(No Model.)

T. L. RANDALL.

AXLE LUBRICATOR.

No. 362,313. Patented May 3, 1887.

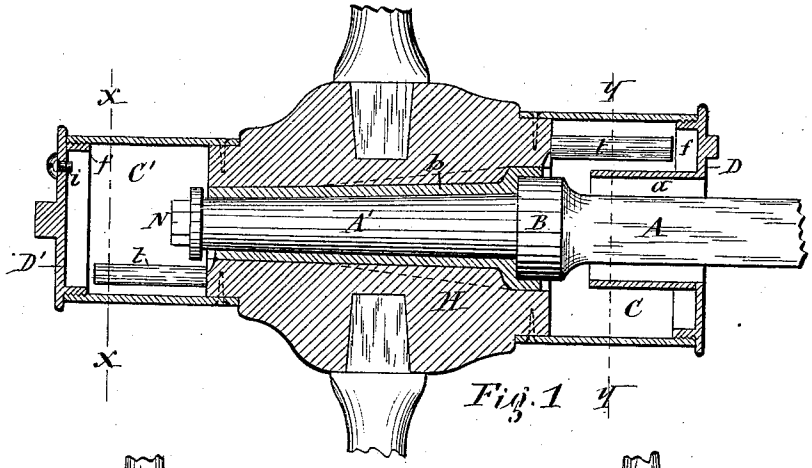


Fig. 1

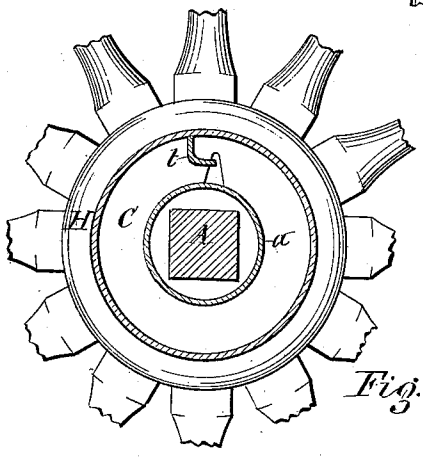


Fig. 3

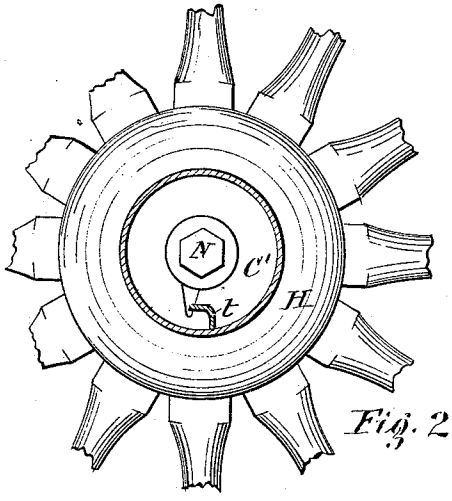


Fig. 2

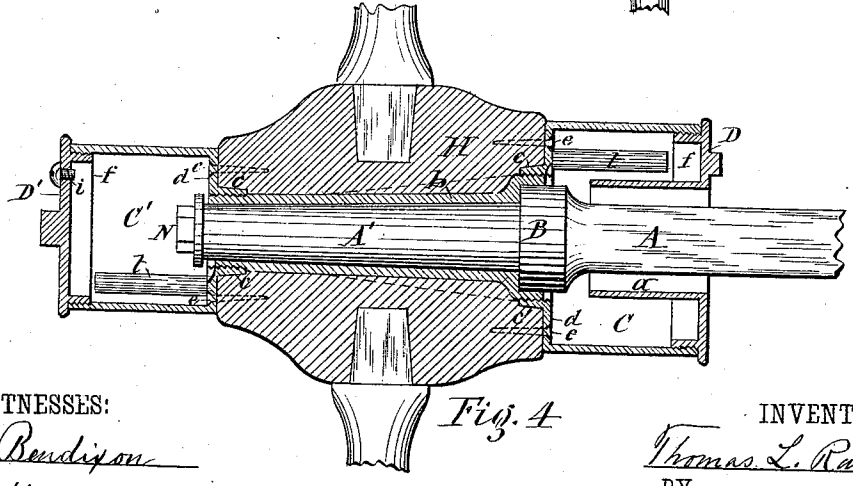


Fig. 4

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UNITED STATES PATENT OFFICE.

