J. WHITAKER.

Car-Axle Lubricators.

No. 151,642. Patented June 2, 1874.

Fig. 1.

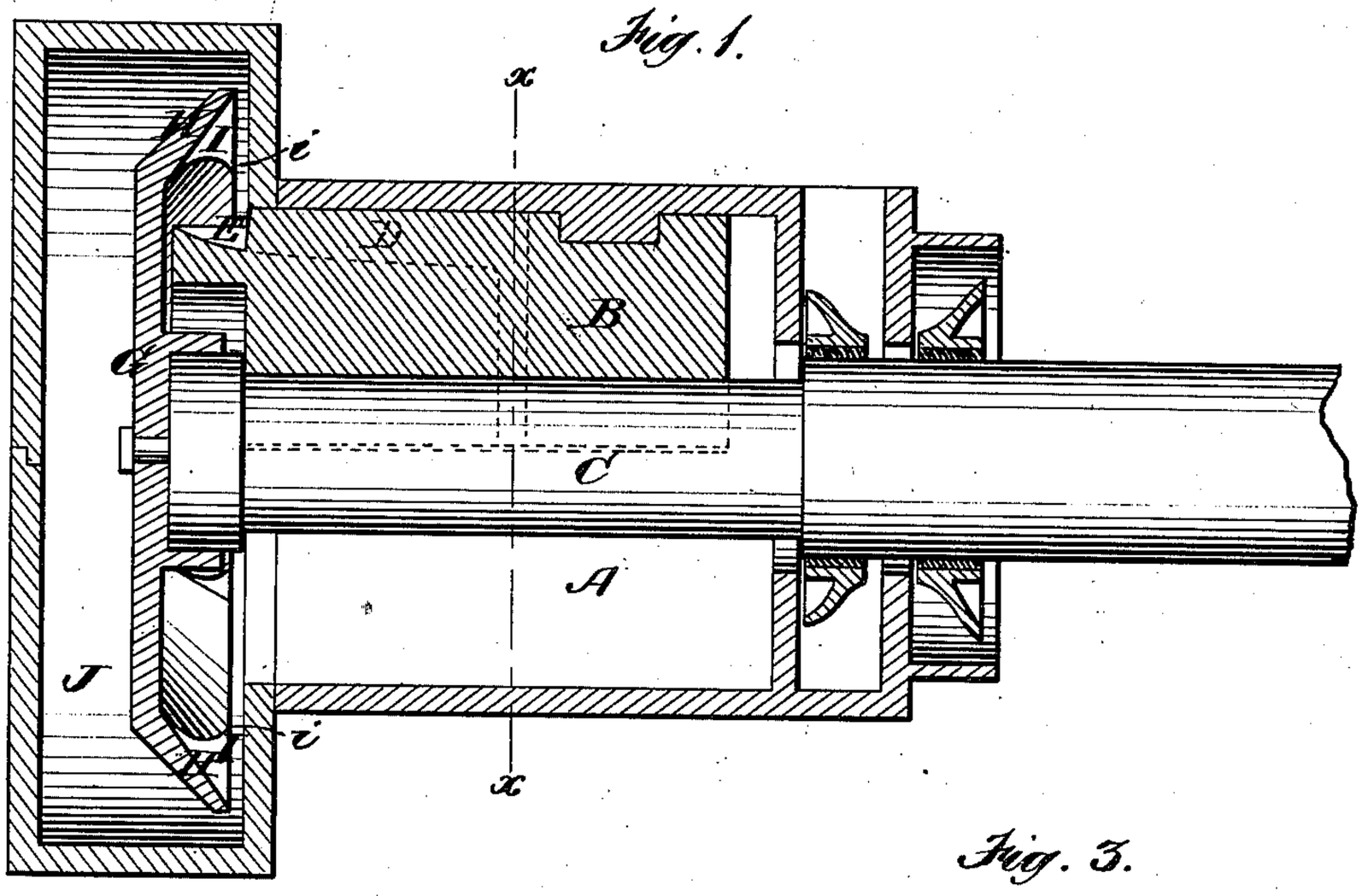


Fig. 2.

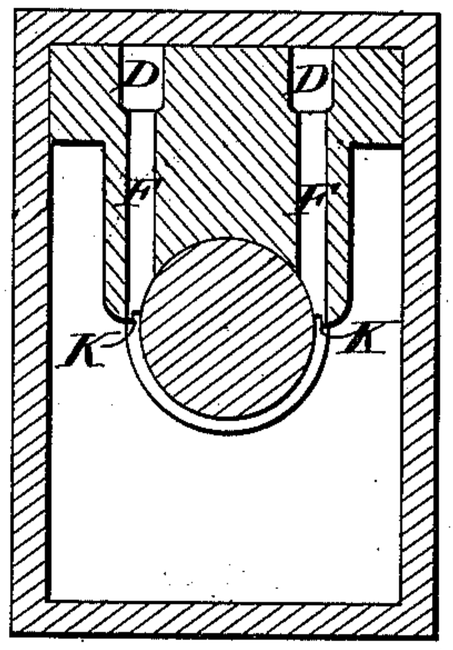


Fig. 3.

