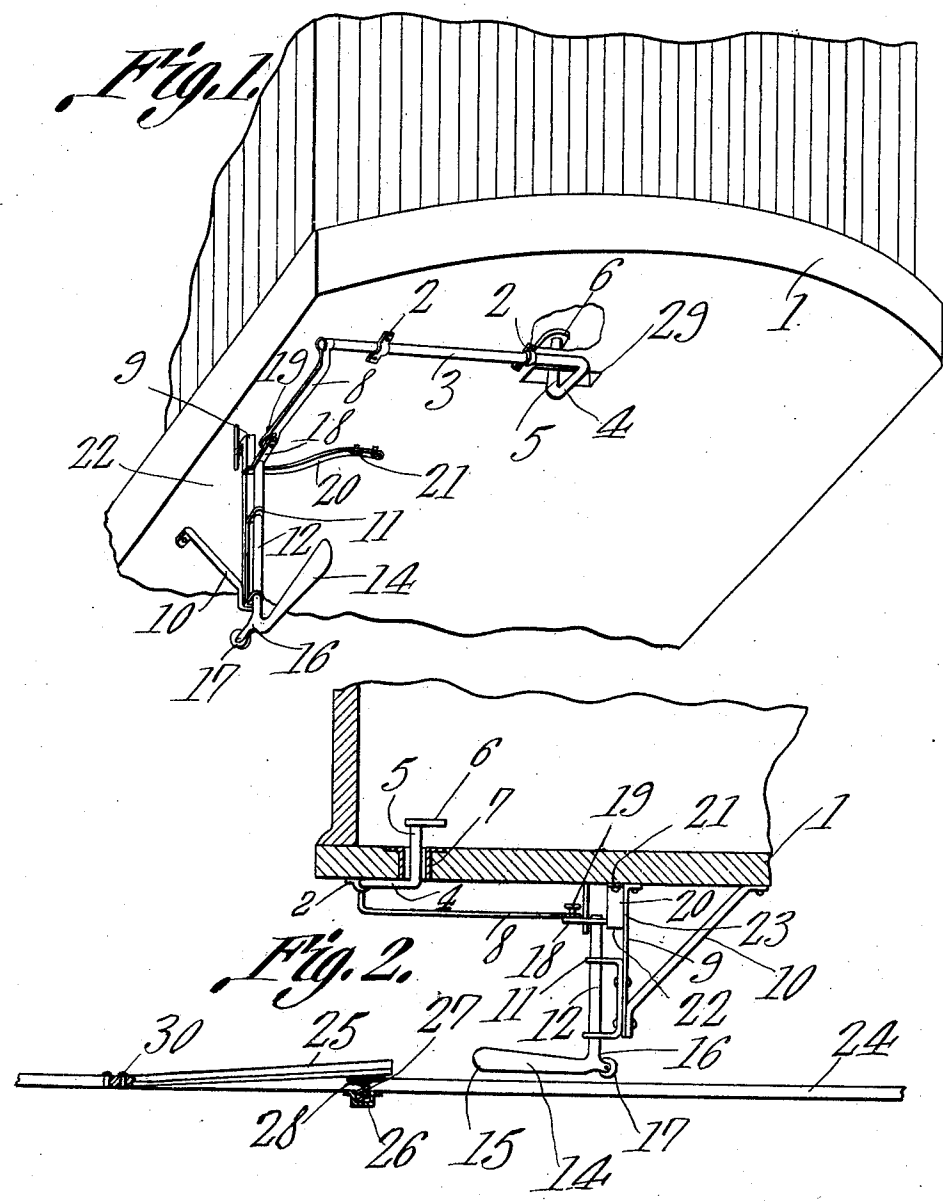


R. B. WOODALL.
STREET RAILWAY SWITCH.
APPLICATION FILED NOV. 16, 1910.

991,403.

Patented May 2, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT B. WOODALL, OF MALVERN, ARKANSAS.

STREET-RAILWAY SWITCH.

991,403.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that I, ROBERT B. WOODALL, a citizen of the United States, residing at Malvern, in the county of Hot Spring and State of Arkansas, have invented a new and useful Street-Railway Switch, of which the following is a specification.

It is the object of this invention to provide in a novel and improved form, car-carried means whereby a switch point may be thrown by a passing car.

Another object of the invention is to provide car-carried means for throwing a switch point, the construction being such that this mechanism may readily be depressed vertically into the plane of the switch point, and subsequently turned horizontally to throw the switch point.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings, Figure 1 shows the invention in perspective; and Fig. 2 is a vertical longitudinal section of a portion of a car body, showing the device of my invention mounted thereon, a portion of the track upon which the car moves, being shown in elevation.

In the drawings, the bottom of a car is shown, and denoted by the numeral 1. Secured to the bottom of the car and alined transversely of the car, are bearings 2 in which a rock shaft 3 is journaled for rotation. The rock shaft 3 at its inner end is provided with a horizontal portion 4 and a vertical portion 5, the portion 5 extending upwardly through an opening 29 in the bottom 1 of the car, this opening being elongated transversely of the car. To the upper extremity of the vertical portion 5 of the rock shaft, a foot plate 6 is secured, this foot plate 6 being disposed, as clearly seen in Fig. 2, above the bottom 1 of the car, so that it may be accessible readily to the motorman. The elements 4, 5 and 6 constitute an extension at one end of the rock shaft 3. If desired, the opening 29 in the bottom 1 of the car through which this extension of the rock

shaft 3 protrudes, may be lined with a thimble 7. At its opposite, outer end, the rock shaft 3 is provided with a depressed arm 8, extended rearwardly beneath the car bottom 1.

