(No Model.)

W. J. SMITH & W. G. JOHNSTON.

TROLLEY.

No. 584,831. Patented June 22, 1897.

Fig. 1

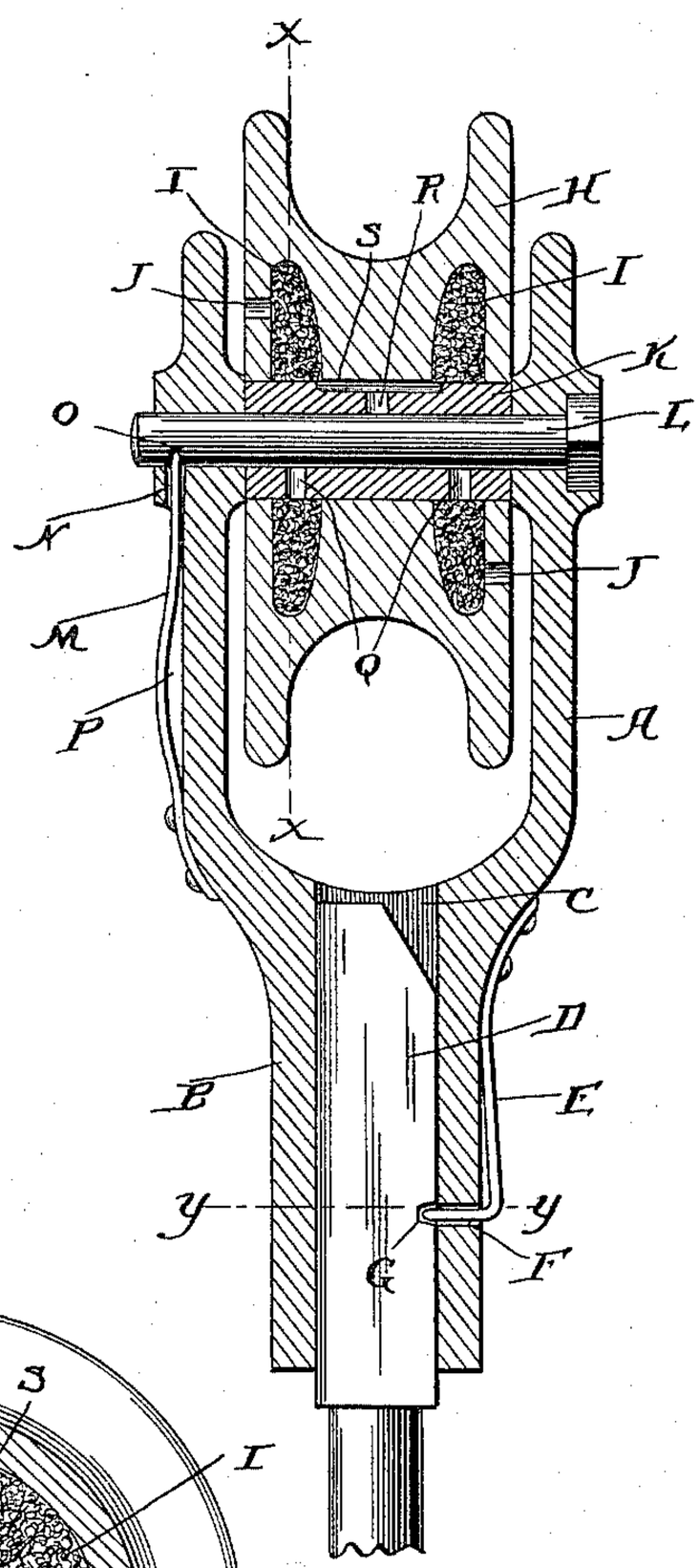


Fig. 2.

