

W. C. BAKER.

Journal-Bearings for Car-Axles.

No. 149,284.

Patented April 7, 1874.

Fig. 1.

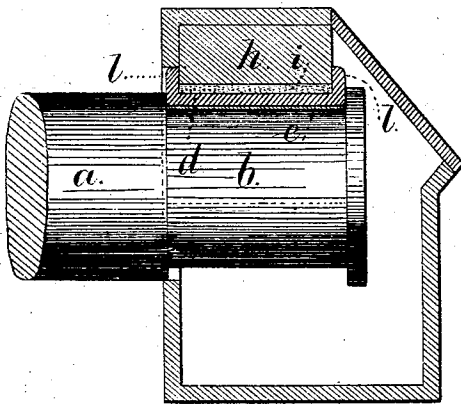
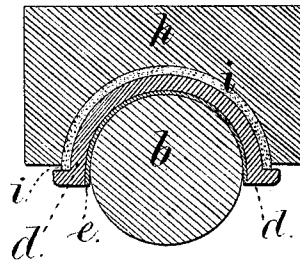


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN JOURNAL-BEARINGS FOR CAR-AXLES.

Specification forming part of Letters Patent No. **149,284**, dated April 7, 1874; application filed January 13, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM C. BAKER, of the city and State of New York, have invented an Improvement in Journal-Bearings for Car-Axles, &c., of which the following is a specification:

Bearings for car and other axles have been made of babbitt-metal cast into a cavity in the box of the axle-box; but these are liable to fracture in consequence of the box being comparatively thin and recessed, and the babbitt-metal being separate from the bearing-block. In other cases lead and soft metal have been employed, the object being to allow the journal to embed itself in the soft metal under the pressure to which it is subjected. In some instances the boxes have been bent with a hammer when they did not properly rest upon the journals; but in all cases the inequality of pressure at different ends of the box, in consequence of inaccuracies in the axle-box, have caused one end to wear more rapidly than the other.

My invention is made with reference to obviating the difficulties before mentioned and causing the box to be self-accommodating to the surface of the journal. I make use of a metal box, having a lining of babbitt-metal or similar alloy soldered or otherwise united perfectly with the inner surface of the bearing-block, and this brass box is sufficiently thin to yield easily and bend to the curvature of the axle-journal; and, in order to secure a uniform and perfect pressure upon all parts of the box, I make use of a bearing-block, of iron or other suitable metal, with a sheet of india-rubber, lead, or other yielding material between the box and bearing-block, so that such material shall spread in consequence of its plasticity, and bear equally throughout upon the journal. The babbitt-metal surface to the brass box cannot become detached or broken, and, at the same time, it forms one of the most perfect wearing materials; and any inequality of bearing is rapidly removed by the bending

of the bearing-box under the weight and pressure to which it is subjected.

In the drawing, Figure 1 is a longitudinal, and Fig. 2 is a cross, section of the journal-box, axle, and bearing-block.

The axle or shaft *a* and journal *b* are of any desired character, my improved bearing or box being available with shafts and journals generally, but primarily invented for car-axle boxes. The brass or composition box *d* is lined with babbitt-metal or similar alloy at *e*, soldered or otherwise united throughout, surface to surface, so that the babbitt-metal cannot become loose or break; and the metal box *d* is of nearly uniform thickness, and sufficiently thin and light to allow of the box bending, if necessary, to conform to the curvature of the journal. The iron or other strong bearing-block *h* is adapted to fit into the hanger-housing or oil-box of car or truck; and it is concave upon its under surface, and adapted to receive the journal-box *d*, with an intervening sheet of india-rubber or other yielding material at *i*. This material conforms to the surfaces between which it is introduced in consequence of its yielding character, and an even bearing is produced of the one part on the other. The end flanges *l l* receive the lateral thrust and wear; and the babbitt-metal, extending to the ends, also serves to make the boxes durable.

I claim as my invention—

The brass box *d*, with the lining of babbitt-metal permanently united to its inner surface, and made of nearly uniform thickness, so as to conform to the curvature of the journal, by bending, if necessary, in combination with the rigid bearing-block *h* and intervening yielding material *i*, substantially as and for the purposes set forth.

Signed by me this 10th day of January, A. D. 1874.

Witnesses:

W. C. BAKER.

GEO. T. PINCKNEY,  
CHAS. H. SMITH.