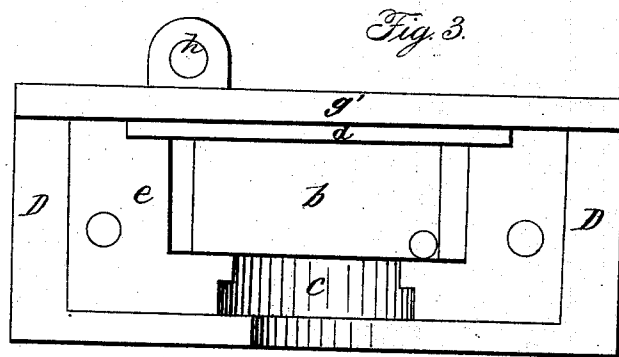
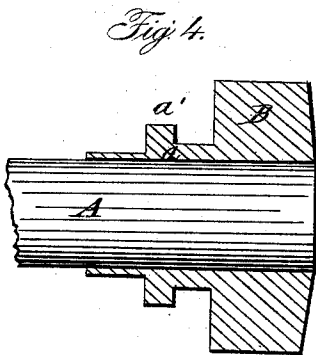
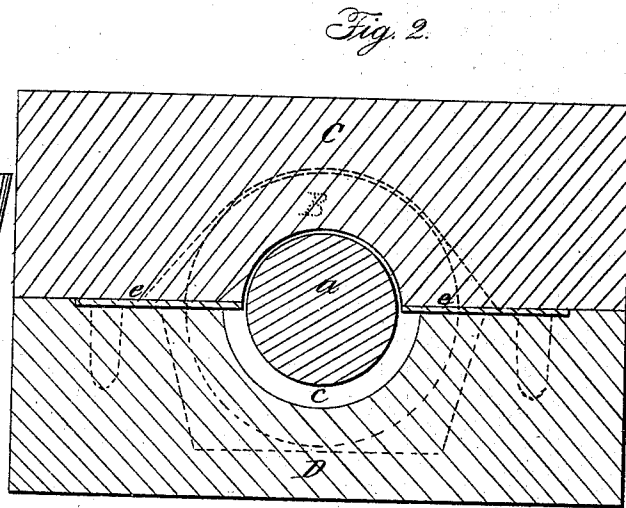
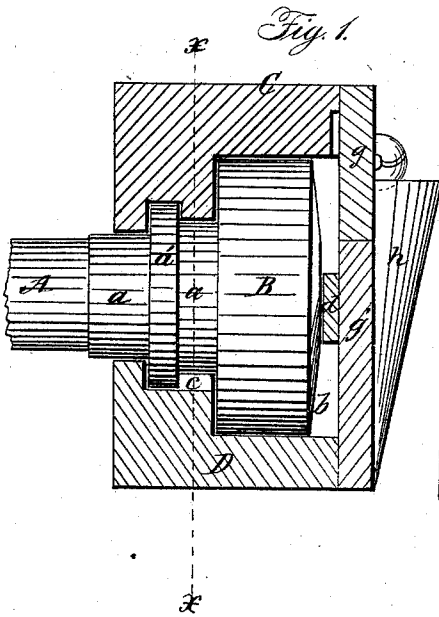


H. B. ROWLEY.
Car-Axle Box.

No. 60,064.

Patented Nov. 27, 1866.



Witnesses:

Henry Sylvester
C. W. Schofer

Inventor:

H. B. Rowley
by Mason Finnick & Lawrence.

United States Patent Office.

IMPROVED AXLE-BOX.

HENRY B. ROWLEY, OF RUSHVILLE, NEW YORK.*

Letters Patent No. 60,064, dated November 27, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY B. ROWLEY, of Rushville, Yates county, State of New York, have invented a new and improved Axle-Box; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section taken transversely through the new axle-box.

Figure 2 is a longitudinal section through the axle-box, taken in the vertical plane indicated by red line *x x*.

Figure 3 is an outside view of the lower half of the axle-box.

Figure 4 is a sectional view of the enlarged journal on the axle.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to apply enlarged hardened metal journals on the ends of car axles, and to so adapt the axle-boxes to receive such journals that these latter shall be partially submerged in oil, and thereby caused to lubricate their bearings continually while turning, without waste of oil, and without the necessity of using packing, as will be hereinafter described. To enable others skilled in the art to understand my invention, I will describe its construction and operation.

The axle A has an enlarged cylindrical collar or hub, B, suitably secured on each end, which collar is made of cast chilled metal, with a hub *a* on its inner face, having a circular flange *a'* formed on it, as shown in figs. 1 and 4. This collar B, with its flanged neck *a*, forms the journal of the axle, and is fitted to turn freely in a horizontally divided axle-box, as shown in figs. 1 and 2. The axle-box consists mainly of an upper section, C, and a lower section, D, which latter has an oil-chamber, *b*, formed in it of such capacity as will freely receive the enlarged collar B, and contain the required amount of oil for lubricating the bearing in the upper section, C, of the box. On the inner side of oil-chamber *b*, or that side of it which is nearest the car-wheel, a semi-circular chamber, *c*, is formed for receiving the flanged neck *a*, and thus allowing the flange *a'* to serve as a cut-off to prevent the escape of oil at this point from the box. The chamber *b* allows the oil to be carried up to the bearing in box C, by the inner face of the collar B, and it also allows of the lubrication of the collar or flange *a'*. The outer end of the collar B may be made slightly convex, as shown in the drawings, so that its friction surface against the portion *d* will be very small. The oil-chamber *b* rises to a horizontal plane intersecting the axis of the journal, so that one-half of this journal will rotate in oil. If desirable, the bottom of the chamber *b* may be semicircular, but it is shown flat in the drawings; and I prefer to leave a space below the collar B, for allowing the impurities in the oil to settle, so that these impurities can be drawn off at the bottom of the box, whenever desired. A recess is made in the top of the lower section C, for the reception of pieces of leather or other suitable substance, as shown at *e e*, figs. 2 and 3; these pieces are cut so as to impinge upon the surface of the collar B, and its flanged neck *a*, and prevent a superfluity of oil being drawn out of the chamber *b* by the collar. Said pieces *e e* also serve to regulate the supply of oil to the bearing above them, and keep down the impurities in the oil. When tallow or other like grease is used, instead of the fluid oils, these pieces, *e*, may be dispensed with. The upper section or cap C of the journal box is provided with a brass or other suitable metal bearing for the collar B, which is inserted so that it can be removed by removing the outer plate *g*, and its place supplied with another when the first wears out. The plate *g* abuts against the upper edge of a face-plate *g'*, on the lower section of the box, which latter plate extends above the upper surface of its lower section, and overlaps the upper section, thus breaking joints with the joint of the two sections of the box, as shown in fig. 1. The chamber *b* is supplied with oil through the cup *h*, which should be suitably closed, to prevent the escape of oil or the entrance of dust. From this description it will be seen that the journal will run continually in oil, and carry around with it a sufficient quantity of oil from box *b* to keep the bearing well lubricated.

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

1. In combination with the journal box C D, I claim the axle A, constructed with a hardened metal collar B, or collars B *a'*, on its ends, the hardened or chilled metal collar or collars being made separate from the axle, and shrunk or otherwise fastened thereon, and said collar or collars conforming in diameter to the chamber or chambers of the journal boxes in which they revolve; all substantially as herein described, and for the purpose set forth.
2. The arrangement of the flexible wipers *e e*, in combination with the journal and journal box, substantially in the manner herein described.

H. B. ROWLEY.

Witnesses:

J. B. WESTCOTT,
JOHN EMERSON.

* Assor to Self and G. L. Rose.