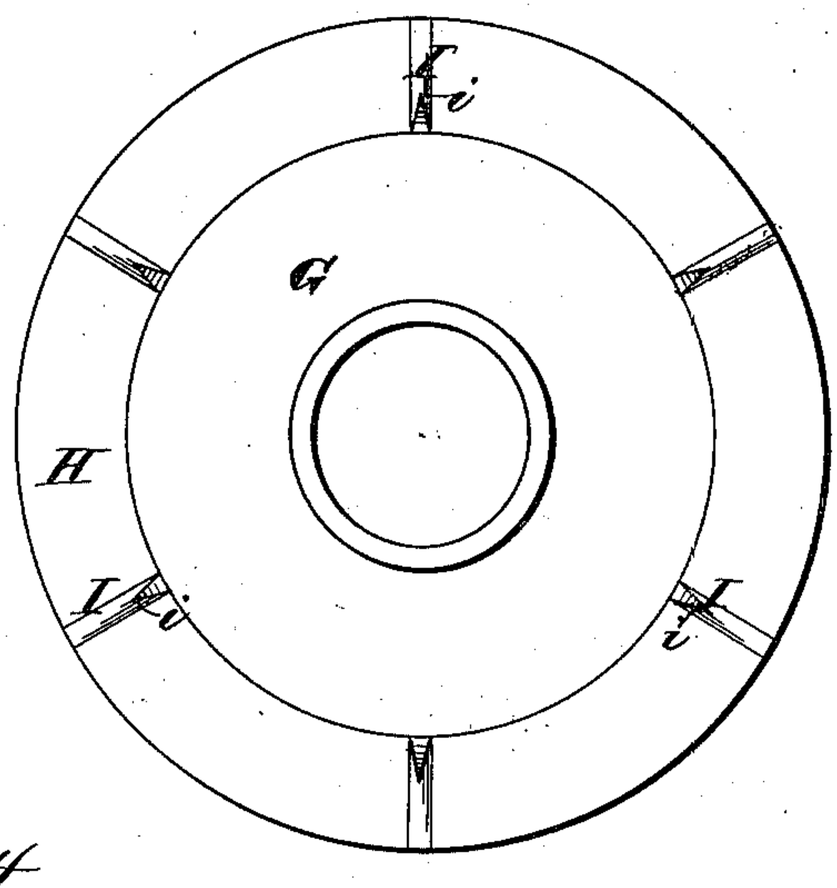
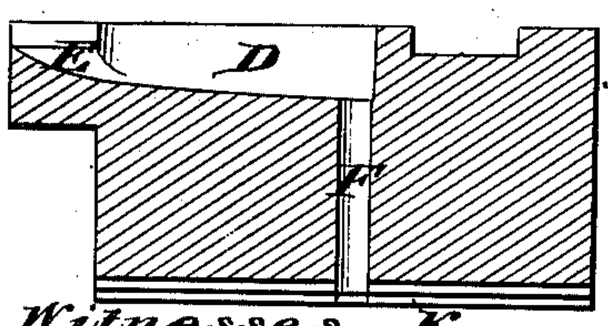


Fig. 4

Fig. 5.



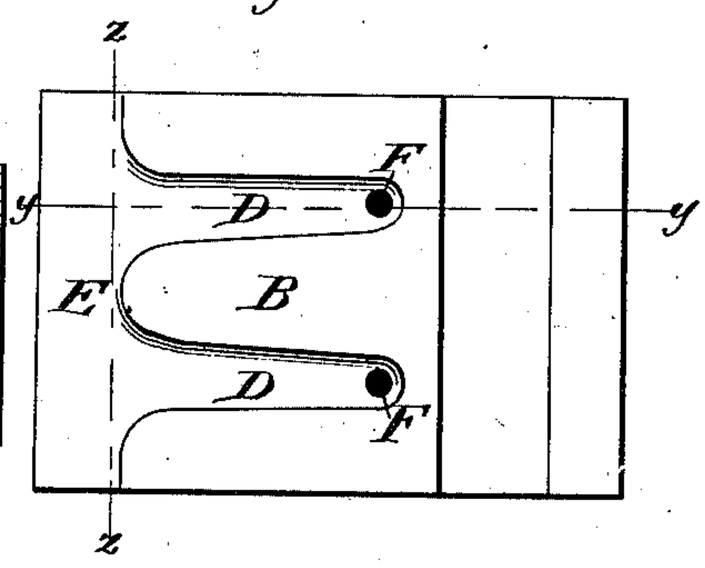
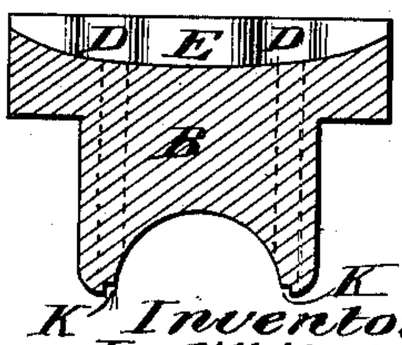


Fig. 6



Witnesses. K

C. F. Brown.

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UNITED STATES PATENT OFFICE.

