

(No Model.)

E. B. W. REICHEL.

CONTACT FOR ELECTRICALLY PROPELLED VEHICLES.

No. 547,031.

Patented Oct. 1, 1895.

Fig. 1.

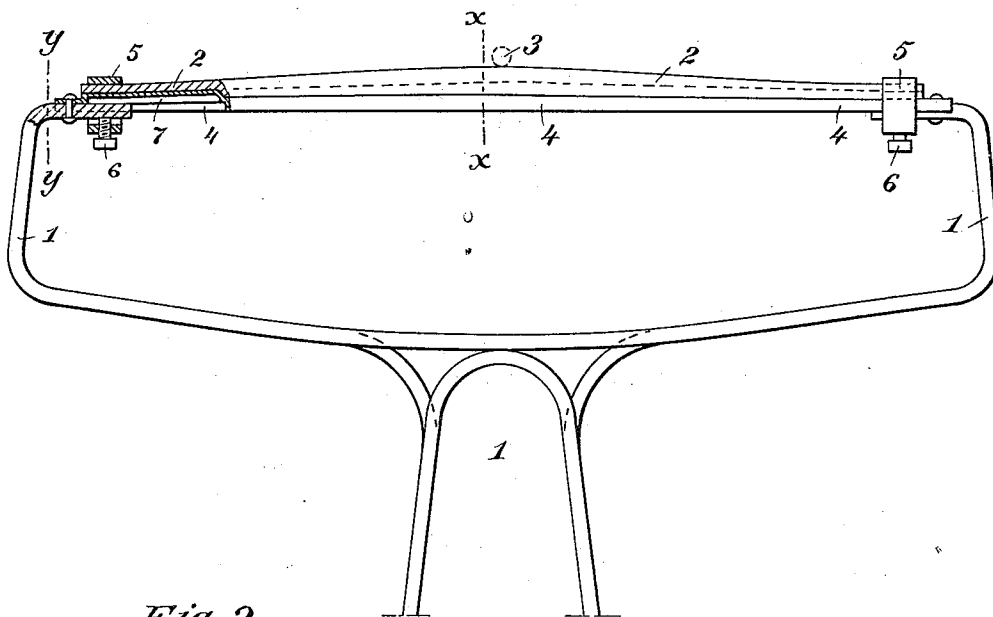


Fig. 2.

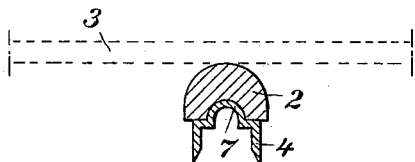
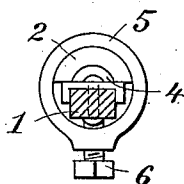


Fig. 3.



WITNESSES:

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CONTACT FOR ELECTRICALLY-PROPELLED VEHICLES.

SPECIFICATION forming part of Letters Patent No. 547,031, dated October 1, 1895.

Application filed April 4, 1894. Serial No. 506,263. (No model.) Patented in Italy December 18, 1893, No. 35,389/285.

To all whom it may concern:

Be it known that I, EMIL BERTHOLD WALTER REICHEL, a subject of the Emperor of Germany, residing at Charlottenburg, Germany, have invented new and useful Improvements in Contacts for Electrically-Propelled Vehicles, of which the following is a specification, and for which Letters Patent have been granted to me in Italy, No. 35,389/285, dated December 18, 1893.

My invention relates to improvements in contact devices which connect the electromotive apparatus on an electrically-propelled vehicle, such as a railway-car, with a line conductor, and has for its object to lessen the wear and tear of the conductor by reducing the friction usually attending the passage of the contact device over it, and at the same time provide for ready and inexpensive renewal of those parts of the contact which may have been worn out by abrasion on or with the conductor.

