

(No Model.)

E. M. BENTLEY.
ELECTRIC RAILWAY TROLLEY.

No. 574,377.

Patented Jan. 5, 1897.

Fig. 1.

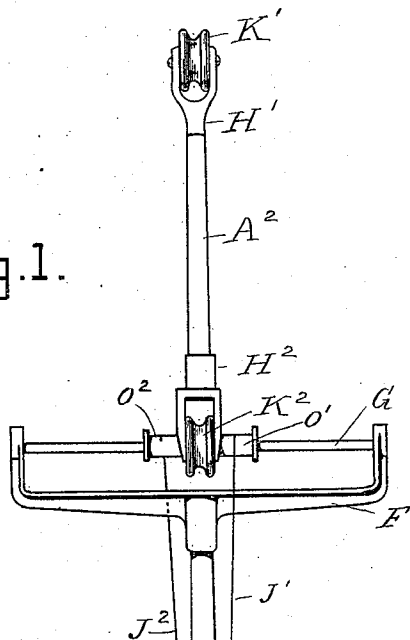
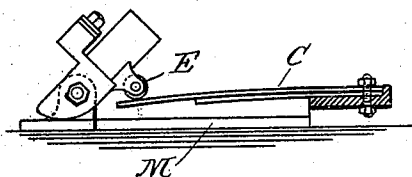


Fig. 2.



Witnesses.

L. T. Shaw
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UNITED STATES PATENT OFFICE.

EDWARD M. BENTLEY, OF NEW YORK, N. Y.

ELECTRIC-RAILWAY TROLLEY.

SPECIFICATION forming part of Letters Patent No. 574,877, dated January 5, 1897.

Application filed July 28, 1896. Serial No. 600,739. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. BENTLEY, a citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in Electric-Railway Trolleys, of which the following is a specification, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of my trolley, and Fig. 2 is a side elevation thereof.

My present invention relates to that type of contact device or trolley in which there is on top of the car or vehicle a pivoted inclined arm bearing at its outer extremity a contact device adapted to press against the under side of a conductor extended above the line of travel of the car and deliver the current therefrom to the propelling-motor of the car.

The invention consists in providing a pivoted end section for the trolley-arm which under all ordinary conditions of service will be the only movable part of the device and can hence be made quite light, so as to be quickly responsive to the action of a comparatively small operating-spring. This end section is also mounted on the end of the trolley-arm, so as to be capable of moving laterally with respect thereto, for the purpose of adjusting itself to any lateral deviation of the conductor from its normal location with respect to the track. The trolley-arm itself is also provided with a contact device consisting of a grooved wheel concentric with the axis of the pivoted end section and movable laterally therewith, whereby in the event of the conductor being at an extremely low elevation the said grooved wheel will be brought into contact with the wire, and the trolley-arm itself will become depressed and operate in the usual way to maintain the trolley-wheel in contact with the wire.

Referring to the drawings, A' is the trolley-arm, set in a base B, which is pivoted to standard M on an axis transverse to the car, so that the arm may be depressed longitudinally with the car. The lugs D on base B, through which pass the pivoting-bolts, are so shaped as to form stops which permit but a limited upward movement to the arm, which therefore stands normally at an angle to the car. This is not essential, as the arm may stand vertically and be depressed in either direction, if

desired. The normal position of arm A' is maintained by means of an upwardly-pressing plate-spring C, fastened at one end to standard M and at the other end bearing up against a friction-roller in projection E on base B. If the trolley-arm is to be capable of depression in both directions, the spring C is simply duplicated on the opposite side of the arm.

On the extremity of arm A' are two lateral extensions F, the outer ends of which are turned up and joined by a round rod or tube G, which serves as a guideway and also as the shaft, on which is pivoted the end section consisting of the short arm or rod A². This arm A² has a fork at each end, the upper fork H' embracing the grooved contact wheel or roller K', and the lower fork H² the grooved contact-wheel K², the wheels being journaled in their respective forks. The lower fork H² has two small drums O' and O² on opposite sides thereof, respectively, and is free to slide laterally on the rod G. Two wires or cords J' and J² are wound on the respective drums O' and O², but oppositely in the two cases, and are then attached at their lower ends to the tips of two plate-springs L' and L², respectively, the opposite ends of the springs being fastened to the tops of two lugs on the two sides, respectively, of base B. Obviously the tension of the two springs L' and L² tends to maintain the arm A² in a vertical position, and in whichever direction the arm may be depressed to bring the contact-wheel K' under the line conductor one or the other of the two springs will act to press the wheel upward into firm contact with the conductor. The short arm A² is also free to travel laterally on the shaft G to accommodate itself to the varying position of the conductor with relation to the car and track.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination in an electric-railway contact device of a supporting-arm upwardly spring-pressed, a guideway on the outer end of said arm, a pivoted tip or end section movable on said guideway, a contact-wheel on its outer end and a spring for pressing said wheel into engagement with a line conductor.

2. The combination in an electric-railway contact device of a supporting-arm, lateral

extensions on opposite sides of said arm at its outer end, having a guideway thereon, a pivoted rod or arm laterally movable along said guideway and upwardly spring-pressed, and a wheel or roller on the outer end of said rod or arm.

3. The combination in an electric-railway contact device of a supporting-arm, upwardly spring-pressed and carrying a contact wheel or roller at its outer end, a pivoted rod or arm forming an end section extending beyond the said supporting-arm and movable laterally with relation thereto and a second contact wheel or roller at the outer end of said pivoted rod or arm.

4. The combination in an electric-railway contact device of a laterally-movable and pivoted arm carrying a wheel or roller at its outer end, an actuating-spring for said arm attached to a relatively stationary part and an intermediate connecting device between the spring and arm adapted to move laterally with the latter.

In witness whereof I have hereunto set my hand this 27th day of July, 1896.

EDWARD M. BENTLEY.

Witnesses:

GEORGE H. SONNEBORN,
L. T. SHAW.