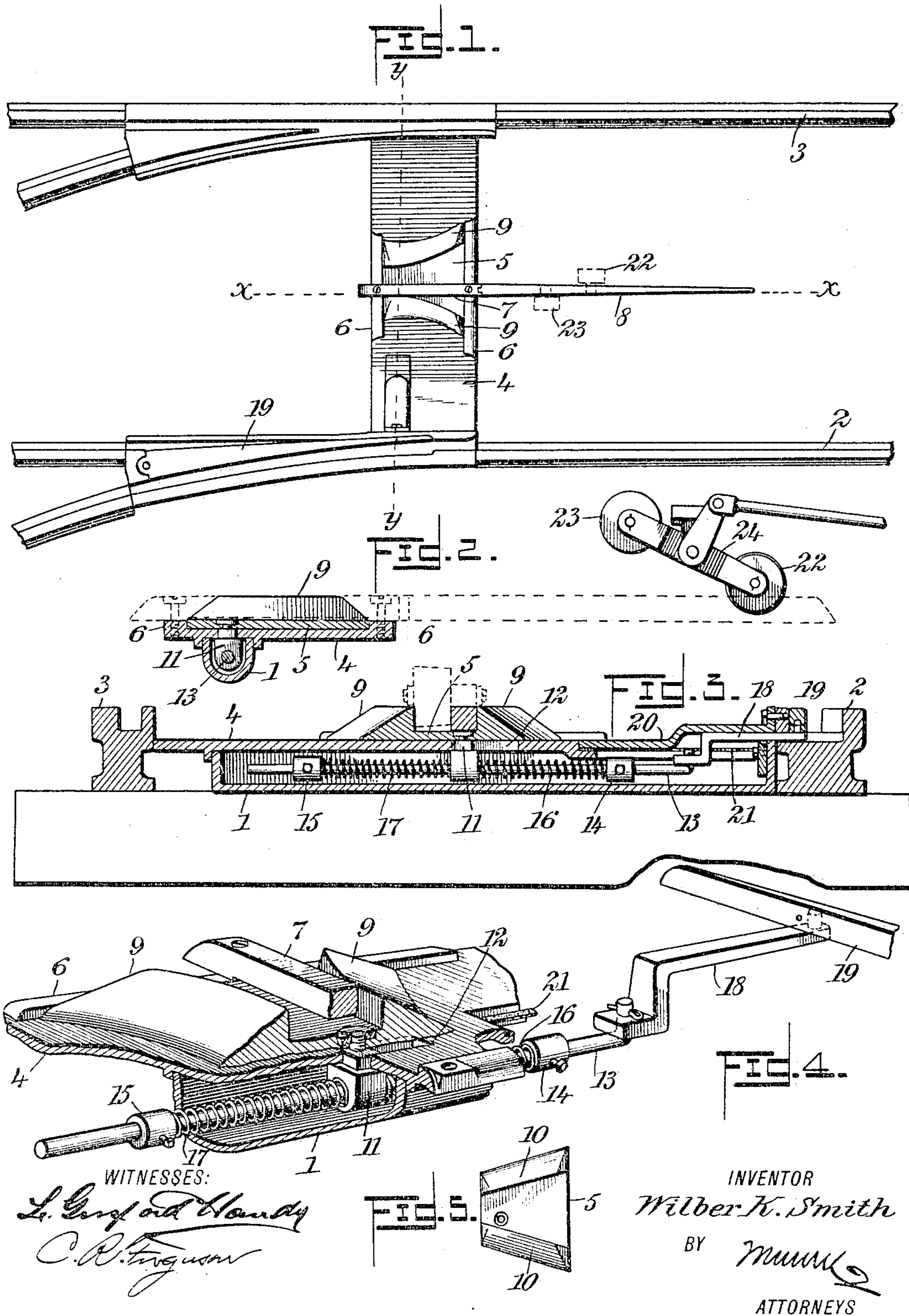


No. 781,623.

PATENTED JAN. 31, 1905.

W. K. SMITH.  
RAILWAY SWITCH.  
APPLICATION FILED APR. 28, 1904.



WITNESSES:  
*L. G. and H. H. Handy*  
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FIG. 5.  
INVENTOR  
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ATTORNEYS



# UNITED STATES PATENT OFFICE.

WILBER K. SMITH, OF DENVER, COLORADO.

## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 781,623, dated January 31, 1905.

Application filed April 28, 1904. Serial No. 205,290.

*To all whom it may concern:*

Be it known that I, WILBER K. SMITH, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, have invented a new and Improved Railway-Switch, of which the following is a full, clear, and exact description.

