(No Model.)

C. A. ADAMS & T. J. THORP.

TROLLEY FOR ELECTRIC RAILWAYS.

No. 482,031. Patented Sept. 6, 1892.

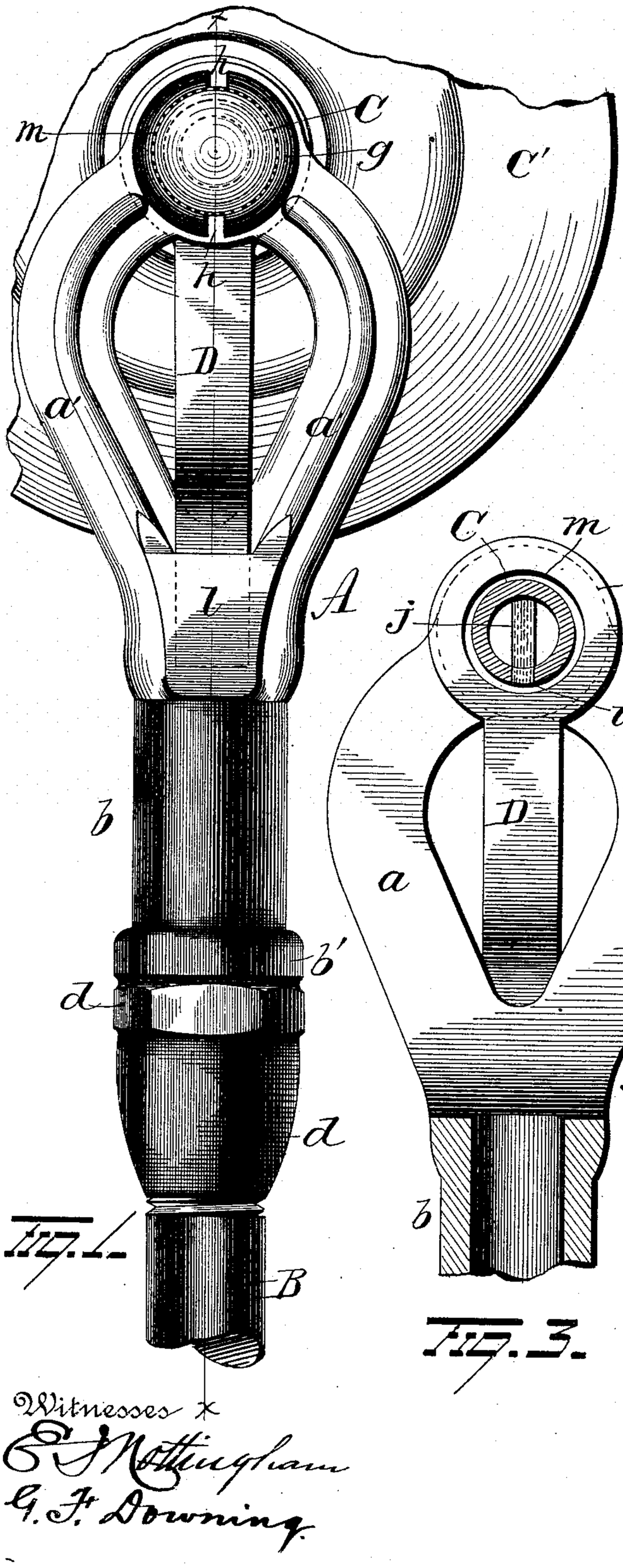

FIG. 1.

FIG. 3.

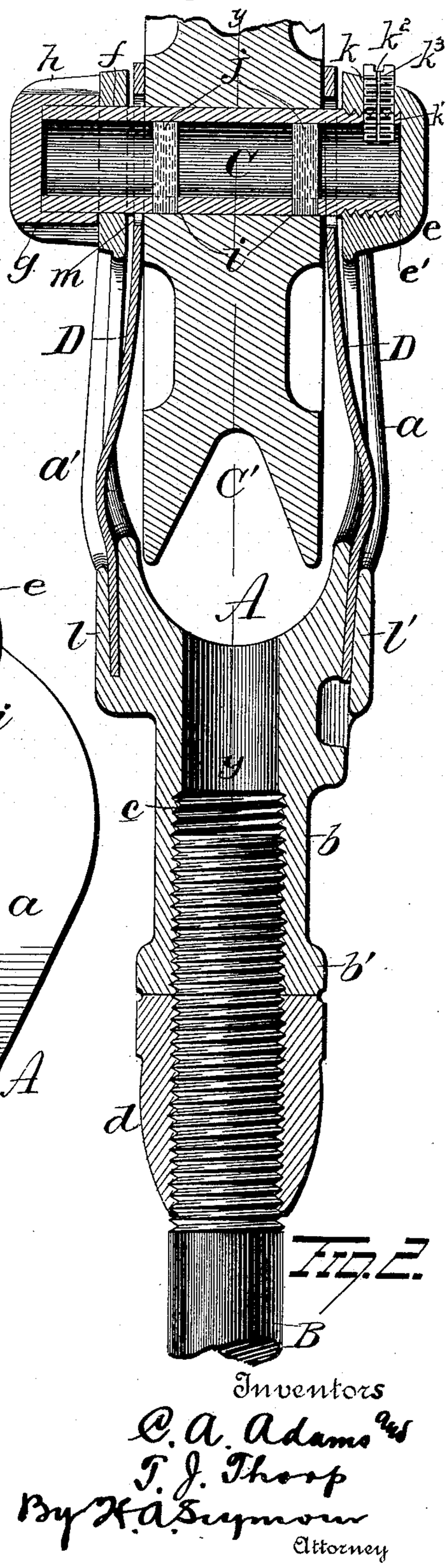

FIG. 2.

