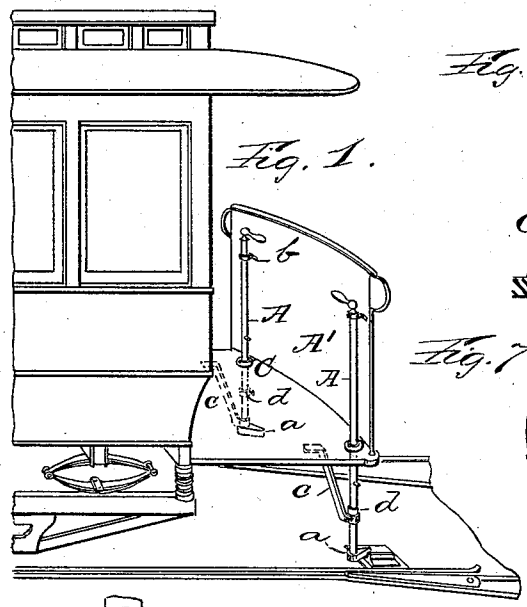
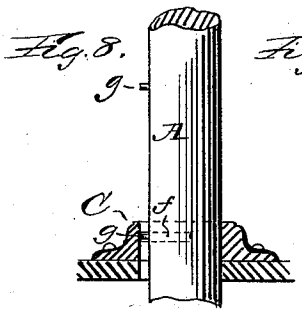
(No Model.)

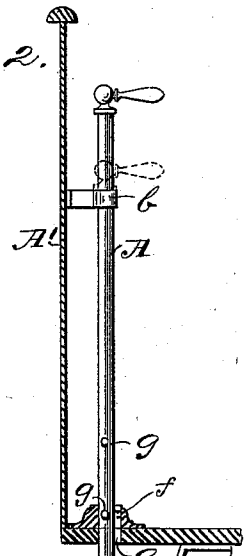
A. C. McKENZIE.

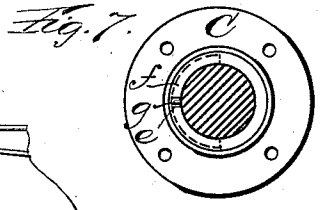
MECHANISM FOR OPERATING SWITCHES FOR STREET CARS.

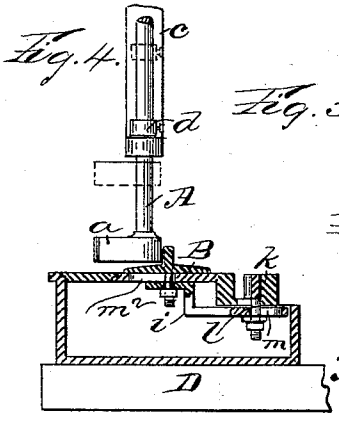
No. 534,657. Patented Feb. 26, 1895.

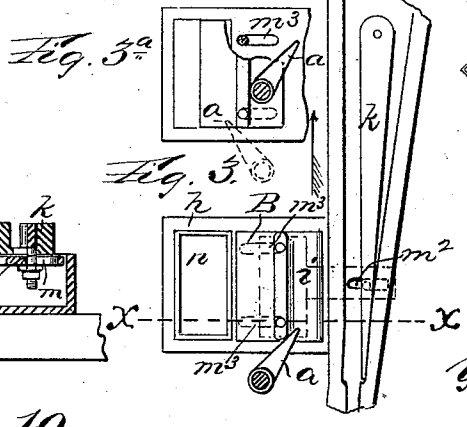


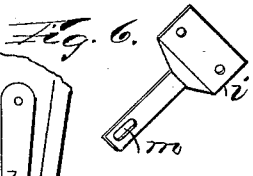


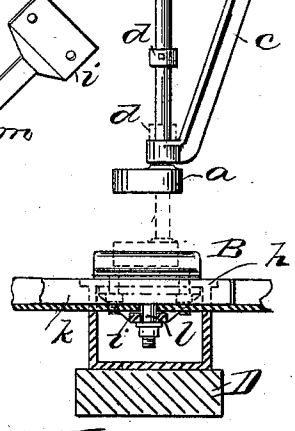


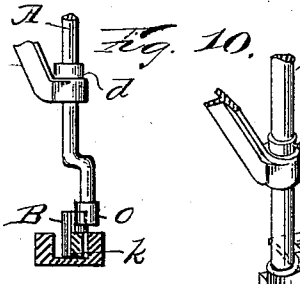


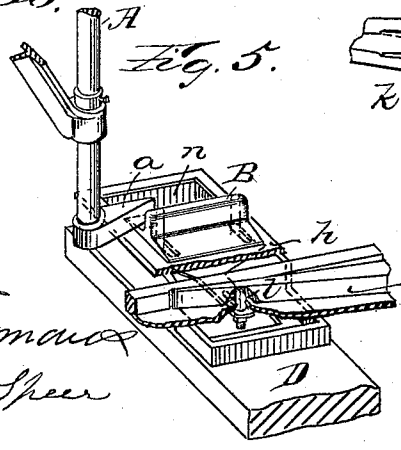


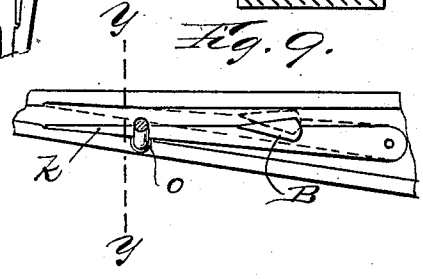












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ANDREW C. McKENZIE, OF BROOKLYN, NEW YORK.

