(No Model.)

T. DRISCOLL.

SELF LUBRICATING ELECTRIC TROLLEY.

No. 458,785. Patented Sept. 1, 1891.

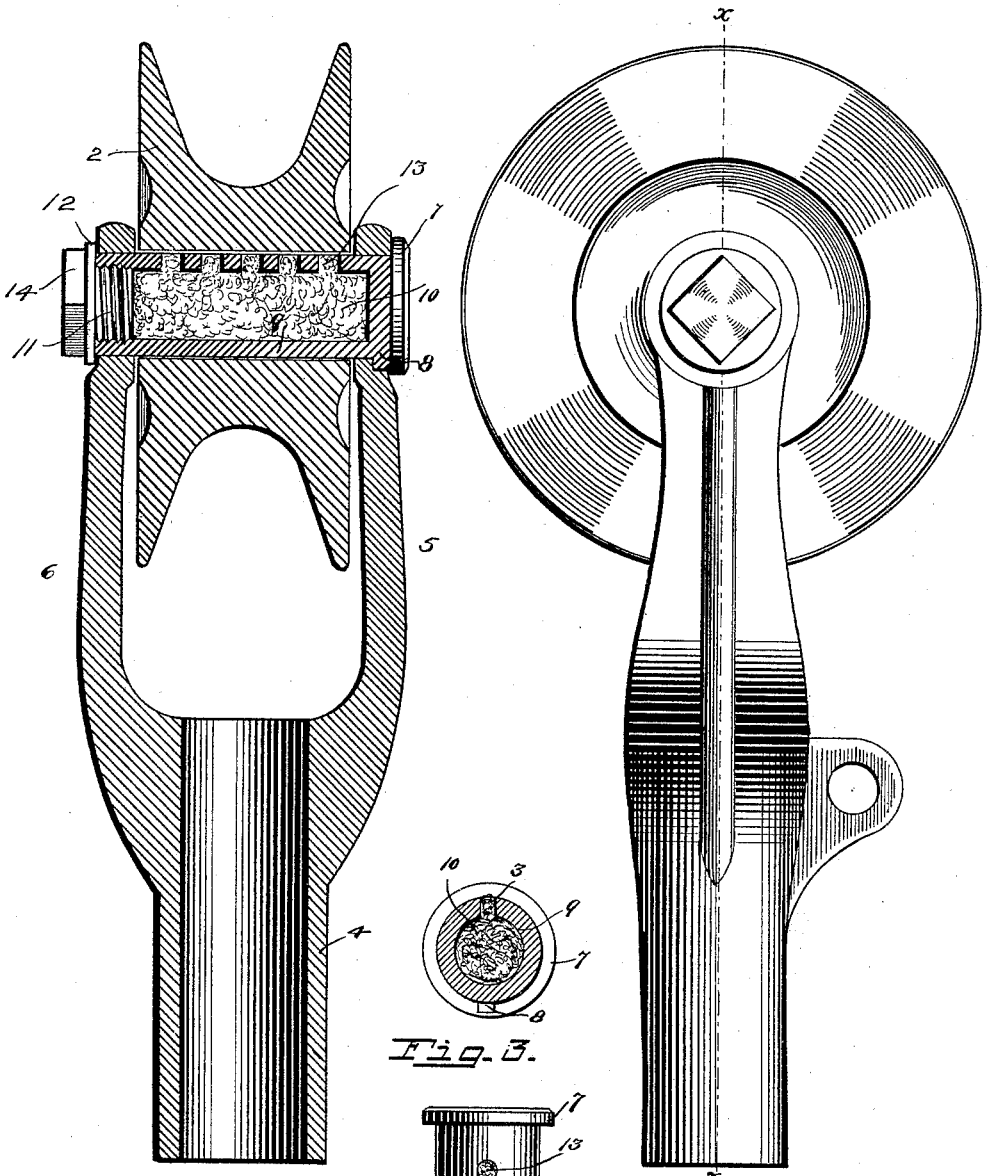

Fig. 2.

Fig. 1.

Fig. 3.

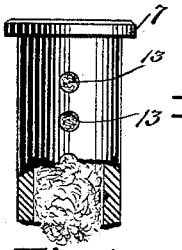

Fig. 4.

Witnesses.
C. E. Van Doren.
C. G. Hawley.

Inventor.
Timothy Driscoll.
By Paul & Sherwin Attys.

UNITED STATES PATENT OFFICE.

TIMOTHY DRISCOLL, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO GEORGE L. HUNT, OF SAME PLACE.