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UNITED STATES PATENT OFFICE.

CLARENCE A. ADAMS AND THOMAS J. THORP, OF LINCOLN, NEBRASKA.

TROLLEY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 482,031, dated September 6, 1892.

Application filed March 25, 1892. Serial No. 426,365. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE A. ADAMS and THOMAS J. THORP, of Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Harps and Journals for Trolley-Wheels; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in harps and journals for supporting trolley-wheels for use on electrical railway-cars, its object being to produce a device of the class stated which shall be very simple in construction, comprise a small number of sectional parts, and which shall be effectual in the performance of its functions.

A further object is to produce an improved device for supporting the trolley-wheel, which device shall be cheap to manufacture and yet possess a requisite amount of strength and be capable of ready adjustment on a pole, whereby it can at all times be maintained in proper line relatively to the pole and the trolley-wire.

A further object is to provide simple and effective means for lubricating the trolley-wheel.

A further object is to provide simple and efficient means for holding the contact-springs in place, whereby the use of fastening devices passing through said spring will be avoided and whereby said contact-springs may be readily and quickly removed when worn or broken.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a face view of the device. Fig. 2 is a sectional view on the line $x\,x$ of Fig. 1. Fig. 3 is a sectional view on the line $y\,y$ of Fig. 2, the trolley-wheel being removed.

A represents the frame of the harp, comprising two open or loop-shaped arms $a\ a'$ and an integral sleeve b, projecting downwardly from the lower ends of said arms. The sleeve b is preferably provided at its lower end with an annular flange b' and is provided internally with screw-threads c, whereby the device can be screwed on the end of a trolley-pole B, an annular nut d being preferably, also, screwed on said pole beneath the sleeve b. By thus attaching the device to the trolley-pole it may be readily adjusted should the pole become bent, thereby always insuring the proper alignment of the device relatively to the pole and trolley-wire, and nut d will be devoid of sharp edges. The upper end of the arm a is made with an integral hollow boss e, having a screw-threaded interior e', and the opposite arm a' is made with an opening f for the passage of an axle or journal C. The axle or journal C is preferably made of common double-strength pipe, and is provided at one end with a head g, which may be of brass and cast to said journal, said head being provided with grooves h for the reception of a suitable wrench whereby to turn it. The opposite end of the axle or journal C is screw-threaded externally and adapted to screw into the interiorly-screw-threaded boss b. Openings or perforations i are made in the journal C and extend through but one wall thereof. Inserted in the openings or perforations i and projecting within the hollow journal C are plugs j, of reed or other porous material, whereby lubricating material in said hollow journal will be fed by capillary attraction to the exterior of the journal and thus lubricate the trolley-wheel C′ thereon.

The boss or enlargement e is provided with a screw-threaded opening k, which when the journal is in position aligns with a similar opening k' in the end of said journal. Through these openings $k\ k'$ oil or other lubricating material may be poured into the hollow journal. The openings $k\ k'$ will be closed by a screw k^2, said screw being provided with a vertical groove k^3, whereby the feeding of the lubricating material may be readily regulated.

At the base of the arms $a\ a'$ of the harp pockets $l\ l'$ are cast, into which the lower ends of two contact-springs D are inserted. These contact-springs D project upwardly within the harp-frame and are provided in their enlarged upper ends with openings m, somewhat larger than the diameter of the journal

C and through which said journal passes. These spring-contacts are adapted to bear against the trolley-wheel C′, and thus conduct the electric current from said wheel.

The device constructed and arranged as above set forth is very simple, comprising a very small number of parts, is cheap to manufacture, easily and quickly adjustable, easy to repair, and it is substantial in construction and effectual in the performance of its functions.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a harp for supporting a trolley-wheel, the combination, with a trolley-pole and an internally-screw-threaded sleeve screwed to the end of said pole, of a lock-nut also screwed onto the pole below the sleeve and bearing against said sleeve.

2. The combination, with the arms of a harp, one of said arms having an opening in its upper end, of an internally-screw-threaded boss at the upper end of the other arm and a journal passing through said opening in one arm and screwing into the screw-threaded boss at the upper end of the other arm, the said journal having an enlarged head adapted to bear against the outer face of the arm through which the journal passes, substantially as set forth.

3. The combination, with the arms of a harp, one of said arms having an opening in its upper end, of a hollow journal passing through said opening and provided with a head, the latter adapted to bear against the outer face of said arm, an internally-screw-threaded boss at the upper end of the other arm adapted to receive the screw-threaded end of the hollow journal, substantially as set forth.

4. The combination, with the arms of a harp, one of said arms having an opening therein, of an internally-screw-threaded boss at the upper end of the other arm, a hollow journal passing through the opening in one of said arms and adapted to screw into the internally-screw-threaded boss at the upper end of the other arm, said boss and journal having aligned screw-threaded perforations, and a screw passing through said screw-threaded perforations, substantially as set forth.

5. The combination, with the arms of a harp, one of said arms having an opening therein, of an internally-screw-threaded boss at the upper end of the other arm, a hollow journal passing through the opening in one of said arms and adapted to screw into the screw-threaded boss at the upper end of the other arm, said boss and journal having aligned screw-threaded perforations, and a screw passing through said screw-threaded perforations, said screw having a vertical groove therein, substantially as set forth.

6. The combination, with a harp adapted to support a journal for a trolley-roller, of pockets cast on said harp and springs inserted in said pockets and adapted to bear on said trolley-wheel, substantially as set forth.

7. The combination, with a harp and a journal carried thereby, of pockets cast on said harp and contact-springs inserted in said pockets and provided at their upper ends with openings to encircle said journal, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CLARENCE A. ADAMS.
THOMAS J. THORP.

Witnesses:
A. N. JANSEN,
FRED NIEMEYER.