No. 841,552. PATENTED JAN. 15, 1907.

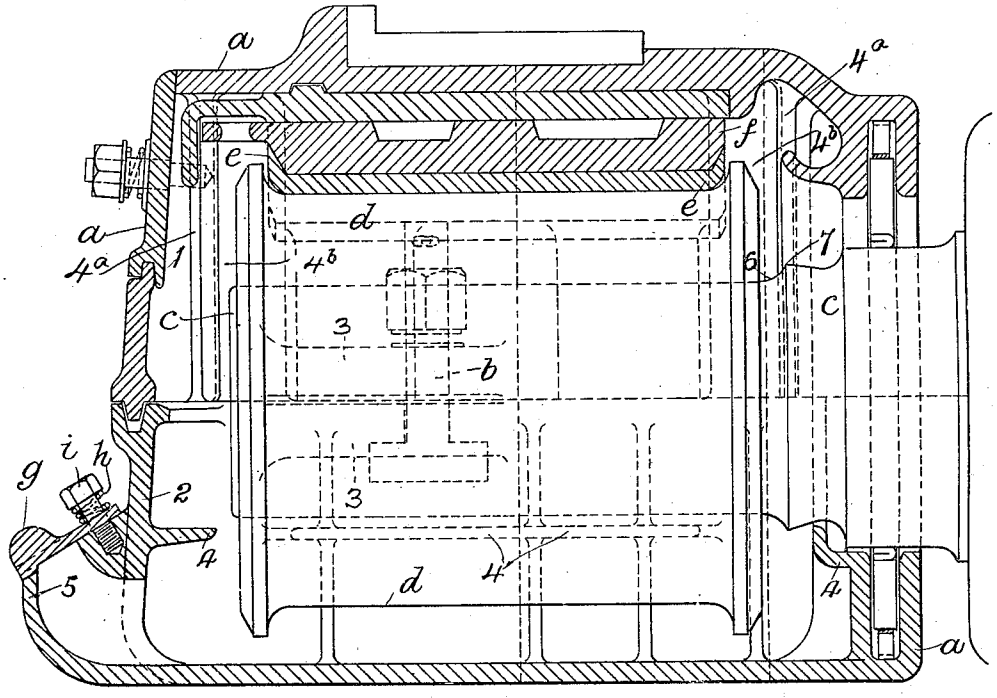
H. E. LORD.

AXLE BOX.

APPLICATION FILED AUG. 31, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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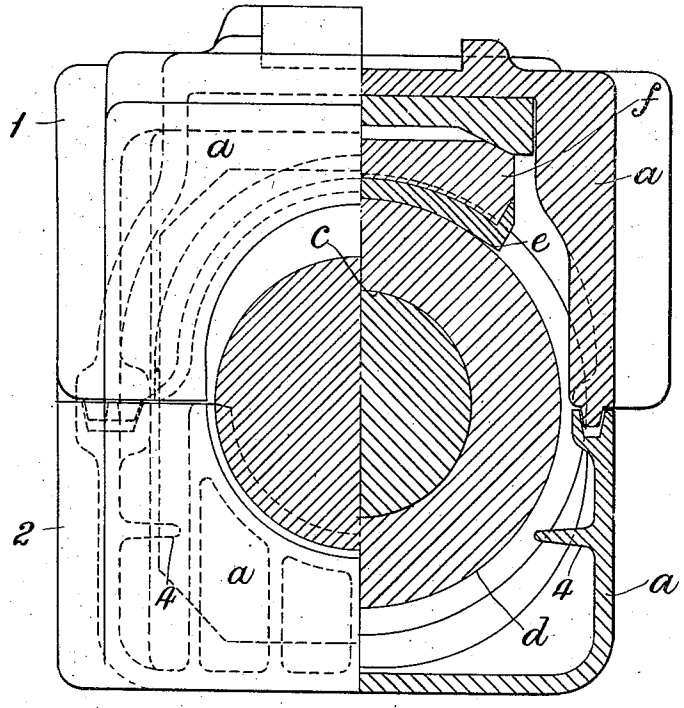
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AXLE BOX.

APPLICATION FILED AUG. 31, 1905.

2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HAROLD EDWARD LORD, OF DUKINFIELD, ENGLAND.

AXLE-BOX.

No. 841,552. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed August 31, 1905. Serial No. 276,585.

