(No Model.)

J. P. GARTON.

CAR AXLE BOX.

No. 321,710. Patented July 7, 1885.

Fig. 1.

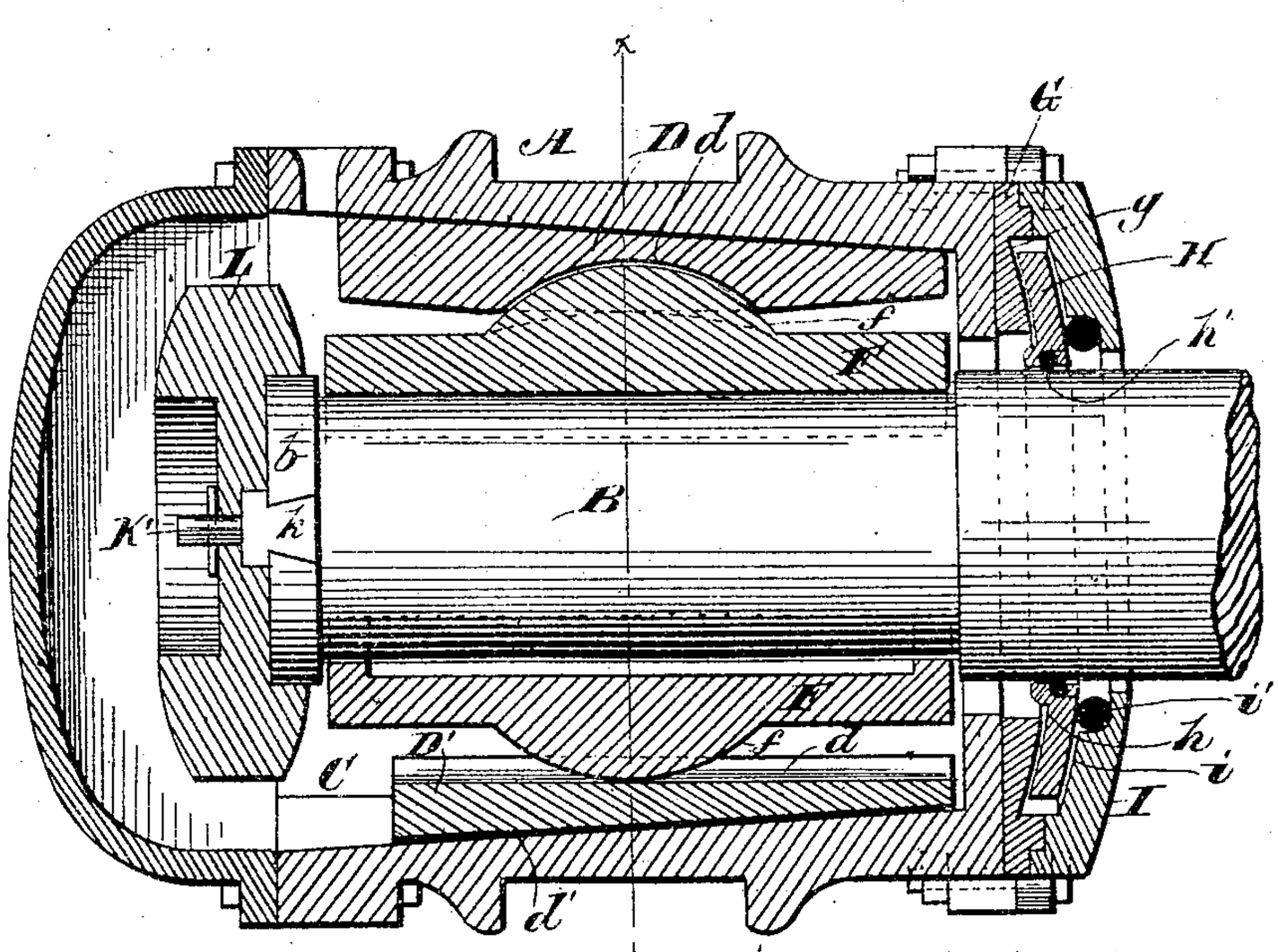


Fig. 2.