The invention has more special reference to that class of electric-railway trolleys or contact devices comprising a frame pivoted to the car or vehicle and having a laterally-extending contact-surface which runs easily along a line conductor, and is especially adapted for making contact with the conductor while the vehicle is moving around curves or over crossings and switches of the track, and whereby good electrical contact with the line conductor is maintained without attention of the motor-man or guard and without requiring numerous unsightly sustaining-wires for the conductor or exerting injurious or breaking side strains or excessive wear on the conductor, thus promoting its durability and efficiency.

The invention will first be described, and then will be particularly defined in claims hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, and in which similar numerals indicate corresponding parts in all the views.

Figure 1 is a front view of the head or top portions of a contact device embodying my invention, parts being in transverse section. Fig. 2 is a cross-section taken on the line xx in Fig. 1. Fig. 3 is a detail end view of the

upper transverse portion of the contact, partly in vertical section, on the line yy in Fig. 1.

In the present preferred form or embodiment of my invention I provide any suitably-formed metallic frame 1, which is pivoted to the car or vehicle in any approved manner, not necessary to show or describe, and allowing the contact device to yield in the usual manner. To this frame 1, I hold a detachable antifriction-metal surface 2, which makes contact with the line conductor 3. (Indicated by dotted lines in the drawings.) This contact-surface 2 may be made of any suitable metal or alloy of metals which is softer than the conductor and has so-called "antifriction" properties and will readily slide along the conductor with minimum friction and with the least possible or most gradual wearing effect thereon.

To provide for easy and inexpensive renewal of the antifriction-metal contact-surface 2, I prefer to make it readily detachable from the harder laterally-extending head or outer part 4 of the contact-frame and to hold it thereto by any suitable clamping devices which may be quickly adjusted to allow substitution of a new soft contact-surface for a worn one. These clamps may be screws or bolts; but I prefer to use the box-clamps 5, which surround the ends of the parts 2 4 and have screws 6, which may be tightened on the frame, as shown in the drawings.

In order to give the outer cross-bar or head 4 of the frame 1 ample stiffness to resist the pressure incident to contact of the part 2 with the line conductor without causing undue flexure, I make said bar 4 deeper at its central portion and preferably in the channel form shown in Fig. 2 of the drawings, whereby both stiffness and lightness are obtained. The opposite ends of the cross-bar 4 are fixed by welding or by riveting or otherwise to the outer-curved or inbent ends of the side bars of the frame 1. I also provide for an interlocking connection of the parts 2 4, which prevents forward or backward displacement of the contact-surface 2 by its sliding along the line conductor, and also stiffens the contact device in direction of travel of the vehicle. I may accomplish this in various ways;

but I prefer to form along the laterally-extended bar 4 a hollow tongue or bead 7, which enters a corresponding groove or recess in the renewable contact-surface 2, as shown in Fig. 2 of the drawings. The bar is preferably slightly arched or convexed lengthwise, and the contact-surface 2 is preferably made thicker vertically at its central portions, where it meets the most wear on or by the line conductor.

It is obvious that the transverse length of the soft antifriction-metal contact-surface 2, carried by the laterally-extended trolley-bar 4, will enable the contact to maintain electrical connection with the line conductor irrespective of its more or less irregular course at curves or switches due to use of few suspension-wires. The absence of lateral strains on the conductor, in connection with the antifrictional character of the contact-surface 2, will materially increase the durability and effectiveness of the conductor.

My invention in some of its features is applicable to other forms of trolley devices adapted to make electrical connection be-

tween a line conductor and the electromotive apparatus on a car or vehicle, as will readily be understood.

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

1. The combination with a horizontal arm extending transversely to the trolley conductor and adapted to make rubbing contact therewith, of a bar or strip of anti-friction metal mounted upon the face of said arm; substantially as described.

2. The combination with a horizontal arm extending transversely to the trolley conductor and adapted to make contact therewith, of a bar or strip of anti-friction metal detachably mounted upon the face of said arm; substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

EMIL BERTHOLD WALTER REICHEL.

Witnesses:

OSCAR BIELEFELD,
GUSTAV STENZEL.