To all whom it may concern:

Be it known that I, HAROLD EDWARD LORD, draftsman, a subject of the King of Great Britain, residing at Brookfield Villa, 325 Birch Lane, Dukinfield, in the county of Chester, England, have invented new and useful Improvements in or Relating to Axle-Boxes, of which the following is a specification.

This invention has reference to improvements relating to the axles and axle-boxes of railway and tramway vehicles and the like. The object of the invention is to enable the axle journals and bearings to be lubricated by means of oil-baths in the axle-boxes from which the oil is lifted to the bearings by the journals which run in the oil. Each end portion of the axle is provided with a collar, which may be fitted and fixed upon the axle by hydraulic pressure, shrinking, or in other convenient and appropriate manner. A flange is formed upon each end of its collar adapted to bear against the end of the top brass or bearing-block.

For the purpose of lubricating from an oil-level which is lower than the hole in the back of the axle-box the external diameter of the collar is greater than that of the body of the main axle in front of the wheel-boss.

Figure 1 of the accompanying drawings shows one construction of axle and axle-box embodying my improvements partly in central longitudinal vertical section and partly in elevation. Fig. 2 is a transverse vertical section thereof.

The improved axle-box illustrated is suitable for a railway-carriage or railway-wagon or the like.

The axle-box under notice is formed with inwardly-extending flanges and comprises an upper part 1 and a lower part 2, fitted and secured together by means of bolts *b*, passing through lugs 3 on the two parts. The lower part 2 is formed with an internal flange 4 to prevent the oil which is supplied for lubricating purposes from being splashed out of the box.

The flanged collar *d*, forming a journal, is secured on the axle *c* by hydraulic pressure, shrinkage, or other suitable method, the sleeve and its flanges fitting against the metal or lining *e* of the top bearing *f*.

The lower portion 2 of the axle-box forms an oil-reservoir into which oil is fed through an inlet-passage 5, cast in the front portion of the box. The mouth of the inlet-passage 5 is covered by a cap *g*, held in position by a spring *h* and screw, and to prevent the reservoir from being overfed with oil and the oil escaping at the back of the axle-box the lower edge of such mouth is lower than the lower edge of the opening in the back of the axle-box through which the axle *c* passes.

As the axle *c* rotates the collar *d*, revolving with it, takes up oil from the reservoir, so that the top bearing is thoroughly lubricated.

The flanges of the collar are coned on their outer faces, so as to spread oil onto the ends of the bearing.

The upper portion of the axle-box is formed with inwardly-extending flanges 4^a, arranged to constitute channels 4^b, adapted to receive the superfluous oil lifted by the journal and thrown tangentially therefrom by centrifugal force, such channels preventing the oil spraying toward the ends of the box and guiding it back into the oil-well.

A groove 6 is preferably formed between the inner flange of the collar *d* and the shoulder 7 of the axle, so as to prevent oil working onto the axle in front of the wheel-boss.

What I claim is—

1. The combination with an axle-box having an oil-well of an axle having an improved journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange adapted to feed oil onto the ends of the bearing of said journal, the lower portions of both said flanges and said journal dipping into said oil-well, substantially as set forth.

2. The combination with an axle-box having an oil-well of an axle having an improved journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange that is coned on its outer face and adapted to spray the oil against the ends of the bearing-block of said journal, the oil rising up the cone through centrifugal force, the lower portions of both said flanges and said journal dipping into said oil-well, substantially as set forth.

3. The combination with an axle-box having an oil-well and inwardly-extending flanges, of an axle having a journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange the lower portions of both said flanges and said journal dipping into said oil-well, the in-

wardly-extending flanges of said axle-box being arranged to form channels adapted to receive the superfluous oil lifted by said journal and thrown tangentially from the journal-flanges by centrifugal force and adapted to prevent the oil spraying toward the ends of the axle-box and guide it back to the oil-well, substantially as set forth.

4. The combination with an axle-box having an oil-well and inwardly-extending flanges adapted to control the splashing of oil therein of an axle having a journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange that is coned on its outer face, the lower portions of both said flanges and said journal dipping into said oil-well, the inwardly-extending flanges of said axle-box being arranged to form channels adapted to receive the superfluous oil lifted by said journal and thrown tangentially from the journal-flanges by centrifugal force and adapted to prevent the oil spraying toward the ends of the axle-box and guide it back to the oil-well, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HAROLD EDWARD LORD.

Witnesses:
HENRY BERNOULLI BARLOW,
HERBERT ROWLAND ABBEY.