This invention relates to improvements in switches for street-railways, an object being to provide a switch mechanism of novel construction adapted to be operated by a motor-man on a car while the car is moving.

I will describe a railway-switch embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan showing a switch mechanism embodying my invention. Fig. 2 is a section on the line *x x* of Fig. 1. Fig. 3 is a section on the line *y y* of Fig. 1. Fig. 4 is a perspective view, partly in section, of the shifting mechanism; and Fig. 5 is a plan showing a slight modification in the shifting-plate.

Referring to the drawings, 1 designates a boxing arranged between rails 2 3 and below the surface of the road-bed. The boxing is provided with a cover 4, on which a shifting-plate 5 is mounted to slide. On the upper side of the cover 4 and at the ends of the plate 5 are cast ribs 6, and attached to these ribs 6 and extended freely over the plate 5 is a short rail 7, from which a tapered rail 8 extends forward. At its opposite sides the plate 5 has upwardly - extended and longitudinally-curved ribs 9. These ribs, however, need not necessarily be curved, but may be straight at the inner sides, as indicated at 10 in Fig. 5. In both instances, however, the ribs are divergent from the rear to the front end. The opposite edges of the plate are sharpened, so that when sliding on the cover 4 any ice or snow that may be thereon will be readily cut by the sliding plate. The ends may also be sharpened. To provide for easy movement of the shifting-plate on the cover, the engaging surfaces of the two parts will preferably be smoothly planed.

A bolt 11, attached to the plate 5, extends into the boxing 1, and the cover 4 is provided with a slot 12, in which the bolt may slide. Extended through the opening in the head of the bolt is a shifting-rod 13, and between the head of the bolt and collars 14 15 on the rod are springs 16 17, which permit of slight yielding movement of the rod should the switch-tongue operated by the rod become clogged or meet with an obstruction or in case of a short throw of the switch-tongue. An angle-arm 18 has pivotal connection with the rod 13 and extends through a stuffing-box in the end of the boxing 1 and is connected to the switch-tongue 19. The cover 4 is provided with an opening through which the arm or rail 8 may be passed into position. This opening, however, is normally closed by a cover 20, which, as here shown, is seated on a gasket 21, of rubber or the like, to prevent the entrance of water.

The switch-tongue is designed to be shifted, by means of the plate 5, through the medium of a device carried by a car. As here shown, this device consists of rollers 22 23, carried in a swinging frame 24 and designed to engage between the rail 7 and one of the flanges. This feature, however, need not be fully described herein, as it forms the subject-matter of another application.

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

1. In a switch mechanism, a switch-tongue, a shifting-rod having connection with the tongue, a sliding plate having connection with the rod, divergent ribs on said sliding plate, collars on the rod, and springs arranged between said collars and the connection between the rod and the sliding plate.

2. In a switch mechanism, a switch-tongue, a boxing arranged between the track-rails and having a slot through its top, a rod arranged in the boxing and having connection with the switch-tongue, a plate mounted to slide on the boxing and having connection with said rod, and divergent ribs on opposite sides of said sliding plate, the edges of said plate being sharpened.

3. In a switch mechanism, a switch-tongue, a boxing arranged between the track-rails, a shifting-rod in said boxing, an angle-arm con-

necting said rod to the switch-tongue, a shifting-plate mounted to slide on the boxing and having connection with said rod, and upwardly-extended divergent ribs on said sliding plate.

5 4. In a switch mechanism, a switch-tongue, a boxing arranged between the track-rails, a shifting-rod in said boxing and having connection with the tongue, a plate mounted to slide on the boxing and having connection with  
10 said rod, upwardly-extended ribs at the opposite sides of said sliding plate, and a rail extended over the plate between the ribs and extending forward therefrom.

5. In a switch mechanism, a switch-tongue,  
15 a boxing arranged between the track-rails, a rod in said boxing and having connection with the tongue, longitudinally-extended ribs on the top of said boxing near the front and rear edges thereof, a shifting-plate mounted  
20 to slide on the boxing between said ribs, di-

vergent ribs at opposite sides of said sliding plate, and a rail attached to said first-named ribs and extended over the sliding plate between its ribs.

6. In a switch mechanism, a switch-tongue, 25 a shifting-rod having connection therewith, a plate mounted to slide between the track-rails and having connection with said shifting-rod, upwardly-extended divergent ribs on said sliding plate, a fixed rail extended over the 30 plate between the ribs, and a tapered extension-rail projected from the first-named rail.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILBER K. SMITH.

Witnesses:

JNO. M. RITTER,  
C. R. FERGUSON.