

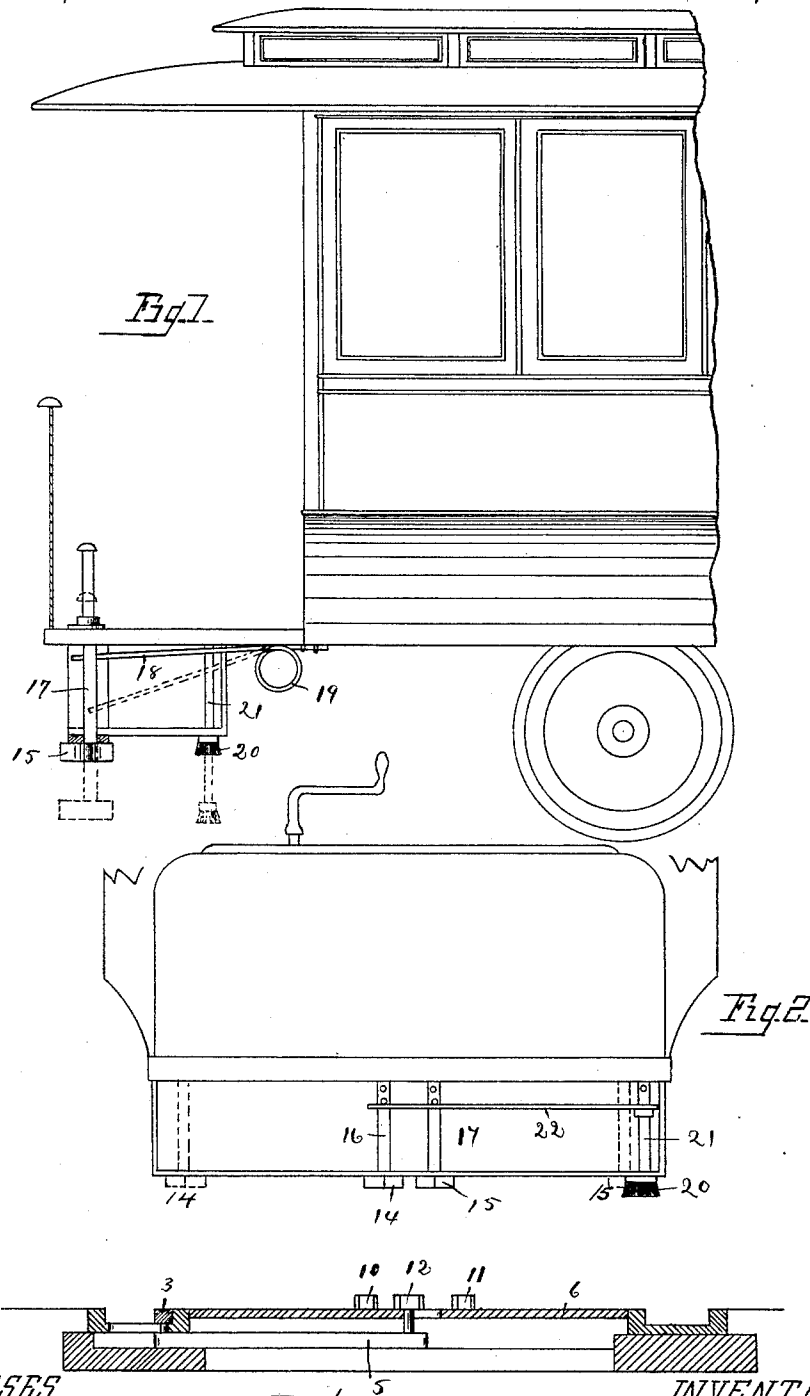
(No Model.)

2 Sheets—Sheet 1.

E. SHOUP & G. F. TRUDEAU.
AUTOMATIC SWITCH FOR RAILWAYS.

No. 461,056.

Patented Oct. 13, 1891.