THOMAS L. RANDALL, OF UNADILLA, NEW YORK.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 362,313, dated May 3, 1887.

Application filed December 13, 1886. Serial No. 221,419. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. RANDALL, of Unadilla, in the county of Otsego, in the State of New York, have invented new and useful Improvements in Self-Lubricating Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of axle-lubricating devices which have the lubricant-reservoir attached to the hub of the wheel; and the invention consists in an improved construction and combination of parts, as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a longitudinal section of a wheel-hub provided with my invention. Figs. 2 and 3 are transverse sections, respectively, on lines *x x* and *y y*, Fig. 1; and Fig. 4 is a longitudinal section showing a modification of the attachment of the lubricant-reservoir to the wheel-hub.

Similar letters of reference indicate corresponding parts.

A represents the end portion of a carriage-axle. A′ is the spindle of said axle, on which the wheel is mounted.

B is the usual collar formed on the axle at the inner end of the spindle, and N denotes the wheel-retaining nut on the outer end of the spindle.

H represents the hub of the wheel, provided with the usual metallic box, *b*, by which it is journaled on the spindle.

C and C′ represent the lubricant reservoirs or cups, which are secured to the ends of the hub H, and communicate with the adjacent ends of the spindle A′. Said reservoirs or cups may be either formed by longitudinally extending the hub-bands, as shown in Fig. 1 of the drawings, or consist of cylindrical shells, each formed at one end with an annular inward-projecting disk, *d*, by which said shell rests against the end of the hub, as shown in Fig. 4 of the drawings. It is secured to the hub by an annular flange, *c*, around the edge of the disk, which flange projects toward the hub, and is screw-threaded on its inner side and screwed onto the end of the box *b*, which is screw-threaded for that purpose on its exterior.

To prevent the cup from unscrewing from the box *b*, additional screws, *e e*, are inserted in holes in the disk *d* and screwed into the wooden hub H. The cup C′ on the outer end of the hub is screw-threaded internally at its free end for the attachment of the cap or cover D′, which is provided with an externally-screw-threaded annular flange, *f*, entering the cup C′.

Both cups C and C′ are concentric with the axle, and the outer cup, when closed by its cover D′, completely houses or incloses the axle nut N. The cover D′, I provide with a small opening, *i*, through which to introduce the oil into the cup C′ without removing the cover or cap thereof. A screw-threaded stopper closes the opening *i* to retain the oil in the cup. The cup C on the inner end of the hub has a cap, D, connected to it in the same manner; but this cap is of annular shape or formed with a central opening, and with an annular flange, *a*, projecting from the edge of the central opening toward the hub a sufficient distance to form the inner wall of an annular cup, which is to be packed with cotton waste or other suitable absorbent of the oil in the cup. The flange *a* is terminated a short distance from the hub and collar B to allow the drippings of oil from the end of the box *b* to fall into the cup C.

To the inner side of each cup C C′, I attach a dipper, *t*, of the form of a trough, which during the rotation of the wheel carries a quantity of oil above the axle and drops it upon the same.

By applying a lubricant-reservoir to each end of the hub the lubricant is continually conducted from end to end of the axle-spindle, and the latter is thus effectually lubricated.

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

1. In combination with the wheel hub and axle, the cup C, secured to the inner end of the hub and arranged concentric with the axle, and the cap D, formed with a central opening, and with the inward-projecting flange *a* around said opening, substantially as described and shown.

2. In combination with the wheel hub and axle, the cup C, secured to the inner end of

the hub and arranged concentric with the axle, the trough *t*, secured to the inner side of said cup, and the cap D, formed with a central opening, and with the inward-projecting flange *a* around said opening, substantially as described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 24th day of November, 1886.

THOMAS L. RANDALL. [L. S.]

Witnesses:
C. BENDIXON,
H. P. DENISON.