foot piece or treadle at its upper end; the parts being so arranged that the vertically movable spring supported rod, when depressed, shall extend in rear of the hinge, whereby the plate is connected with the bracket to brace and reinforce said plate.

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

LEWIS T. LIMPert.

Witnesses:

B. J. JOHNSON,
D. D. MURRELL.