MECHANISM FOR OPERATING SWITCHES FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 534,657, dated February 26, 1895.

Application filed March 21, 1894. Serial No. 504,517. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. McKENZIE, a citizen of the United States of America, and a resident of Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Mechanism for Operating Switches for Street-Cars, of which the following is a specification.

My invention relates to an improvement in mechanism for operating switches for street cars in which the position of the switch rail may be changed by means of a wedge shaped arm, which is suspended on a switch rod attached to the platform of a car, being brought in contact with a shoe attached to and projecting above the switch. By the forward movement of the car, the beveled or inclined surface of the arm on the switch rod is brought in contact with the projection on the switch rail, and in passing causes said projection to move aside out of its path thus changing the position of the switch rail.

The object of my invention is to enable the driver to work the switch from the car without either stopping the same or the assistance of a switchman. I accomplish this object by means of the device illustrated in the accompanying drawings, in which—

Figure 1. is a perspective view showing the general arrangement of the switch rod attached to the platform of a car, in position to act upon the projecting shoe which is secured to the switch-rail. Fig. 2. is a sectional drawing through the platform of a car showing an elevation of the switch-rod out of action and the method of attaching the same to the car. It also shows its position in action with the switch as indicated by dotted lines. Fig. 3. is a plan view of the switch showing the shoe attachment at the side. Fig. 3ª is a detached view of the shoe showing its changed position after being acted upon by the beveled arm. Fig. 4. is a cross section of the switch on the line X—X of Fig. 3, showing the method of connecting the shoe to the switch-rail. Fig. 5, is a perspective view of the switch attachment showing the arm of the switch rod in contact with the shoe. The cover is shown removed from the hand hole in the bed plate. Fig. 6, is a perspective view of the bar connecting the shoe to the switch-rail. Fig. 7, is a plan view of the cast iron ring, showing the slot and grooves to receive the pins supporting the switch-rod, also showing a section of the switch rod. Fig. 8, is a sectional view of the ring as secured to the platform of the car as shown in Fig. 2. Fig. 9, is a plan view of a switch showing a modified form of the shoe, attached directly on top of the switch-rail. Fig. 10, shows a cross section through the switch on the line Y—Y in Fig. 9, and the lower portion of the switch-rod which is modified so as to be used with the form of shoe shown in Fig. 9.

Like parts are represented by similar letters throughout the different figures.

The switch-rod A is for the purpose of lowering the arm, *a*, and holding it at the proper inclination to the switch-rail attachment, or shoe B, so that by the forward movement of the car, as in the direction of the arrow Fig. 3, it will be brought in contact with the shoe B, and move it aside thus setting the switch in the desired position.

In Fig. 3ª, the arm, *a*, is indicated by dotted lines in its reversed position at the point of contact with the shoe B and by moving with the car, in the direction of the arrow will set the switch for the other track. The switch rod A is secured to the platform of the car A by means of the bracket, *b*, and the brace *c*. The collar, *d*, which is secured by a set screw, governs the distance for lowering the switch-rod by resting on the brace, *c*, as shown in Fig. 4, and indicated by dotted lines in Fig. 2.

The ring C, has a vertical slot, *e*, cut through the same and a horizontal groove, *f*, extending halfway around its inner circumference. The two projecting pins, *g*, are for the purpose of entering the groove, *f*, and holding the switch-rod A in position when raised or lowered.

An iron bed plate *h* is to be secured to the wooden sleepers D supporting the switch. The shoe B is to rest on the bed plate, *h*, and is to be bolted to the connecting bar, *i*, at the under side of the same. The connecting bar, *i*, is attached to the switch-rail, *k*, by means of a bolt, *l*, passing through the same and secured to the bottom of the switch-rail, *k*. The hole, *m*, at the end of the connecting bar, *i*, through which the bolt, *l*, passes is to be elongated so as to allow for any difference in travel between the switch rail, *k*, and the shoe B.

Slots M^2 and M^3 are to be provided in the bed plate and switch to allow the connecting bolts to slide in same when the switch is operated.

A hand hole, *n*, with cover is to be provided in the plate to give ready access to the bolts and connections.

A modification of the apparatus is shown in Figs. 9 and 10, in which the shoe B is in the form of a wedge, and is welded or bolted directly onto the switch rail *k*. The switch rod has an offset near the bottom and a small wheel *o*, takes the place of the arm as shown in Fig. 2.

Having described my invention, what I claim is—

1. The combination with a car, of a ring secured to the platform and having a vertical slot and the horizontal groove, the switch rod having two pins or projections arranged one above the other, an arm on the lower end of said rod and an adjustable collar on the said rod.

2. The combination with a switch rail, of a bed plate supported on a sleeper adjacent the switch rail and having a hand hole, a cover for said hand hole, a shoe on the bed plate, a plate having connections with the shoe passing through a slot in the bed plate, and a bolt extended from the switch rail through a slot opening in the end of the plate, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of March, 1884.

A. C. McKENZIE.

Witnesses:
JOHN EMMONS,
RICHARD SPEER.