WITNESSES

Carroll J. Webster
John Lewis

Fig. 6

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Atty

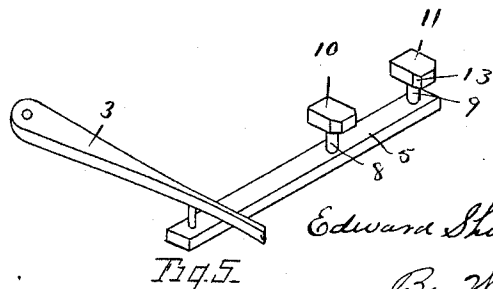
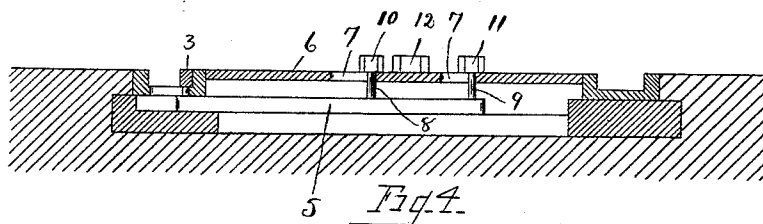
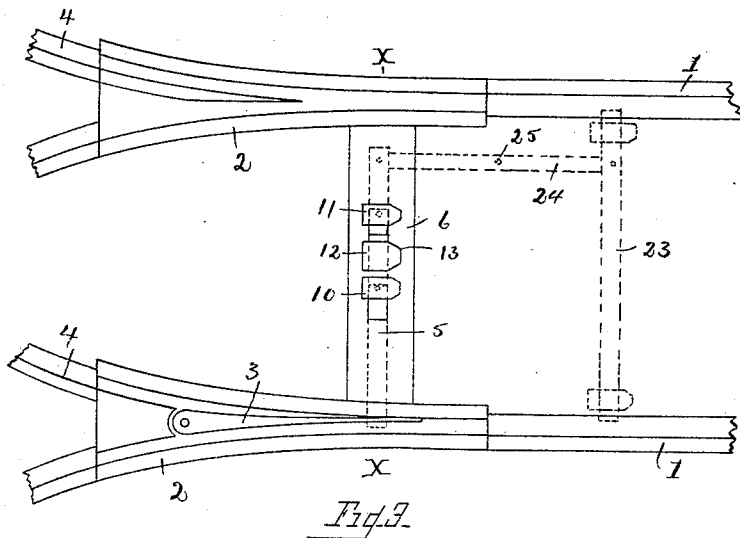
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UNITED STATES PATENT OFFICE.

EDWARD SHOUP AND GEORGE F. TRUDEAU, OF TOLEDO, OHIO.

AUTOMATIC SWITCH FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 461,056, dated October 13, 1891.

Application filed February 25, 1891. Serial No. 382,808. (No model.)

To all whom it may concern:

Be it known that we, EDWARD SHOUP and GEORGE F. TRUDEAU, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Automatic Switches for Railways; and we do hereby declare that the following is a full, clear, and exact description of the invention which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

Our invention relates to an automatic switch for railways, and has especial relation to switches for street-railway cars wherein it is desired to utilize a main track for some distance for cars of different lines with means for changing the switch to cause a car to move upon the desired diverging track.

The object of the invention is to provide an inexpensive and positively-acting switch mechanism whereby the switch may be automatically moved at the will of the driver or motor-man.

The invention consists in the parts and combination of parts hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a portion of a car, showing the switch-operating mechanism connected therewith. Fig. 2 is an end view of the car, showing the position of the switch-shoes and also a connection with the switch-shoe posts for operating a brush for removing any dirt that may be between the switch-rail and main track. Fig. 3 is a plan view of a main and diverging tracks with a switch-rail in position to be thrown to guide the car upon either track, with the mechanism that coacts with the switch-shoes connected therewith, a modified construction being shown in dotted lines. Fig. 4 is a transverse view on lines *x x*, Fig. 3. Fig. 5 is a detail view of the switch-rail and movable bar for actuating the same. Fig. 6 is a cross sectional view of a modified form of switch-rail-operating mechanism in which the center block is connected with the transverse bar attached to the switch-rail and is movable to operate the same.

1 designates the rails of the main track; 2,

the rails of the diverging track; 3, the switch-rail, and 4 the switch-frog.