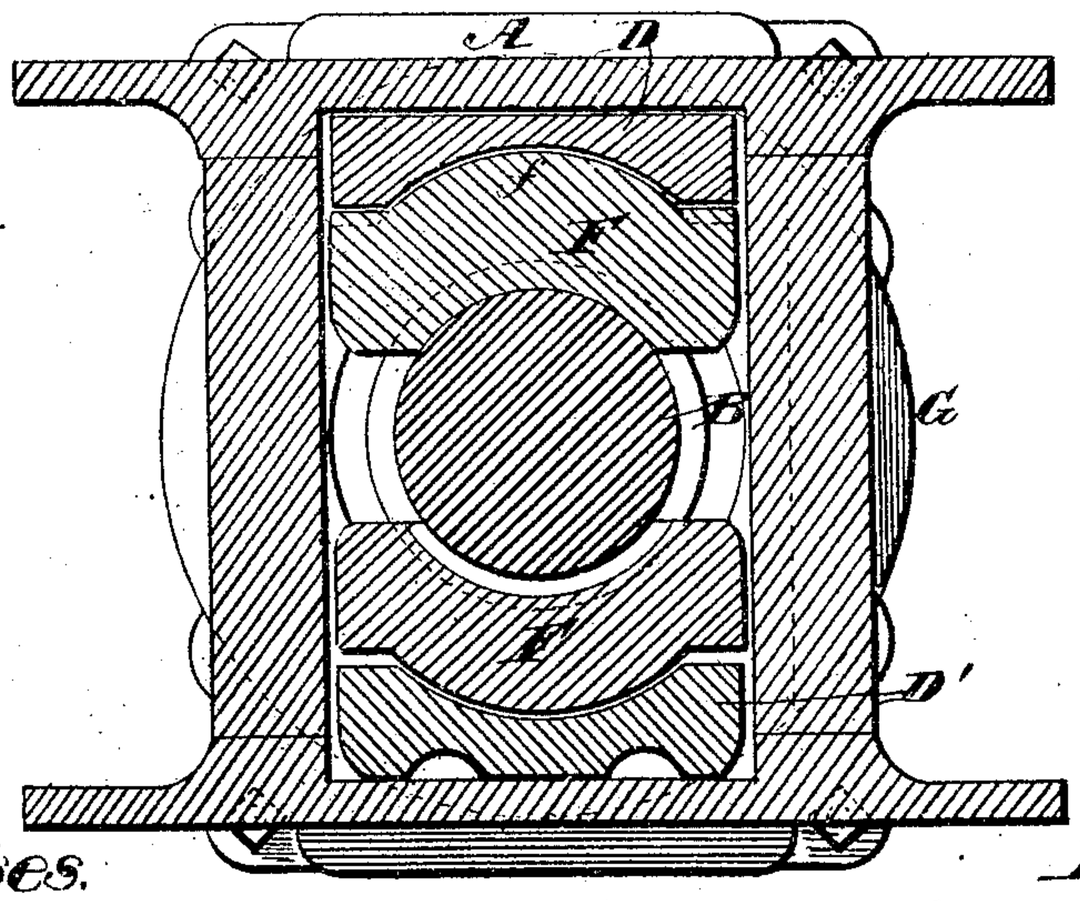


Fig. 3.

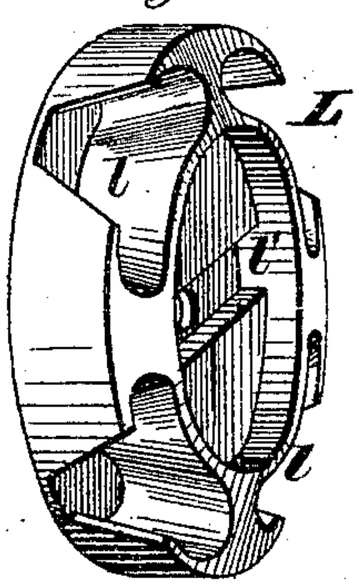
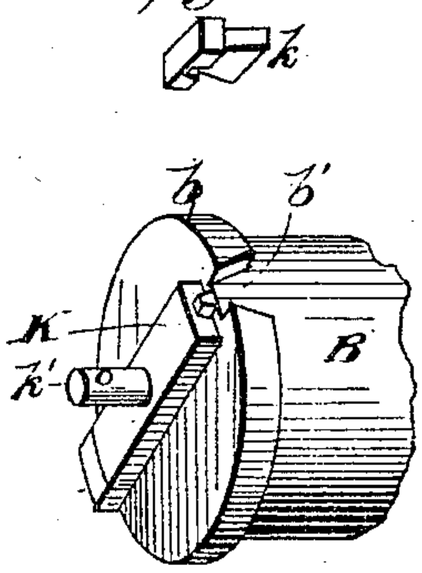


Fig. 4.



