

(No Model.)

J. R. BAKER.
CAR AXLE BOX AND BEARING.

No. 572,517.

Patented Dec. 8, 1896.

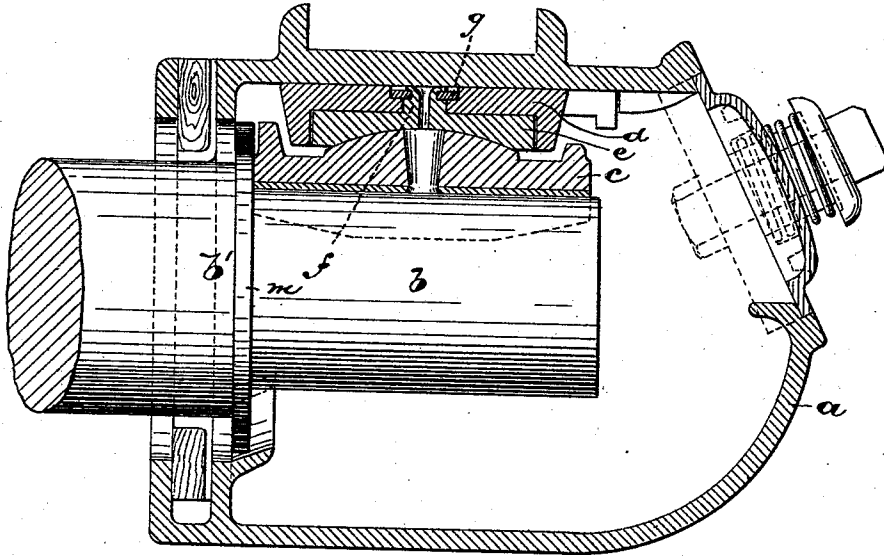


Fig. 1.

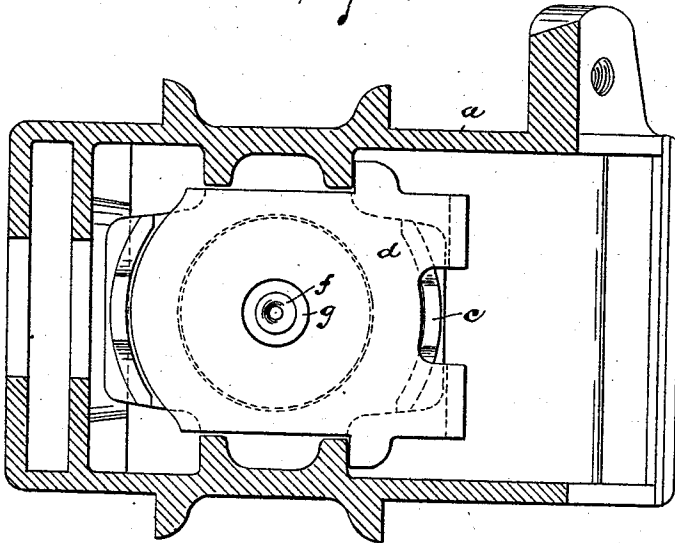


Fig. 2.

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

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CAR-AXLE BOX AND BEARING.

SPECIFICATION forming part of Letters Patent No. 572,517, dated December 8, 1896.

Application filed March 4, 1896. Serial No. 581,752. (No model.)

To all whom it may concern:

Be it known that I, JACKSON R. BAKER, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Car-Axle Boxes and Bearings; and I 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements of that class of car-axle boxes represented by the one shown in my prior patent, No. 370,034, dated September 20, 1887, the objects of which improvements are to enable the journal-bearings to be adjusted in relation to the car-axle with greater facility and ease and to enable the weight of the car to be more perfectly centralized upon the axle; to avoid torsional strain upon the axle; to reduce the liability of heating of the parts because of improper adjustment, and to secure other advantages and results, some of which will be referred to in connection with the description of the working parts.