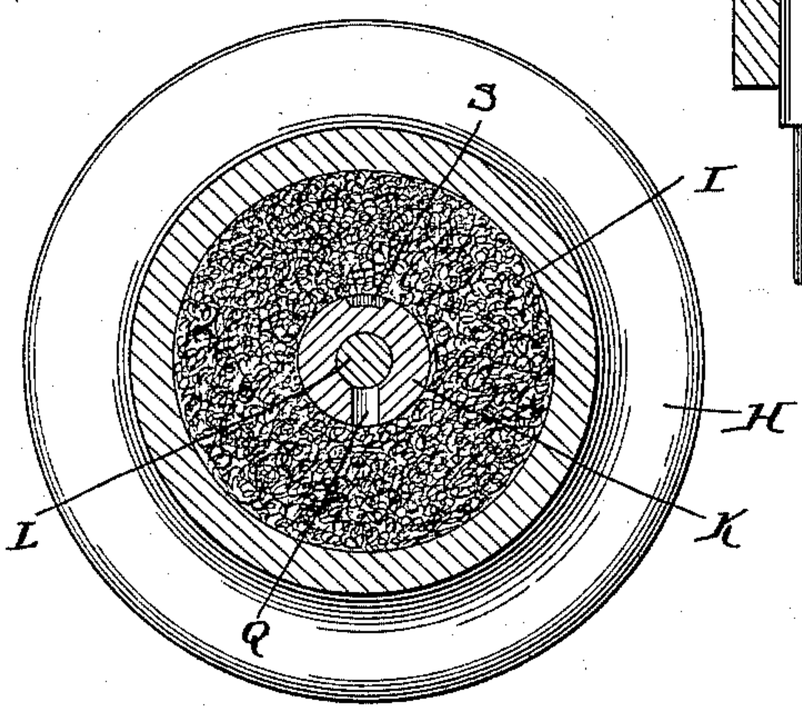
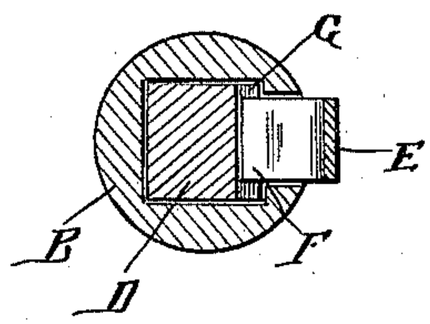


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM J. SMITH, OF GLOUCESTER CITY, AND WILLIAM G. JOHNSTON, OF WOODBURY, NEW JERSEY, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE NEW JERSEY TROLLEY WHEEL COMPANY, OF WOODBURY, NEW JERSEY.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 584,831, dated June 22, 1897.

Application filed August 5, 1896. Serial No. 601,700. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. SMITH, residing in Gloucester City, in the county of Camden, and WILLIAM G. JOHNSTON, residing at Woodbury, in the county of Gloucester, State of New Jersey, citizens of the United States, have invented a certain new and useful Improvement in Trolleys, of which the following is a full, clear, and exact specification.

Our invention relates to a new and useful improvement in trolleys, and has for its object to so construct such a device as to render the trolley-wheel self-oiling, thereby decreasing the wear and tear upon its bearing, as well as obviating the necessity of frequently applying lubricant thereto; and a further object of our invention is to adapt the fork of the trolley to the trolley-pole in such manner that it may be easily attached to or detached from said pole, by which means, when necessity requires, a new fork or harp may be substituted for the old one, and this harp can be adjusted with a penknife.

With these ends in view the invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central vertical section of a fork and trolley-wheel made in accordance with our improvement; Fig. 2, a section at the line *x x* of Fig. 1, and Fig. 3 a section at the line *y y* thereof.

In carrying out this invention the fork A has formed therewith the shank B, in which is a socket C, square in cross-section or of other suitable irregular shape, and within this socket fits the upper end of the pole D. The remainder of this pole is of ordinary construction, while its upper end is of the same cross-section as the socket thereof, thereby preventing the turning of the fork upon the pole when secured in place.

