

(No Model.)

C. S. FOSTER.
ELECTRIC RAILWAY TROLLEY.

No. 465,469.

Patented Dec. 22, 1891.

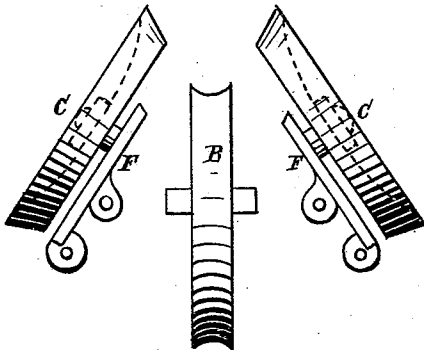


Fig. 1.

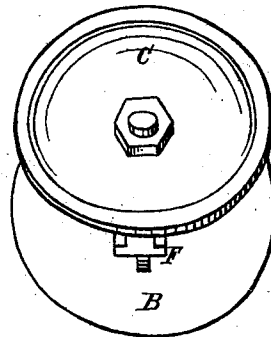


Fig. 2.

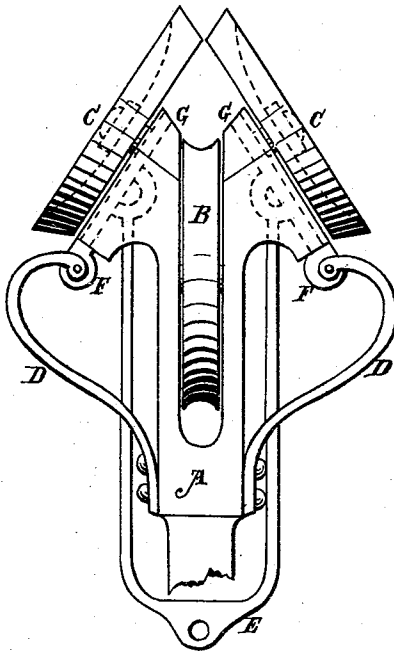


Fig. 3.

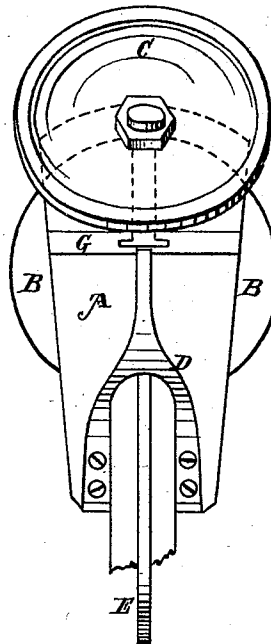


Fig. 4.

WITNESSES.

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ELECTRIC-RAILWAY TROLLEY.

SPECIFICATION forming part of Letters Patent No. 465,469, dated December 22, 1891.

Application filed May 31, 1890. Serial No. 353,900. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. FOSTER, of Whitesborough, in the town of Whitestown, Oneida county, and State of New York, have invented an Electric Trolley, of which the following is a specification.

My invention relates to a device for holding an electric trolley on a conductor-wire.

The object of my invention is to provide a mechanism for securing a trolley on the trolley-wire, so that it will not of itself become detached and yet be readily detachable from the wire.

In the drawings which accompany and form part of this specification, and in which similar letters of reference refer to like parts in the several views, Figure 1 shows the relative position of the trolley-wheel and retaining-wheels in open position and the slide on which the retaining-wheels are mounted. Fig. 2 shows a side view of the part shown in Fig. 1. Fig. 3 shows a front or rear view of the complete device. Fig. 4 shows a side view of the part shown in Fig. 3.

Referring more specifically to the reference-letters, A indicates the trolley-head, in which is mounted, on a suitable bearing, a trolley-wheel B, adapted to contact the conductor, and, as is usual, mounted on a swinging-arm, and is held up against the trolley-wire from the under side.

C are a pair of retaining-wheels mounted on suitable bearings on the sliding pieces F, which sliding pieces are engaged in and adapted to slide in suitable slots or guides G in the trolley-head. The retaining-wheels C are inclined toward each other, as well as the guides in which the slide on which they are mounted moves, and the wheels are adapted to project above the trolley-wheel B and inclose a space above the trolley-wheel B. The wheels C are projected to their upper position and close the space by means of springs D, secured to the trolley-head at their lower ends and to the movable slide at their upper ends, and are strained to project the wheels C into the upper position, as shown in Fig. 3.

It will be observed that the wheels come together only at their lower edges, leaving a V-shaped opening on the outside of the wheels and above the trolley B when the wheels are in closed position. E is a releaser connected

with the slides on which the retaining-wheels C are mounted, and may be connected by a suitable cord or other connection with the car, whereby the retaining-wheels may be operated, as hereinafter described.

It will be observed that the sides of the trolley-head project above the edge of the trolley-wheel, forming, in connection with the trolley, a V shape.

The operation of my device will be readily understood; but it might be well to remark that the movement of the wheels C, as the device travels along the conductor allows the connection by which the conductor is suspended to pass between the wheels C and they will automatically move sufficiently to allow such passage. When the device is brought into contact with the conductor-wire, the wire engages in the V shape formed by the edges of the retaining-wheels, and as the trolley-head moves upward by pressure from below the wheels automatically separate to allow the wire to pass into the space and onto the wheel-trolley. When it is desired to remove the trolley-head from the conductor-wire, the releaser E is operated through the connection heretofore described, drawing the retaining-wheels downward and apart, so that the trolley-head is free to move away from the conductor, the conductor passing out of the open space between the wheels C when in their lower position, as shown in Fig. 1.

