

(No Model.)

W. L. STEVENS & E. J. WESCOTT.
TROLLEY FOR ELECTRICALLY PROPELLED CARS.

No. 434,682.

Patented Aug. 19, 1890.

Fig. 1

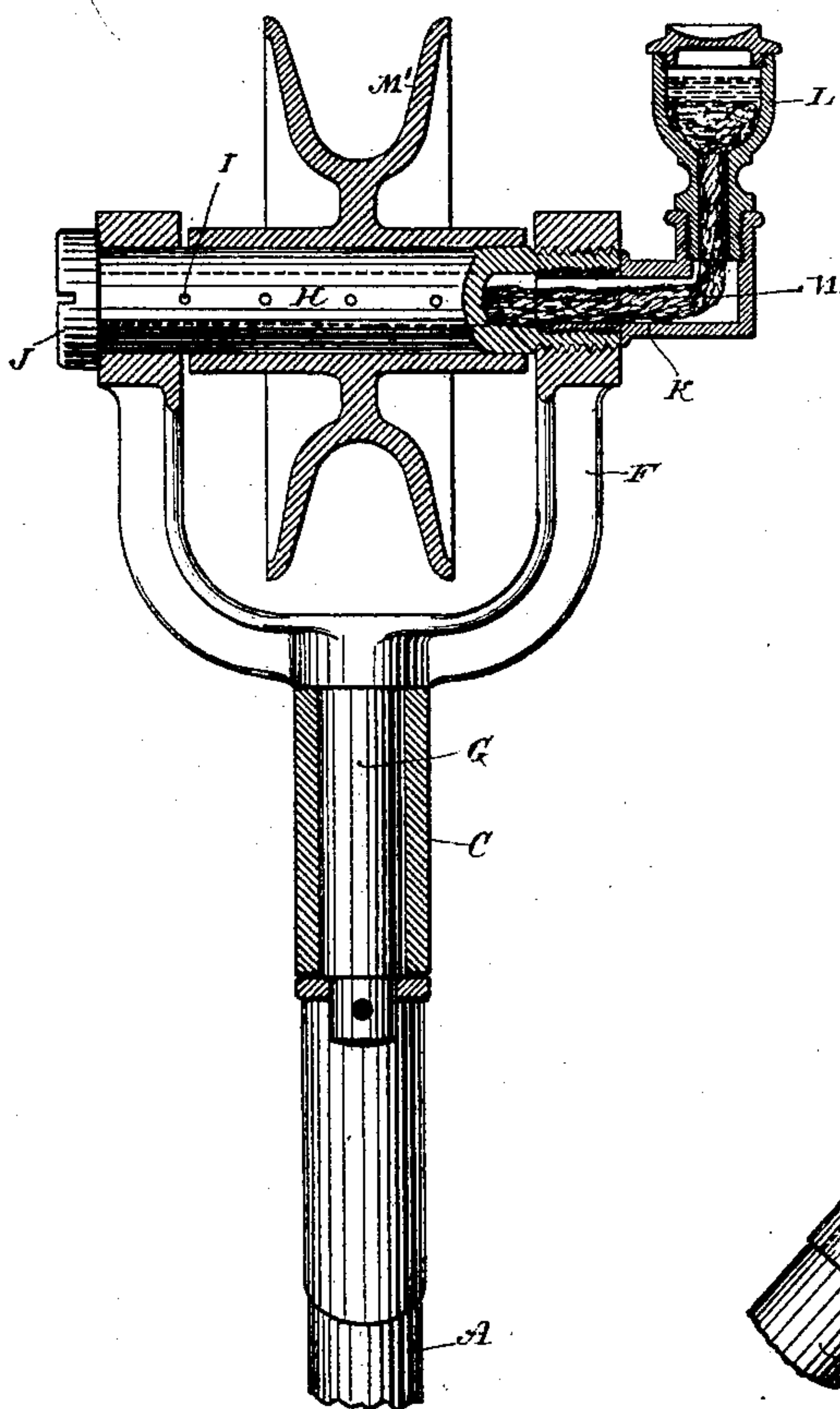