To prevent the withdrawal of the fork from the pole, a spring-latch E is secured to one side of the fork and its nose F is passed through a suitable opening in the shank and projects into a notch G, formed in the upper end of the pole, so that when this latch is in engagement with the notch the fork will be securely held in place, yet when it is necessary to remove the fork for any purpose whatever the latch may be retracted, so as to withdraw its nose from engagement with the notch, after which the fork will be free to be taken off of the pole. This will greatly facilitate the repairing or interchanging of forks, which will often save considerable delay upon the part of a trolley-car whose fork or trolley-wheel needs repair, as will be readily understood.

The trolley-wheel H is so cast and cored as to have formed therein the cavities I, from which lead the holes J for the purpose hereinafter set forth, and these cavities are closed by the insertion within the hub of the wheel of a bushing K, which in practice it is preferable to provide of hardened metal.

L is the journal-bolt, passed through the arms of the fork, and upon this bolt is mounted the trolley-wheel, as clearly shown, and in order that the former may not be withdrawn by accident the spring M is secured to one side of the fork and has the upper end thereof guided through the boss N, so as to readily engage the notch O, formed in the end of the journal-bolt, from which it will be obvious that said bolt cannot be accidentally withdrawn; yet when occasion requires the end of the spring M may be withdrawn from engagement with the bolt by the insertion of a suitable implement between the curved portion P thereof and the side of the fork and the exertion of sufficient outward pressure. This arrangement will facilitate the removal of the trolley-wheel from the fork and the replacing of another.

The cavities I are filled with an absorbent material, such as waste, before the bushing K is driven within the hub, and after this bushing has been thus secured in place this absorbent material will be retained and serve to hold a suitable lubricant which may be in-

serted within the cavities through the holes J. The hub has the holes Q and R formed therein, the former leading directly from the cavities to the journal-bolt, while the latter is connected with said cavities by a groove S and also leads to said journal-bolt.

In practice when the wheel is traveling upon the line-wire and thereby caused to revolve the heat generated by the friction between the hub and the journal-bolt will cause the lubricant contained in the absorbent material to be fed through the holes Q and R, by which means it will gain access to the journal, thus keeping the latter constantly lubricated. The absorbent material will prevent a too free flow of the lubricant and thus avoid waste, while at the same time obviating the necessity of frequent renewals of the lubricating agent, and a further object gained by this arrangement is that the journal is rendered more dust-proof than would otherwise be the case.

Having thus fully described our invention, what we claim as new and useful is—

1. In a trolley, a fork having a shank in which is formed a socket of rectangular or equivalent cross-section, a pole whose upper end conforms to the cross-section of the socket, a latch for securing the fork upon the pole, and a wheel journaled within said fork, as specified.

2. A trolley-fork, having a shank formed therewith in which is formed a socket of rectangular cross-section, adapted to fit the upper end of a pole similar in cross-section, and a spring-latch for securing said fork upon the pole, as specified.

3. A trolley-fork having a shank in which is formed a socket of angular cross-section, a pole having an end of similar cross-section adapted to fit within the socket, a spring-strap secured to the fork and having its end bent at right angles to pass through an aperture in the socket and engage a groove in the pole, as and for the purpose described.

4. The herein-described combination of the fork A having a shank B in which is formed a socket of rectangular cross-section, adapted to receive the upper end of the pole, a spring-latch E for securing the fork upon the pole, the wheel H having cavities formed therein, and holes leading to said cavities, a bushing secured within the hub of the wheel, said bushing having holes leading from the cavities to the interior thereof, a journal-bolt upon which said hub is mounted, and a spring M arranged to secure said bolt in place, substantially as and for the purpose set forth.

5. In a trolley-fork, a bolt slidable therethrough, a wheel journaled on the bolt and a spring-strap secured to the fork and adapted to engage a groove in the bolt, as and for the purpose described.

6. In a trolley a fork, a bolt slidable therethrough, a wheel journaled on the bolt and a spring secured to the fork and having an end slidable through a slot therein to engage a groove in the bolt, as and for the purpose described.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

WILLIAM J. SMITH.
WILLIAM G. JOHNSTON.

Witnesses:
S. S. WILLIAMSON,
MARK BUFORD.