The invention consists in the improved car-axle box and in the arrangements and combinations of parts, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in both of the views, Figure 1 is a vertical section of the improved box, taken through the center of the journaled bearing. Fig. 2 is a section showing the journal or bearing in plan.

In said drawings, *a* indicates the box, which may be of any ordinary construction adapted to receive the load of the car in the usual manner common in railway-car construction, and *b* is an ordinary axle for the wheels of the car, which is preferably constructed without an end collar or enlargement at the extremity of the axle or journal and with a loose collar *m* at the shoulder *b'* back from said extremity. Within the box *a* is arranged, be-

tween the axle or journal and the top of said box, the brass *c*, a key *d*, and an intermediate bearing *e*, the said intermediate bearing and brass being provided with convex and correspondingly-concave bearing-surfaces similar to those shown in my prior patent above referred to.

In my said prior construction the bearing was held on the under side of the key by means of underlying projections having slots or openings somewhat similar to those of bayonet-joints, to allow the insertion and withdrawal of said bearing to and from its seat in said key. It was quite frequently the case that the said bearing in turning on the convexity of the brass was allowed to drop from the said bearing or work loose therefrom, the holding projection of said bearing passing through the slot formed in the key. Thus in transportation of the article the bearing frequently became loose from the key and became lost and in operation sometimes became disarranged and caused considerable friction in operation of the journal.

By my present construction I arrange the bearing *e* and the key *d* in permanent relation, and to this end I provide the bearing *e* with a shouldered pivotal projection *f* on the upper side at the center in line with the center of the convexity, as indicated in Fig. 2. This projection is arranged in a central perforation in the key. The said key at said perforation is countersunk or recessed, forming a shoulder on which is placed a washer *g*, and the projection *f* is likewise shouldered to receive said washer. Said projection and the bearing are bored out centrally, forming an air and oil passage therethrough which corresponds with the air-passage in the brass, so that the oil thrown up from the journal through said passage in the brass may work through to the top of the part *d*, and from thence into the joints between the parts *a* *d* and *d* *e* by capillary attraction or otherwise. The boring also enables me to turn the metal at the extremity of the projection downward over the washer easily to rivet the parts together. The pivotal projection *f* serves also to hold the parts more perfectly in central relation one with the other, so that the load is distributed more evenly on the axle. The

projection *f* allows of the pivotal movement of the bearing-piece, whereby the latter may turn and accommodate itself to the brass and key and prevent or reduce the binding of parts and torsional strain on the axle.

I find in practical operation that a collar or flange at the extremity of the axle or journal is a source of annoyance in that it quickly wears into the journal-bearing, reducing the bearing-surface of the brass, and tends to induce a heating of the journal.

In my present construction I dispense with the said flange or collar and thus avoid the objection above noted, and at the same time reduce, materially, the expense of manufacture. To lessen the reduction of the bearing-surface by wear on the opposite edges of the brass, I have also provided between the inner edge of the said brass and the shoulder of the journal a loose collar *m*, which is considerably wider than the shoulder and presents a broader surface to the brass than is presented by said shoulder, thus materially increasing the durability.

The loose collar *m* extends down into contact with the oil or waste within the box and thus is more thoroughly and easily lubricated than the ordinary shoulder. The collar also closes the box more thoroughly against the entrance of dust at the opening for the journal.

Having thus described the invention, what I claim as new is—

1. The improved axle box or bearing, in which is combined with the box and brass *c*, having the convexity, a key *d*, and an intermediate concave bearing having a pivot extending up into the key, substantially as set forth.

2. The improved axle box or bearing in which are combined the box, brass, intermediate bearing having a pivotal rivet and washer *g*, all arranged and operating, substantially as set forth.

3. In combination with the car-axle having the shoulder *b'*, a journal-box, a brass arranged in said box and seated on said journal and carrying the said box and its load, and a loose collar *m*, also arranged in said box and lying between said brass and the shoulder of the journal, the said collar projecting from the journal beyond the shoulder thereof, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of February, 1896.

JACKSON R. BAKER.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.