

UNITED STATES PATENT OFFICE.

OTTO JOEDICKE, OF MÜHLHAUSEN, GERMANY.

AERIAL SWITCH FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 652,676, dated June 26, 1900.

Application filed December 11, 1899. Serial No. 739,967. (No model.)

To all whom it may concern:

Be it known that I, OTTO JOEDICKE, merchant, a subject of the King of Prussia, German Emperor, residing at Mühlhausen, Thuringia, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Aerial Switches for Electric Railways, of which the following is a specification.

10 The present invention concerns an aerial switch for electric railways for the purpose of guiding contact-rollers of the vehicles from one cable end to the other in either direction with safety.

15 In the annexed drawings, Figures 1 to 6 show by way of illustration one form of execution of such an aerial switch, Fig. 1 being a plan of the under side, Fig. 2 a transverse section on line A B, Fig. 3 a longitudinal section on line C D, Fig. 4 a section on line E F, Fig. 5 a section on line G H, and Fig. 6 a detail.

The arrangement in action of the new aerial switch is as follows: The two switch-tongues 5 and 6 establish communication between the 25 tracks 1, 2, and 3, the ends of which are fixed on a bed-plate 4. The switch-tongue 5 is pivoted at 5^a and kept by a spring 7 in the position shown in Fig. 1. The switch-tongue 6 has two pivoting-points 6^a and 6^b and is likewise held in position by springs 8 and 9. If, 30 for instance, a car is to be guided from track 1 to track 3, the contact-roller will run over 5 to 3 and at 6^b will force aside in the direction of arrow I the end of the switch-tongue 6 which is in the way. After the contact-roller γ has passed tongue 6 is brought back to its original position by the spring 8 or some similar arrangement. If the contact-roller γ 35 is to pass from the track 3 to the track 1, it will run over the switch-tongues 5 and 6 to the track 1, at the same time forcing the switch-tongue 6 in the direction of arrow II against the tongue 5. After the contact-roller γ has passed onto the track 1 the switch-tongue 6 45 is brought back again to its original position by the spring 9 or some similar means. If contact-roller γ is to pass from 2 to 3, it will travel over 6 to 3, forcing aside at 5^b in the direction of arrow III the end of tongue 5 50 which is in its way, whereupon after contact-roller γ has passed the switch-tongue 5 will

be brought back to its original position by the spring 7 or some similar arrangement. If the contact-roller γ is to pass from the track 3 to the track 2, the switch-tongue 5 is shifted 55 aside at 5^b and away from the switch-tongue 6 in the direction of arrow IV by any suitable means, whereupon the contact-roller can run over the tongue 6 to the track 2. After the contact-roller γ has passed onto the track 2 60 the switch-tongue 5 is shifted back again to its original position by the spring 7. The switch-point arrangement just described may be used for all kinds of electric railways in which the contact-rollers have U-shaped peripheries. 65

In order to insure a safe transit of the contact-roller γ in all directions, guide-plates 14 are arranged at the sides of the switch-tongues 5 and 6 or at the sides of the cable ends 1, 2, 70 and 3. These guide-plates 14 are provided with longitudinal slots 15, enlarged at the ends, and in which the bearing-pin γ' of the contact-roller γ is guided during its passage over the aerial switch. 75

In order to insure ready entering and issuing of the bearing-pin γ' or its exposed ends into and from the longitudinal slots 15, the guide-plates 14 are curved toward the outside 80 at their ends 16.

In order to prevent the roller γ when passing the end 5^b of the switch-tongue from running off in the direction of arrow III, Fig. 1, a grooved rail 17 is provided at the side of the tongue 5 and the cable end 3, in which the 85 outer flange or projecting rim of roller γ will lodge, Figs. 1 and 2.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, 90 I declare that what I claim is—

1. An aerial switch for electric railways, consisting of the pivoted switch-tongues 5 and 6, in combination with the tracks 1, 2 and 3, the said switch-tongue 6 being movable laterally at both ends, substantially as described. 95

2. In an aerial switch for electric railways, the combination with the tracks 1, 2 and 3, and the pivoted switch-tongues 5 and 6, one of said switch-tongues being movable laterally at both ends, of guide-plates 14 provided 100 with longitudinal slots 15 having enlarged

ends, for guiding the contact-roller, said guide-plates having their ends 16 turned outward to facilitate passage of the pin y' on which the contact-roller y is mounted, substantially as
5 described.

3. In an aerial switch for electric railways, the combination with the tracks 1, 2 and 3 and the pivoted switch-tongues 5 and 6, of the grooved rail 17 arranged by the side of the
10 tongue end 5^b and track 3, for engagement of

the outer rim of the contact-roller y , substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

OTTO JOEDICKE.

Witnesses:

PAUL TSICHMANN,
ROBERT H. BERWEY.