JOSEPH WHITAKER, OF WOONSOCKET, RHODE ISLAND.

IMPROVEMENT IN CAR-AXLE LUBRICATORS.

Specification forming part of Letters Patent No. **151,642**, dated June 2, 1874; application filed May 20, 1874.

CASE A.

To all whom it may concern:

Be it known that I, JOSEPH WHITAKER, of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and Improved Car-Axle Lubricator; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal section of a car-axle box supplied with my invention. Fig. 2 is a section through line *x x*, Fig. 1. Fig. 3 is an elevation of the lubricating-disk, detached. Fig. 4 is a top-plan view of the bearing-block; and Fig. 5 are sections through lines *y y* and *z z*, Fig. 4.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention is an improvement on the patent of Isaac D. Mathews for improvements in journal-boxes, dated March 31, 1868, No. 76,092. In this patent the oil is supplied to the top of the journal through orifices in the center of the bearing.

The objections to this manner of conducting the oil to the top of the journal are as follows: The pressure of the journal against the bearing is greatest at the top, and is frequently sufficient to prevent the admission of a sufficient quantity of oil between the parts to properly lubricate them, and at all times it passes through the channels or orifices in the bearing in such small quantities as to prevent the desired result of spreading along the entire length of the journal; hence the lubrication is confined to a ring around the axle, whose width is equal to the diameter of the channel or orifice in the bearing through which the oil flows. Another objection to the location of the oil-channels in the center of the bearing-block, where the pressure is greatest, is that it decreases the bearing-surface at the point where it is most needed, and any enlargement of said channels with a view to obtaining a greater supply of oil would only increase this difficulty.

My invention has for its object to obviate these objections; and to this end it consists of a bearing-block provided with chambers or channels in its upper surface adapted to receive oil and convey it to the lower portion of the bearing on each side of the journal, instead of conveying it through the center of the bearing to a point directly over the center of the journal, as in the Mathews patent, the oil being preferably supplied to the bearing by a collar provided with oil-carriers projecting from its inner face, attached to the outer end of the journal and revolving with it, all of which I will now proceed to describe.

In the drawings, A represents a car-axle box; B, the bearing-block, and C the axle. The block B is provided with longitudinal channels or chambers D D in its upper side, said channels opening into a depression, E, in the outer end of the block, and being of gradually-increasing depth from their outer to their inner ends, as shown in Fig. 5. At the inner ends of the channels or chambers D are vertical orifices F F, extending through the bearing to the sides of the journal, as shown in Fig. 2, the channels or chambers D and orifices F being equidistant from a vertical plane extending through the center of the journal. For supplying oil to the depression E and chambers or channels D, I preferably employ a disk or collar, G, attached to the outer end of the journal C, and revolving with the latter. The collar G is provided with a beveled flange, H, on the inner side of which are the pointed oil-raising projections I, the point *i* of each projection being its lowest portion when it reaches its extreme elevation in the rotation of the collar, as shown in Fig. 1. The collar G revolves in a suitable oil-chamber, J, its projections raising the oil and supplying it to the depression E of the bearing-block, the latter extending under the projections I, as shown in Fig. 1, so as to receive the oil that gravitates from the points *i*. The oil passes along the inclined channels or chambers D, and is supplied to the sides of the journal through the vertical orifices F. The bearing B is provided with longitudinal channels K K on its lower edge on each side of the journal, the channels intersecting the lower ends of the orifices F, as shown in Fig. 2.

It will be readily seen that by the means

described the oil is supplied to the sides of the journal when the pressure between the bearing-block and journal is not sufficient to prevent the oil from flowing freely; consequently the journal is amply lubricated, and the bearing-surface remains intact over the center of the journal. The longitudinal channels K conduct the oil from the orifices F along the sides of the journal, thereby insuring the proper lubrication of the entire bearing-surface.

I claim as my invention—

1. A bearing-block adapted to receive oil at the top, and having vertical passages to deliver oil at the lowest portions thereof, substantially as and for the purposes set forth.

2. A bearing-block having vertical passages to deliver oil at its lowest portions, in combination with a rotating disk having a beveled flange and oil-raising projections, substantially as and for the purpose set forth.

JOSEPH WHITAKER.

Witnesses:

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CHARLES F. BROWN.