To the car bottom 1 an upright 9 is secured, the same being maintained in place by a rearwardly extended brace 10, secured to the upright 9 and to the bottom 1 of the car. To the forward face of the upright 9, adjacent the lower end thereof, a U-shaped bearing 11 is attached, the arms of this bearing extending forwardly, as seen to best advantage in Fig. 2.

In the bearing 11, a vertically disposed stem 12 is mounted, both for rotation and for longitudinal sliding movement. This stem 12 carries at its lower end a forwardly projecting shoe 14, adapted, as hereinafter pointed out, to throw the switch point, the outer end of the shoe 14 being suitably rounded as at 15, in order to lessen the concussion incident to the shoe 14 striking the switch point. Adjacent its lower end, the stem 12 carries a rearwardly projecting heel 16, in which is journaled for rotation a roller 17, this roller extending downwardly below the lower edge of the shoe 14. To the upper end of the stem 12 a transverse head 18 is secured. The forward end of this head 18 is loosely connected by means of a pin and slot joint 19, to the rear end of the arm 8 of the rock shaft 3.

A spring plate 20 is disposed transversely of the car, and is secured at its inner end, as shown at 21, to the car bottom 1. The outer end of this spring 20 is downwardly extended, as shown at 22, to bear against the underside of the head 18, to the rear of the stem 12. Referring to Fig. 2 it will be seen that the rear edge of the spring 20 bears, as shown at 23, against the upright 9, this upright 9, together with the brace 10 and the bearing 11, being referred to hereinafter as a bracket in which the stem 12 is rotatably mounted. This sliding engagement shown at 23 between the spring 20 and the bracket, serves to direct the movement of the spring as it lifts the head 18.

In Fig. 2 of the drawing, the main line rails are denoted by the numeral 24, and the switch point by the numeral 25. The switch point 25 is pivoted at 30 to move horizontally, as is usually the case, and likewise pivoted to swing vertically. Secured pref-

erably to the main line rail 24, is a casing 26, in which a compression spring 27 is disposed, the upper end of the spring 27 bearing against a plate 28, the plate 28 in turn bearing against the switch point 25, adjacent the free end thereof. This spring 27 serves to maintain the switch point normally in the uplifted position shown in Fig. 2, so that the switch point may be thrown by the shoe 14, without depressing the shoe. The plate 28 should be of sufficient length so that the switch point 25 may move to and fro thereon horizontally, without passing beyond the contour of the plate. The object of this construction is to enable the spring 27 to maintain the switch point 25 uplifted, no matter whether the switch point be set for the main line or set for the siding.

The operation of the car-carried mechanism for throwing the switch point is as follows. The foot of the operator is placed upon the plate 6, rotating the rock shaft 3, and depressing the rear end of the arm 8, the arm 8 being loosely pivoted to the head 18, depressing the stem 12, against the action of the spring 20, until the roller 17 rests antifrictionally upon the rail 24. Owing to the elongated form of the opening 29 in the car bottom 1, and owing to the fact that the rock shaft 3 is mounted slidably in the bearings 2, if a lateral pressure be brought to bear upon the foot plate 6, the rock shaft 3 will slide longitudinally, the arm 8 tilting the head 18 laterally in a horizontal plane, and causing the stem 12 to rotate in the bearings 11, the shoe 14 at its forward end being swung to the left or to the right, depending upon the direction in which the lateral pressure has been applied to the foot plate 6. This swinging movement in the shoe 14 will cause the shoe to engage the switch point 25, swinging the switch point from a main line position to a siding position, or from a siding position to a main line position, as may be. It will of course be understood that when the foot of the operator is removed from the plate 6, the spring 20, engaging with the head 18, will lift the stem 12 and hold the shoe 14 in elevated position, out of contact with the track.

Having thus described the invention, what I claim as new is:

1. In a device of the class described, a rock shaft having an extension at one end adapted to protrude through a car platform, and having an arm at the other end adapted to extend beneath a car platform; car-carried means for mounting the rock shaft for rotation and for longitudinal sliding movement; a stem having an outstanding head at one end and an outstanding shoe at the other end, the head being pivoted to the arm; car-carried means for mounting the stem for longitudinal sliding movement and for rotation; and resilient means for sliding the stem to hold the shoe normally elevated.

2. In a device of the class described, a bracket adapted to be secured to a car; a stem rotatable and slidable in the bracket and provided with an outstanding shoe; a transverse head upon the stem; a spring adapted at one end for connection with a car and at the other end bearing slidably against the bracket and extended beneath one end of the head to lift the stem; a rock shaft having an extension at one end adapted to protrude through a car platform and having an arm at the other end adapted to extend beneath a car platform, the arm being pivotally connected with the other end of the head; car-carried means for mounting the rock shaft for rotation and for sliding movement.

3. In a device of the class described, a stem provided at its lower end with a forwardly projecting shoe and with a rearwardly projecting heel; a roller mounted for rotation in the heel; car-carried means in which the stem is mounted for longitudinal sliding movement and for rotation; and car-carried means for sliding the stem and for rotating the same.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBT. B. WOODALL.

Witnesses:

LON P. HARDIN,
W. D. LEIPER.