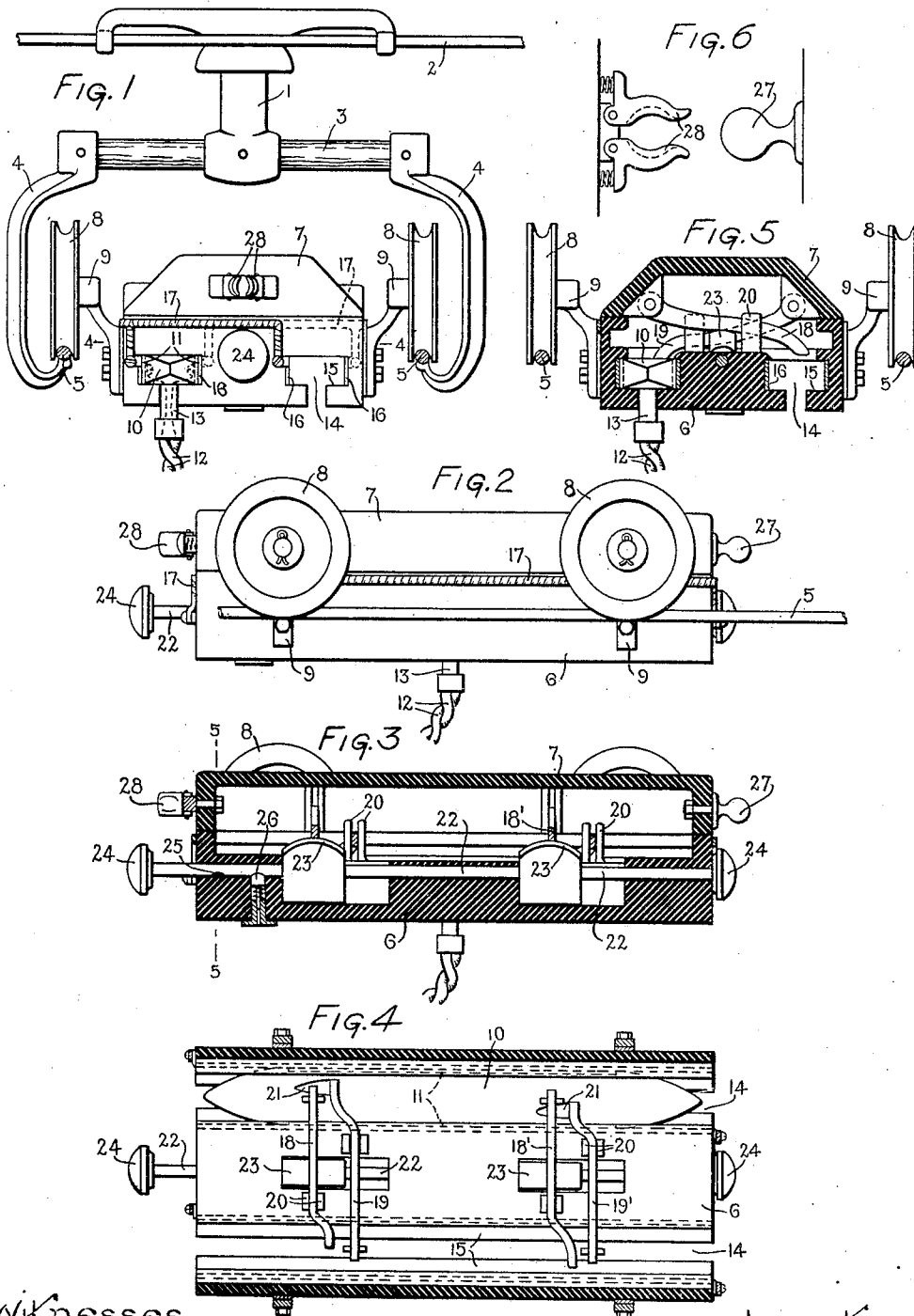


No. 829,822.

PATENTED AUG. 28, 1906.

M. M. WOOD.
TRACKLESS TROLLEY.
APPLICATION FILED FEB. 23, 1905.



Witnesses.
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UNITED STATES PATENT OFFICE.

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GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

TRACKLESS TROLLEY.

No. 829,822.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 23, 1905. Serial No. 246,889.

To all whom it may concern:

Be it known that I, MONTRAVILLE M. WOOD, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Trackless Trolleys, of which the following is a specification.

The present invention relates to electric propulsion of vehicles, and more particularly to trackless trolley systems, in which the vehicle is not restricted in its travel to a definite path, but may move from side to side of the roadway or watercourse, and the electric current is transmitted to the vehicle from conductors suspended along the course of travel by means of a trailing contact device or trolley connected to the vehicle by suitable conductors.

It has been customary heretofore in trackless trolley systems either to provide two independent sets of suspended conductors, so that the traveling contact devices of vehicles traveling in opposite directions would not interfere with each other, or else to provide a single set of conductors and construct the contact devices with complex attachments, whereby one was adapted to override or turn out for the other in passing. The first of these arrangements is objectionable on account of the great expense of installation, and the second is objectionable on account of the liability to get out of order and the fact that at the time of passing one contact device is disconnected from the source of power.

The object of my invention is to provide a contact device or trolley for use on courses of travel having a single set of conductors, which upon meeting another contact device traveling in the opposite direction each will automatically release its connection with its flexible conductors and connect with the flexible conductors previously in engagement with the other contact device and will thereafter be drawn in the reverse direction by the other vehicle.

In carrying out my invention I provide the upper ends of the flexible conductors with shuttles provided with contact-plates and the contact devices on trolleys with two passage-ways, one for the reception of shuttles connected to vehicles traveling in one direc-

tion and the other for the reception of shuttles connected to vehicles traveling in the opposite direction, with contact-plates on their inner walls to coöperate with the contact-plates on the shuttles and automatic means for locking a shuttle thereto and releasing it therefrom upon the meeting of the trolley with another trolley going in the opposite direction.

