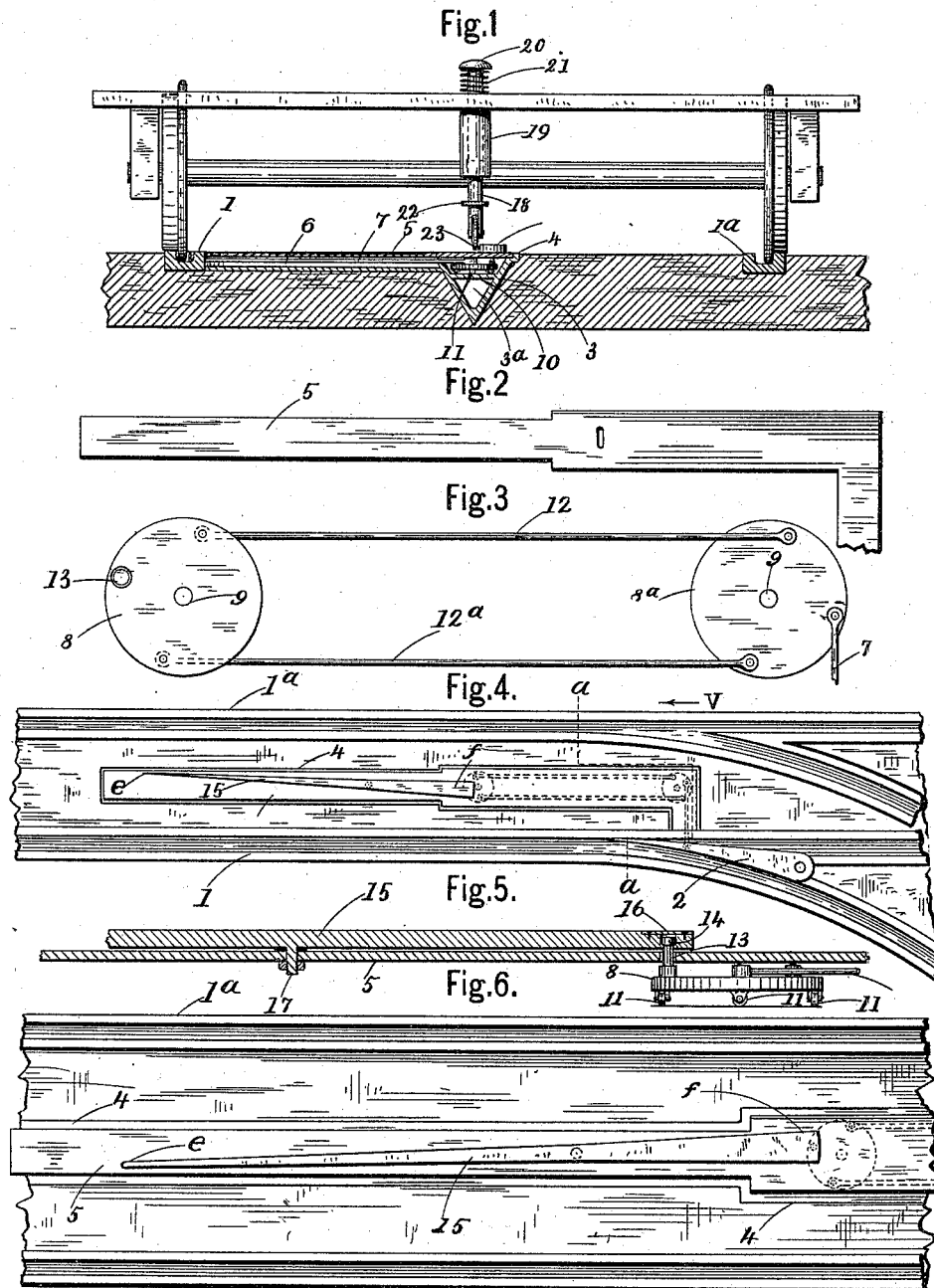


(No Model.)

J. C. JACOBS, A. KEIL & J. H. ROEMER.
STREET RAILWAY SWITCH.

No. 526,152.

Patented Sept. 18, 1894.



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UNITED STATES PATENT OFFICE.

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NEW YORK.

STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 526,152, dated September 18, 1894.

Application filed January 26, 1894. Serial No. 498,109. (No model.)

To all whom it may concern:

Be it known that we, JOHN C. JACOBS, ALEXANDER KEIL, and JOHN H. ROEMER, citizens of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Street-Railroad Switches, of which the following is a specification.

Our invention relates to certain improvements in automatic switches for street cars and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an enlarged front elevation of a portion of a street car truck, all parts above the platform being omitted, showing the device for operating the switch, also a cross section through the track and switch device in or about line *a a*, Fig. 4, looking in the direction of the arrow *V*. Fig. 2, is a detached top view of the covering plate, a small portion being broken from the angular end portion. Fig. 3, is an enlarged top view of the mechanism below the covering plate. Fig. 4 is a top view of the switch device complete. Fig. 5, is a central longitudinal section through the covering plate and pivoted bar for operating the switch, showing the manner of connecting the end of the pivoted bar to the switch mechanism below the covering plate. Fig. 6, is an enlarged top view of the track, showing a large portion of the covering plate and a top view of the pivoted operating bar.