Witnesses.
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E. A. Dick

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Attys

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UNITED STATES PATENT OFFICE.

JAMES P. GARTON, OF JERSEY CITY, NEW JERSEY.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 321,710, dated July 7, 1885.

Application filed May 8, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. GARTON, of Jersey City, in the State of New Jersey, have invented certain new and useful Improvements in Car-Axle Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to car-axle boxes; and the novelty consists in the construction, arrangement, and adaptation of parts for specific purposes, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

I provide an axle-box with sufficient internal space for an oil well or reservoir at the outer end beyond the plane of the axle and for removable axle-bearings. The said bearings are provided with universal joints in connection with filling-blocks, which are also removable. The outer end of the spindle is provided with a pump or dipper, which, revolving with the axle, serves to take up the lubricant and deposit it upon the top of the axle-bearing. An inclined plane serves to allow the lubricant to gravitate back into the reservoir. I provide efficient packing means to exclude dust from the bearings.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a longitudinal central section. Fig. 2 is a transverse view on the line *x x*, Fig. 1. Fig. 3 is a detail perspective view of the pump, and Fig. 4 is a similar view of the outer end of the spindle.

Referring to the drawings, the letter A designates the axle-box, and B the spindle thereof, having annular flange *b* at its outer end. The axle-box is made in proper sections, secured together, and packed to render it oil and water tight. It has interior space to form oil-reservoir C and to receive removable blocks D and D′, each having a concave, *d*, to receive a ball-bearing, and the latter, D′, being inclined outwardly, as seen at *d′*. The ball-bearings *f* are upon bearing-blocks F, arranged above and below the spindle, and fitting snugly between the flange *b* of the spindle and the inner end of the axle-box. They are readily removable, and when worn are easily replaced by new ones.

The back plate, G, of the axle-box has the ordinary aperture to receive the axle, and upon its outer face an incline, *g*, against which bears a corresponding bevel, *h*, in a ring, H, having interior packing, *h′*, as shown. A plate, I, having a concave, *i*, in which is located a packing-ring, *i′*, receives the ring H. This plate I forms a tight joint with the plate G, and the several packings mentioned serve to prevent ingress of dust to the bearings, and egress of oil therefrom. The concave *i* is of sufficient area to allow the ring *i′* to have considerable play therein.

Upon the flange *b* of the spindle I form dovetails *b′*, which receive corresponding lugs, *k*, upon a cross-head, K, having a pin, *k′*, arranged in a plane corresponding to the axis of the axle.

The letter L designates an annular dipper or pump, having flaring receptacles *l* in its periphery, and the recess *l′*, which receives the cross-head and pin K *k′*.

When the rotary pump is in position, it is locked to the axle and forced to revolve therewith, with its lower edge submerged in the oil-reservoir. The cups or receptacles *l* of the pump are flaring inwardly, and with the revolutions of the axle serve to take up oil from the reservoir and deposit it well inward above the axle-bearing. Any surplus of oil gravitates down the incline *d′* and returns to the reservoir.

I attach importance to the means for excluding dust and for making a tight joint with the axle upon the inner side of the box.

I attach importance to the removable axle-bearings and the universal joint formed therein.

I also attach importance to the means for elevating the oil by the bearings, and for providing for its return to the reservoir.

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

1. The combination, with an axle-box having interior space to form an oil-reservoir, and having also a return-incline, as *d′*, of the flanged dovetailed spindle having a cross-head pro-

vided with lugs, and a recessed pump having flaring cups secured to the spindle by a pin-connection, as shown and described.

2. The spindle B, having flange *b*, with dove-tail recesses, the cross-head K, with lugs *k*, corresponding with the recesses, and the pump L, having cups *l* and recess *l'*, and the reservoir, as set forth.

3. In an axle-box, as described, the combination, with the plate G, having annular incline *g*, and the plate I, having concave *i*, of the loose ring H, having bevel *h*, fitting loosely in said concave, and the packing-ring *i'*, all combined and adapted to serve to the axle and box, as and for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES P. GARTON.

Witnesses:
JOHN D. WEBSTER,
WM. D. GILSON.