It may be found advantageous to have wheels C electrically connected with wheel B, and the cord by which the trolley is usually operated may connect directly to the releaser E, or otherwise.

It is evident that one of the wheels C may be omitted or be upon a fixed bearing, or that the wheels C may be mounted directly upon a spring, as D, without intervention of the guide and slide, and that one spring might be used in lieu of the two shown, and when I speak of "springs" I mean one or more performing the offices set forth, and that many other alterations and changes in and from the construction described may be made without departing from the spirit of my invention or equivalents of my construction.

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

1. The combination, with a trolley-head hav-

ing a trolley-wheel, of movable wheels which, in connection with the head and trolley, are adapted to surround the conductor.

2. The combination, in a trolley-head having a trolley-wheel mounted therein, of movable retaining-wheels adapted to close the space over the trolley-wheel, and springs for operating the retaining-wheels, substantially as set forth.

3. The combination of a trolley-head having a trolley-wheel mounted therein, movable retaining-wheels adapted to close the space over the trolley-wheels and through which the conductor passes, the retaining-wheels having inclined faces inclining outward from the central line, substantially as set forth.

4. The combination, with a trolley-head, of a trolley-wheel mounted in the head, the movable retaining device closing the space in the head through which the conductor passes and in which the trolley-wheel is located.

5. The combination, with a trolley-head, of the trolley-wheel mounted in the head, a retainer for inclosing the space through which the conductor passes, and the spring for operating the retainer, substantially as set forth.

6. The combination, with a trolley-head, of a trolley-wheel mounted therein, retaining-wheels mounted on movable bearings and adapted to inclose the space over the trolley-wheel, and springs for operating the retaining-wheels and bringing them into closed position, substantially as set forth.

7. The combination, with a trolley-head having a trolley-wheel, of retaining-wheels adapted to surround, in connection with the trolley-wheel, the conductor-wire, said wheels being mounted upon the movable slides, and springs for operating the retaining-wheels, substantially as set forth.

8. The combination, with a trolley-head having a trolley-wheel mounted therein, of inclined retaining-wheels adapted to move from each side of the head substantially into contact above the trolley-wheel, and springs for operating the retaining-wheels, substantially as set forth.

9. The combination, with a trolley-head, of a trolley-wheel mounted thereon, retaining-wheels mounted on movable bearings in the inclined guides and adapted to close a space above the trolley-wheel, and springs for actuating the retaining-wheels, substantially as set forth.

10. The combination, with a trolley-head, of a trolley-wheel mounted therein, retaining-wheels inclosing the space above the trolley-wheel, and springs for actuating the retaining-wheels and a releaser, substantially as set forth.

11. The combination, with a trolley-head, of a trolley-wheel mounted therein, retaining-wheels having an outwardly-inclined face mounted on movable bearings in inclined guides and adapted to move into position to substantially inclose a space above the trolley-wheel, springs for throwing the retaining-

wheels substantially into contact, and a releaser connecting with the retaining-wheels, whereby they may be released from the conducting-wire, substantially as set forth.

12. The combination, with a trolley-head having a trolley-wheel mounted therein and leaving a space in the head above the trolley-wheel and through which the conductor passes, of the retaining-wheels and the spring for operating the retaining-wheels, substantially as set forth.

13. The combination, with a trolley-head, of a trolley-wheel mounted in the head, the movable retainer opposed to the trolley-wheel and, in connection with the trolley-wheel, surrounding the space through which the conductor passes, substantially as set forth.

14. The combination, with the trolley-head, of the trolley-wheel mounted in the head and the movable retainer opposed to the bearing-face of the trolley-wheel, substantially as set forth.

15. A trolley having a trolley-wheel with the grooved face, through which the conductor passes, in combination with a movable retainer opposed to the grooved face and adapted, in connection with the trolley-wheel, to inclose the conductor.

16. A trolley-head having an open side for receiving an electric conductor, and a movable retainer substantially closing the open side and surrounding the conductor, substantially as set forth.

17. The combination, with a trolley, of a movable wheel or disk inclining toward an opposing retainer and adapted, together with the opposing retainer, to inclose the conductor and to be separated to allow the conductor to be removed.

18. The combination, with a trolley, of two movable inclined wheels or disks having their circumferences adapted to engage each other, or substantially so, and surround the conductor.

19. The combination, with a trolley, of two wheels or disks inclining toward each other and having their circumferences adapted to be brought substantially into contact to inclose the conductor and separated to allow the conductor to pass out between the disks.

20. The trolley head and wheel, in combination with retainers arranged to open and close at or near the vertical center of the trolley-wheel, substantially as set forth.

21. A trolley-head having an open side for receiving an electric conductor, and a movable retainer substantially closing the open side, substantially as and for the purpose set forth.

22. The trolley head and wheel, in combination with movable retainers arranged in substantially the same vertical plane with the trolley-wheel, substantially as set forth.

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Witnesses:

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