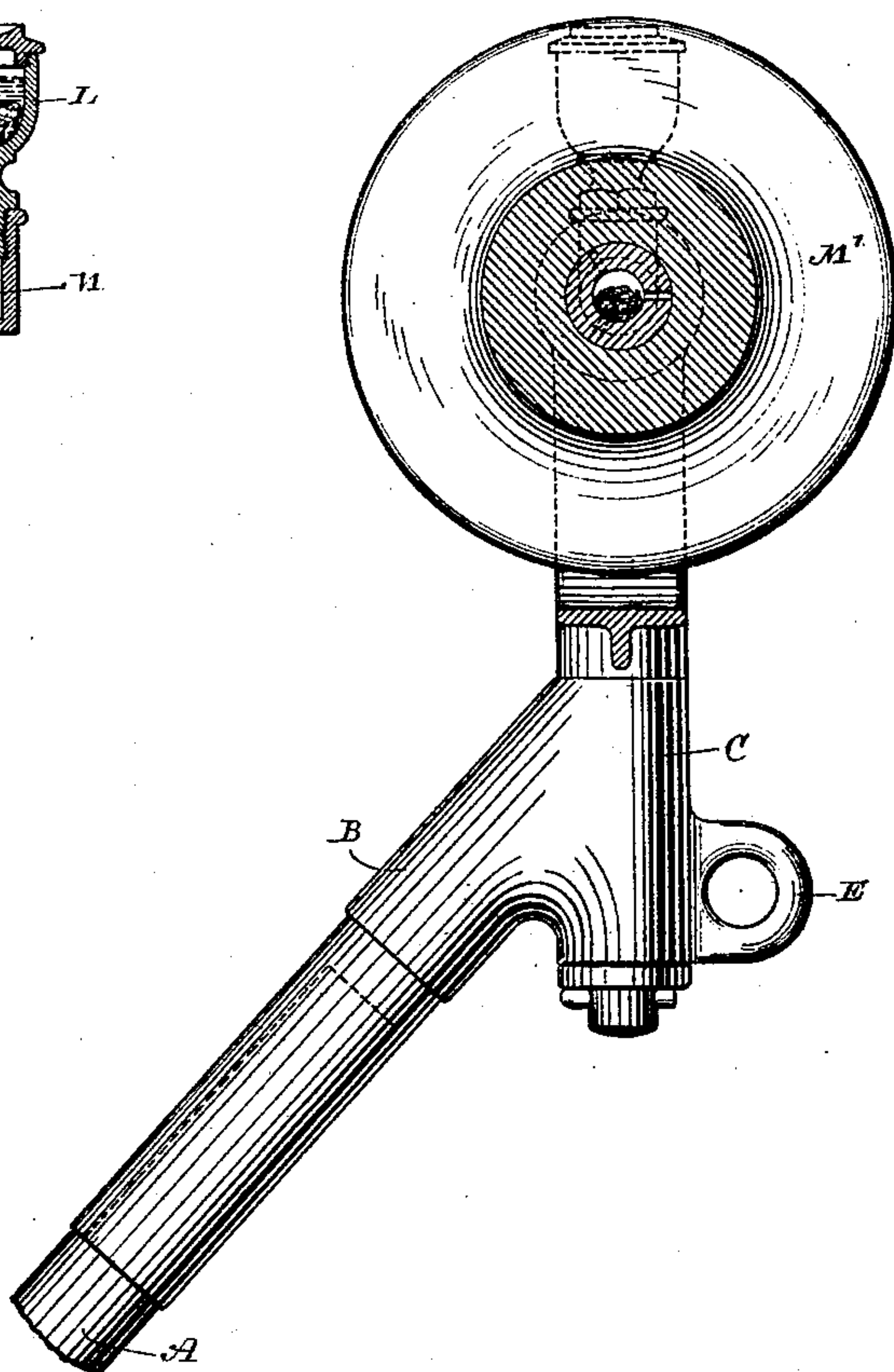


Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM L. STEVENS AND EDWIN J. WESCOTT, OF BOSTON, MASSACHUSETTS.

