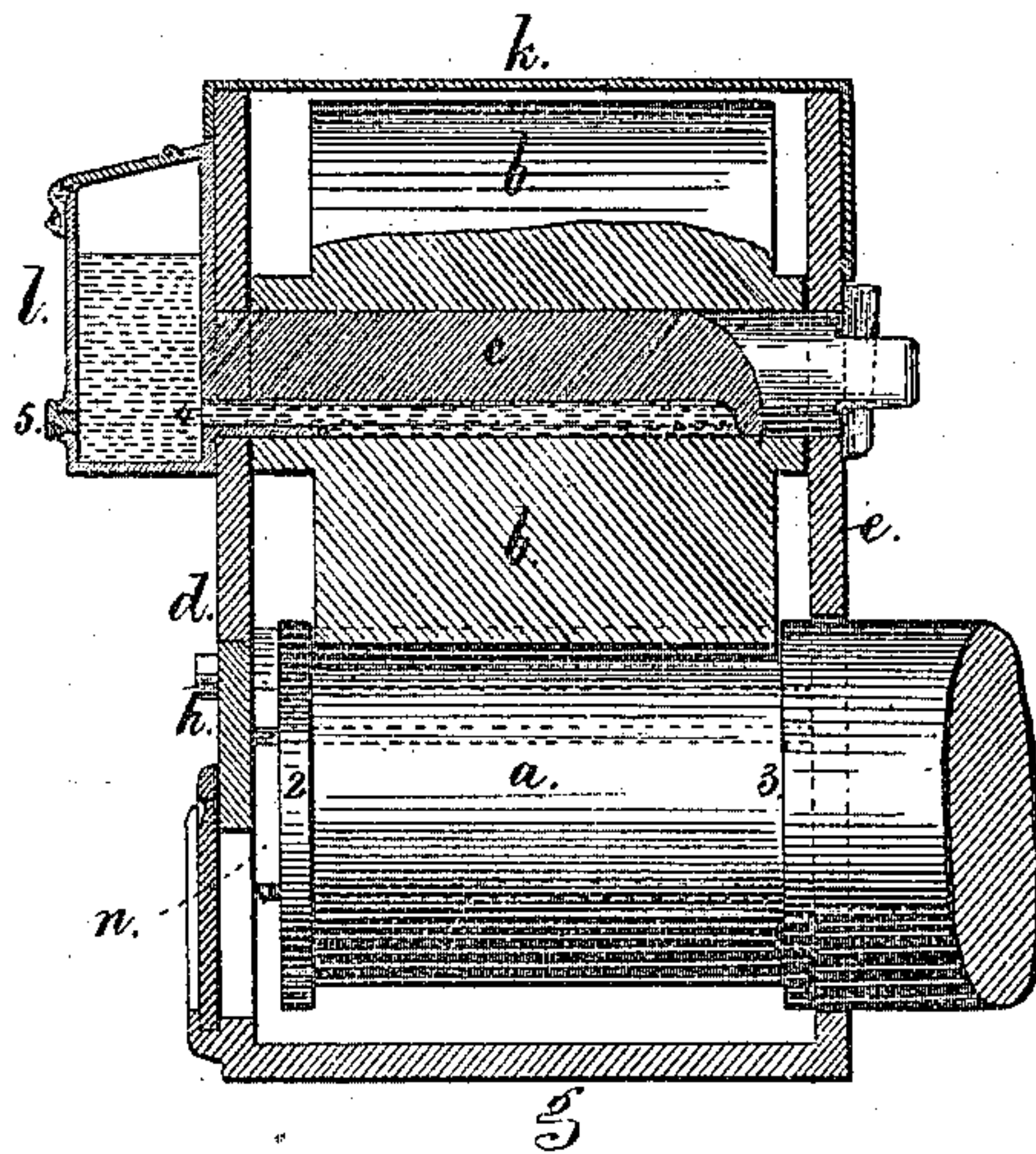


Car Axle-Boxes.

Patented Jan. 7, 1873.

Fig. 2.



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HERMAN G. DOWNS, OF SENECA FALLS, NEW YORK.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. 134,594, dated January 7, 1873.

To all whom it may concern:

Be it known that I, HERMAN G. DOWNS, of Seneca Falls, in the county of Seneca and State of New York, have invented an Improvement in Car-Axle Boxes, of which the following is a specification:

Car-axle boxes have been made with rollers upon which the weight of the car rests, and these bear upon the journal of the axle. The principal portion of the weight of a car rests vertically, and can be taken to advantage upon one roller over each journal, but it is necessary that a bearing be provided at each side of the journal to keep the same centrally beneath the roller. In some instances this has been effected by two rollers, but the space occupied by them is such as to prevent the introduction of axle-boxes with rollers into the spaces usually provided in cars and trucks.

My present invention is for introducing a roller above each journal in a box that occupies but little more space than the ordinary car-axle box; and my improvement consists in combining with the aforesaid roller and journal two lateral bearing-boxes, that serve to keep the journal centrally below the roller and to take the strain usually resulting from the application of the brakes.

In the drawing, Figure 1 is a vertical section transversely of the journal, and Fig. 2 is a section longitudinally of said journal and box.

The journal *a* at the end of the axle is of the desired size, with a collar, 2, near the outer end and a shoulder at 3 to prevent end movement of the box upon the journal. The roller *b* is of a length to fit between the collar 2 and shoulder 3, and rest upon the top of the said journal *a*. The roller *b* revolves upon a stationary axle or bolt, *c*, that passes through the front plate *d* and back *e* of the box. The box containing the bearings of the journal is made of the back *e*, sides *f*, bottom *g*, plate *d*, and removable plate *h*, and a cap, *k*, may be employed, or the top may be cast with the bottom, sides, and back, in one piece. At the

end of the bolt *c* is an oil receptacle or box, *l*, from which a hole, 4, passes through the bolt and opens into a longitudinal groove in the under side of the bolt *c*. The length of this groove is less than the thickness of the roller *b*, so that the oil will not be wasted, but will be freely supplied to the bearing of the roller *b* upon axle-bolt *c*. In the box *l* and opposite the hole 4 is a screw-plug, 5, by the removal of which access is given for cleaning the hole 4 and groove with a wire. At the sides of the journal the bearing-plates or cheeks *n n* are introduced. They are preferably of a dovetailed shape, entering between corresponding ribs cast upon the inner surfaces of the sides *f* of the box, and wedge-plates *r* serve to keep the cheek-plates firmly in place.

The parts are constructed or adjusted so that the cheek-plates retain the journal central beneath the roller *b*, and these cheek-plates take all lateral strain from the brakes or otherwise; but, at the same time, there is but little friction or wear upon them, because the principal portion of the weight is upon the roller *b*.

The removable plate *h* gives access to the space around the journal, and it is preferable that fibrous material and lubricating substances be inserted below the journal.

I claim as my invention—

1. The roller *b* supported upon an axle-bolt, *c*, having a hole, 4, leading from the oil-box to the groove that is upon the under side of said bolt *c*, in combination with the journal and the box containing the parts *n n*, substantially as set forth.

2. The cheek-plates *n* secured within the journal-box at the sides of the journal, substantially as set forth, in combination with the roller *b* above said journal, as specified.

Signed by me this 22d day of July, A. D. 1872.

H. G. DOWNS.

Witnesses:

WM. K. MILLER,
CHAS. A. HAWLEY.