To the switch-rail is secured a transversely-arranged bar 5, of a length to extend nearly the width of the space between the tracks, this bar being preferably inclosed within a box or protected by a cover 6, which lies horizontally in parallel relation with the upper surface of the track, the cover being provided with elongated perforations 7, through which is passed posts 8 and 9, respectively, each post having a block 10 and 11, respectively secured at the upper end thereof and resting upon the upper surface of the cover, whereby the said bar is suspended upon the cover, thus requiring less power to operate it and the switch-rail than were the said bar allowed to rest upon a bed or foundation. The lower ends of posts 8 and 9 are secured in the bar 5, by which means when either of the blocks 10 or 11 is moved the bar 5 and switch-rail is given a movement in the same direction.

12 designates a block fixedly secured to the cover intermediate the openings 7, each of the blocks 10, 11, and 12 being formed with pointed end portions 13 for a purpose hereinafter stated.

14 and 15 respectively designate switch-shoes secured to vertical posts 16 and 17, respectively, said posts being of a length to project through the platform of the car a short distance when the shoes are in horizontal alignment with blocks 10, 11, and 12, the said posts, by means of a connection with spring 18, being normally held projecting through the platform a sufficient height to raise the shoes from contact with blocks 10 or 11. Spring 18 is shown as coiled, as at 19, although we may, if desired, employ a common leaf-spring.

20 designates a brush arranged upon the car, the post 21 of which is connected with a bar 22, firmly secured to the brush-post and engaging with projections 21 on the shoe-posts, so that the brush may be operated by either one of the shoe-posts independently of the other and be caused to descend just as the switch is opened and clean the same of any accumulation of dirt that may have lodged between the switch and rail.

In operation, when a car approaches the switch, if it be desired to move the same upon

the main track the driver or mo/or-man depresses shoe-post 16, thereby causing switch-shoe 14 to enter between blocks 11 and 12, thereby moving the switch-rail from the main track and allowing the car to move thereon. Should it be desired to move the car upon the diverging track, shoe 15 is depressed, thereby causing the same to pass between blocks 10 and 12, and as a consequence moving the switch-rail to the main track and guiding the car to the diverging track.

As in some instances it may be impracticable to arrange the blocks 10, 11, and 12 in the center of the track, we have shown a modified form of construction in which blocks 10 and 11 are connected with a supplemental transverse bar 23, (shown in dotted lines in Fig. 3,) said bar being connected with bar 5 by means of a lever 24, pivoted at 25. In this construction shoes 14 and 15 are arranged at the side of the car, as shown in dotted lines, Fig. 2, and operate to throw the switch in the manner heretofore described, it being understood that the central posts shown as attached to bar 5 are dispensed with.

In Fig. 6 is shown a construction in which the center post 12 is attached to the bar 5 and movable within an elongated opening in the cover 6, the posts 10 and 11 being stationary, this being an obvious modification within the scope of our invention.

From the foregoing description it will be seen that the switch mechanism can be readily attached to switch-rails in present use at but small expense, and that the switch-operating mechanism can be secured to the car without disfiguration of the same.

What we claim is—

1. In an automatic switch, a frog, a boxing having a cover provided with slots, a switch-rail, a bar connected therewith and extending

beneath the cover, posts secured to the bar and extending through the slots, and blocks carried by the posts and bearing on the cover, in combination with a car carrying switch-shoes adapted to be moved into contact with the said blocks.

2. In an automatic switch, a frog, a boxing having a cover provided with slots, a switch-rail, a bar connected therewith and extending beneath the cover, posts secured to the bar and extending through the slots, and blocks carried by the posts and bearing on the cover, in combination with a car carrying switch-shoes, means for projecting the same into contact with the said blocks, and means for automatically returning the shoes to their normal position after operating the frog.

3. The combination, with the vertically-movable switch-shoes, of the vertically-movable switch-brush arranged at one side of the car and connecting-rod connecting the switch-shoes and switch-brush, whereby when either shoe is depressed the brush will be depressed also.

4. The combination, with the vertically-movable switch-shoes and their rods, of the horizontal connecting-bar, loosely engaged projections on the rods, the said bar extending to the side of the car, the switch-brush and its rod, said rod being rigidly connected with the horizontal bar, and a spring connected with the shoe-posts and secured at a point to the rear of the same.

In testimony that we claim the foregoing as our own we hereby affix our signatures in presence of two witnesses.

EDWARD SHOUP.
GEORGE F. TRUDEAU.

Witnesses:

WILLIAM WEBSTER,
EDWARD BISSELL.