For a more complete understanding of my invention reference may be made to the following detailed description and the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an end elevation of a trolley embodying one form of my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal vertical section. Fig. 4 is a horizontal section on line 4 4 of Fig. 1. Fig. 5 is a transverse section on line 5 5 of Fig. 3, and Fig. 6 shows a detail in plan.

My trolley is adapted to be used upon conductor wires or cables suspended in any of the customary ways, one of which is indicated in Fig. 1 and consists of a T-head 1, supported by a wire or cable 2, stretched across the course of travel and carrying at its lower end a wooden bar 3, which serves as an insulator and a support for yoke-pieces 4, carried at its ends. These suspension devices are arranged at suitable intervals along the course and operate to maintain the conductor wires or cables 5 in substantially fixed positions both horizontally and vertically.

The trolley consists of a rectangular body part 6 of insulating material, a cover 7, and four grooved wheels 8, connected to the body part near its respective corners by bearing-brackets 9.

The contact heads or shuttles 10 are made rectangular in cross-section, with parallel sides and pointed ends, and to the opposite vertical sides are secured metal contact-plates 11, to which are connected the flexible conductors 12, which extend from the shuttle through an insulating-bushing 13, connected to the middle of the lower side of the shuttle.

The body 6 of the trolley is provided in its lower side with two longitudinal rectangular passage-ways 14 with inwardly-projecting shoulders 15 at the lower side for the recep-

tion of the shuttles 10. Secured to the opposite vertical sides of the passage-ways 14 are metal contact-plates 16, adapted to engage the plates 11 on the shuttles, and connected to the plates 16 are conductor-leads 17, which, as shown in Fig. 1, extend across the ends of the body part 6 and electrically connect the grooved wheels 8 on the opposite sides of the trolley with the contact-plates 16 on the corresponding sides of the passage-ways, so that when a shuttle 10 is in position the flexible conductors are in electrical connection with the respective power-conducting wires or cables 5.

The means for automatically locking the shuttles to the trolley and releasing them therefrom consists of one or more pairs of latches 18 19 and 18' 19' pivotally mounted on the cover 7 transversely of the trolley, between vertical guides 20 on the body part and adapted to engage at their free ends with shouldered notches 21 in the upper surface of the shuttles 10, as shown in Figs. 4 and 5, and extending axially through the body part 6 is a releasing-rod 22, provided with cam-surfaces 23, which upon movement of the rod 22 to the left operate to raise pawls 18 18', as indicated in Figs. 3 and 4, and when moved in the opposite direction operate to raise pawls 19 19' and allow the other pawls to descend. The ends of the rod 22 are provided with buffer-heads 24 to receive the impact when two trolleys meet and to limit the extent of movement of the rod relatively to the body part 6, and in order to yieldingly hold the rod in extreme positions it is provided with two recesses 25 with which a small spring-pressed plunger 26 engages.

In order to hold two trolleys together momentarily after they have met and each released the shuttle of the other, so that both shuttles may be fully drawn from their respective trolleys into the opposite ones, the ends of the trolleys are provided with cooperating knobs 27 and spring-jaws 28, as shown in Fig. 6, in detail. When the shuttles have been drawn into their new positions and locked, slight additional draft upon the flexible conductors 12 suffices to disconnect the hold of the jaws 28 upon the knob 27, and the trolleys are again free to travel upon the conductor-cables, but in directions opposite to that prior to their meeting.

I do not desire to restrict myself to the particular form or arrangement of parts herein described and shown, since it is apparent that they may be changed and modified without departing from my invention.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of a trolley, a traveling contact for electric vehicles, a flexible conductor for transmitting current to the vehicle connected to said trolley, and auto-

matic means carried by said contact for releasing said conductor therefrom.

2. The combination of a trolley or traveling contact for electric vehicles, a conductor for transmitting current to the vehicle, and automatic means carried by said contact for connecting said conductor to said trolley and disconnecting it therefrom.

3. The combination of a trolley or traveling contact for electric vehicles, a conductor for transmitting current to the vehicle connected to said trolley, and means adapted upon the meeting of the trolley with another trolley to simultaneously disconnect said conductor and connect another conductor thereto.

4. The combination of a trolley or traveling contact for electric vehicles provided with a passage-way or receptacle, a conductor for transmitting current to the vehicle having a contact-head adapted to enter said receptacle, and means to detachably lock said parts in engagement.

5. The combination of a trolley or traveling contact for electric vehicles provided with a plurality of passage-ways or receptacles, a conductor for transmitting current to the vehicle having a contact-head held in one of said receptacles, and automatic means adapted upon the meeting of said trolley with another trolley to disengage said conductor and engage another conductor in a second receptacle.

6. The combination of a trolley or traveling contact for electric vehicles having a passage-way extending longitudinally thereof and provided with contact-plates, and conductors for transmitting current to and from the vehicle having a head adapted to enter said passage-way and provided with contacts to cooperate with said contact-plates.

7. The combination of two trolleys or traveling contacts for electric vehicles each provided with detachable conductors for transmitting current to the vehicles, and means actuated upon the meeting of the trolleys to disengage said conductors each from its respective trolley and connect it with the other.

8. The combination of two trolleys or traveling contacts for electric vehicles each provided with conductors longitudinally detachable therefrom, means actuated upon the meeting of said trolleys to release said conductors each from its respective trolley, and means to hold said trolleys from separating until the respective conductors have been drawn from one trolley into the other.

In witness whereof I have hereunto set my hand this 21st day of February, 1905.

MONTRAVILLE M. WOOD.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.