TROLLEY FOR ELECTRICALLY-PROPELLED CARS.

SPECIFICATION forming part of Letters Patent No. 434,682, dated August 19, 1890.

Application filed October 16, 1889. Serial No. 327,198. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. STEVENS and EDWIN J. WESCOTT, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Trolleys for Electrically-Propelled Cars, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

Our invention has for its object to provide a device for maintaining electrical connection between a motor carried by a street-car or other vehicle and an overhead conductor, the improvements which distinguish the invention residing in the particular device known as the "trolley." This device is usually a grooved contact-wheel carried at the end of a suitable staff or arm mounted on the top of the car, and runs along in contact with an overhead conductor or wire, against which it is held by pressure.

The invention consists in an improved means of lubricating the journal or axle of the trolley, whereby the friction is reduced to a minimum and good electrical connection maintained between the wheel and its metal bearings or supports.

In carrying out our invention we use a hollow and perforated tube as the axle of the trolley-wheel, and screw or otherwise secure to its open end an oil-receptacle, the other end being closed and provided with a suitable head. In the interior of the tube we place a wick of cotton waste or the like to take up the oil by capillary attraction and permit it to run out slowly through the perforations to the surfaces to be lubricated.

These improvements we have illustrated in a trolley of special construction in the accompanying drawings, in which—

Figure 1 is a vertical central section of the trolley, showing the manner of mounting the same. Fig. 2 is a view in side elevation of the same.

A is the staff or arm carried by the car, and at the end of which the trolley is mounted.

B is a casting provided with a socket or other suitable means of attachment to the

staff A, and a socket or cylindrical opening C, which in the normal position of the staff or arm A is vertical. An eye or hook E is provided for a cord, by means of which the trolley is controlled by the conductor of the car.

F is a yoke provided with a spindle G, which turns in the socket C. The axle or shaft H for the trolley is carried by the arms of the yoke, and is fixed therein preferably by a screw-thread on one end and some form of locking or set screw. The shaft H is hollow and provided with one or more lines of perforations I. At one end it is closed and generally formed with a head J. At the other end it is internally threaded to receive a tube K, carrying an oil cup or reservoir L.

In the tubular shaft H we place a wick M, or a quantity of cotton waste or the like, and with the oil-cup L we also use a wick, by means of which the oil is slowly drawn from the cup and delivered into the interior of the shaft H, from whence it issues to the exterior surface thereof.

M' is the grooved trolley-wheel, usually of copper or brass and mounted loosely upon the shaft H.

The manner of using this device is well understood.

By the construction shown and described the proper amount of lubrication is secured, while dropping and spattering of oil are avoided. At the same time excessive lubrication is prevented, so that good electrical contact is maintained. We have used both oil and lubricating grease in this device with good results, and found that at both high and low speeds the proper lubrication was maintained.

What we claim is—

1. The combination, with an electrical trolley-support, of a hollow perforated shaft carried thereby, a trolley-wheel mounted on said shaft, and an oil-receptacle communicating with the interior of the shaft, as set forth.

2. The combination, with an electrical trolley-support, of a hollow perforated shaft carried thereby, a trolley mounted on said shaft, an oil-cup secured to the open end of said

shaft, and a wick or filling of fibrous substances in the interior of the shaft, as set forth.

5 3. The combination, with an electrical trolley-support, of a grooved conducting-wheel carried thereby, an oil-receptacle, and means for supplying oil therefrom to the shaft of the grooved contact-wheel by capillary action, as set forth.

In testimony whereof we have hereunto set our hands this 14th day of October, 1889.

WILLIAM L. STEVENS.
EDWIN J. WESCOTT.

Witnesses:

FRANK G. PARKER,
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