The object of our invention is to provide a simple and effective device which may be operated from the car. Another object is in the construction of the device whereby the operator can see if the switch moves to its proper position before the car enters it.

Referring to the drawings, 1 and 1^a, represents the ordinary rails of a street railway. 2 is the usual pivoted switch bar. See Fig. 4. Below the track and substantially in the center thereof is a longitudinal box 3. See Fig. 1. It is provided with a passage 3^a, and is preferably made of cast iron formed in one piece and provided at the top edge with an outward and upward projecting surrounding flange 4, thereby leaving a depression in which the covering plate 5 is fitted so it can be easily lifted up and removed or replaced when re-

quired. The box 3 having the passage 3^a, is made in an L form thereby leaving not only room for the switch operating mechanism but also a passage 6, (see Fig. 1,) extending from the end of the passage 3^a, in a transverse direction to one side of the track. Its object is to provide a passage in which the connecting rod, 7, connected with the pivoted switch bar, 2, and switch mechanism, may operate.

Below the covering plate, 5, is located two disks 8 and 8^a. The disk 8^a, is centrally pivoted by a pin 9, to a cross bar 10, see Fig. 1, and is provided at the under side with a series of rollers 11, shown in Fig. 1, but more clearly in Fig. 5, so it can turn easily on its center the cross bar forming a platform upon which they turn, the other disk 8, also pivoted by a pin 9, to a cross bar similar to the cross bar 10, and is supported in the same way on rollers.

Both disks 8 and 8^a, are connected together by connecting rods 12 and 12^a. See Fig. 3, where these connecting rods are more clearly shown. These connecting rods 12 and 12^a, may be as long as may be required so as to allow the switch to be operated at a distance so that the operator may see the switch moved before the car reaches it. The disk 8^a, being pivoted to a lower platform than the disk 8, allows the connecting rods 12 and 12^a, to be pivoted at the top of the disk 8^a, as shown in said Fig. 3, while their opposite ends are pivoted to the under side of the disk 8. The object in having the disk 8, thus pivoted on a higher platform is to bring it up as near to the under side of the covering plate as possible.

To the disk, 8, is rigidly secured a pin, 13, having an enlarged head 14, which passes into the end of the pivoted operating bar 15. See Fig. 5. The pin 13, is secured in place by first putting it through a hole in the end of the operating bar which is large enough to allow the head to pass in but contracted at the bottom so as to prevent it from passing through. The lower end of the pin is then rigidly secured to the disk 8, either by screwing it in place thereto, or in any well known way, after which a plate 16, is secured over the hole by screws. See Fig. 5.

The pivoted opening bar 15, is provided with a pivoted pin 17, formed preferably in

one piece with it of cast steel, but any other suitable material may be used. To the disk 8^a, is pivoted one end of the connecting rod 7, and its other end is pivoted in the usual way to the under side of the pivoted switch bar, 2. The pivoted operating arm is the only thing exposed above the switch mechanism.

At each end of a car, in the center on the platform is located a vertically movable bar 18, adapted to operate in a sleeve or a suitable holding device 19, (see Fig. 1) adapted to keep it in a vertical position and to allow it to move easily up or down. It is provided at the top with an enlarged head 20, and a spring 21, to keep it up in its normal position, and below the sleeve 19, is a collar 22, to prevent it from being drawn up too far by the spring, 21. At the bottom of the bar, 18, is a friction wheel 23, pivoted so as to turn easily thereon. In Fig. 1, the device is shown as pressed downward to operate the switch.

The operation of the device is as follows:— When it is desired to operate the switch all that is necessary to do is for the operator to put his foot on the head 20, and press the bar 18 downward to the limit of its down movement, and one side of the friction wheel 23, is in position to operate the operating arm 15 (which is connected by the pin 13, with the disk 8, which projects through the covering plate), and thereby turn the disk 8, the movement of which is transmitted to the disk 8^a, by the connecting rods 12 and 12^a, which op-

eration moves the connecting rod 7, and the switch bar 2, as will be readily understood. It will be noticed that the operating bar, 15, gradually becomes wider each side from the point *e*, to the head *f*. This is done because the friction wheel 23, travels in a longitudinal line in the center of the track and is adapted to move against either one of its inclined sides, which are inclined sufficiently to give the proper movement for operating the switch.

We claim as our invention—

In a street railroad switch, the combination with an L-shaped box and covering plate for holding the switch-operating mechanism of two disks pivoted centrally on cross bars in said box, connecting rods pivoted and connected with opposite sides of said disks connecting them with each other, friction rollers upon which said disks turn, a connecting rod extending laterally and connecting one disk with the pivoted switch bar, a pivoted operating bar located outside of the covering plate and connected by a pin pivoted thereto and extending down and connecting with the opposite disk, and means located on the car for operating the switch, substantially as described.

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