SELF-LUBRICATING ELECTRIC TROLLEY.

SPECIFICATION forming part of Letters Patent No. 458,785, dated September 1, 1891.

Application filed December 12, 1890. Serial No. 374,474. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY DRISCOLL, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain Improvements in Self-Lubricating Electric Trolleys, of which the following is a specification.

My invention relates to self-lubricating trolleys and pulleys and to means whereby the bearings of the same may be at all times kept thoroughly oiled.

Heretofore much trouble and expense have been occasioned by the wearing out of the brass trolleys used in overhead electric street-railway systems, owing to the inability of the railway employés to keep the trolley-bearings well oiled.

My invention consists in a hollow shaft fixedly secured in suitable supports, means for stopping or closing the ends of the shaft, small openings leading from the chamber within the shaft to its outer surface, fibrous material provided in said chamber and openings, and a trolley wheel or pulley adapted to rotate on said shaft.

Further, my invention consists in various details of construction and in combinations hereinafter described, and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a trolley device embodying my invention. Fig. 2 is a sectional elevation thereof on the line *xx* of Fig. 1. Figs. 3 and 4 are details of the hollow shaft.

As shown in the drawings, the brass trolley 2, having the deep groove adapted to embrace the overhead conducting-wire, is loosely supported on the steel shaft 3. The trolley-head 4 is adapted to be secured on the upper end of a trolley-pole and is provided with the yoke or fork formed by the arms 5 and 6. These arms are provided in their upper ends with suitable openings, in which the shaft 3 is secured. This shaft is provided with the head 7 and with the small lug 8, adapted to be inserted in a keyway provided in the lower part of the opening in the arm 5 and to engage the sides thereof to prevent the shaft from rotating therein. As shown, the shaft is hollow, being provided with the large central chamber 9, adapted to receive the wick 10 and to be filled with oil. Access is had into this chamber through the end opposite the head 7, and into which the short bolt 11 is adapted to be screwed, thereby leaving the chamber tightly closed at both of its ends. A washer 12 is provided on the bolt 11, both to press tightly against the end of the shaft and to form a head with which the face of the bearing in the arm 6 engages. Leading from the chamber 9 are a number of small openings or holes 13, up through which the wick is also passed and adapted to serve as conduits for the oil. It will be seen that by applying a wrench to the head 14 of the bolt 11 that the same may be removed and the chamber filled with oil, so as to thoroughly saturate the wick 10. Now as the trolley is drawn along the wire it is rapidly revolved, thereby creating and increasing the capillary action, tending to draw the oil up through the openings 13 and out into the bearings between the trolley and the shaft. In this way it will be seen that all grinding and wearing action between the shaft and the inner portion of the trolley is avoided, thereby prolonging the usefulness of the trolley-wheel.

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

1. The combination, in a device of the class described, of the hollow shaft supported in suitable bearings with a trolley or pulley adapted to rotate freely thereon, openings extending transversely through said shaft and into the chamber within said shaft, a wick provided in said chamber, and the short bolt 11, closing the end of the chamber, substantially as and for the purpose specified.

2. The combination, in a device of the class described, of the shaft 3, having the central chamber having one end permanently closed, with the trolley 2, the openings 13 in said shaft leading into said chamber, the wick 10, filling the chamber 9 and said openings 13, the arms 5 and 6 of the trolley-fork, the ends of said shaft extending through and secured in openings in the ends thereof, and the bolt adapted to lock the same in place and close the other end of the chamber, substantially as described.

3. The combination, in a device of the class described, of the trolley wheel or pulley 2

with the shaft 3, the chamber 9, and the openings 13 in said shaft, the head 7, the lug 8, the arms 5 and 6, and the bolt 11, substantially as described.

4. The combination, in a self-lubricating trolley device, of a trolley-wheel 2 with the trolley-fork having the arms 5 and 6, the shaft 3, the chamber 9 within the same, the openings 13, leading therefrom, the wick 10, filling said chamber and said openings 13, the holes in the ends of the arms 5 and 6, adapted to receive the ends of the shaft 3, the threaded end of said shaft, the bolt 11, adapted to close the openings in said end, the head 14 of said bolt, the washer 12, the head 7, said washer and head 7 engaging the outer side of said arms 5 and 6 and said shaft being longer than the distance between said outer faces, and means for holding said shaft against revolution in its bearings, substantially as described.

In testimony whereof I have hereunto set my hand this 6th day of December, 1890.

TIMOTHY DRISCOLL.

In presence of—

GEO. S. HUNT,

O. G. HAWLEY.