

No. 823,693.

PATENTED JUNE 19, 1906.

D. J. LLEWELLYN.
JOURNAL BEARING.
APPLICATION FILED APR. 1, 1905.

Fig. 1.

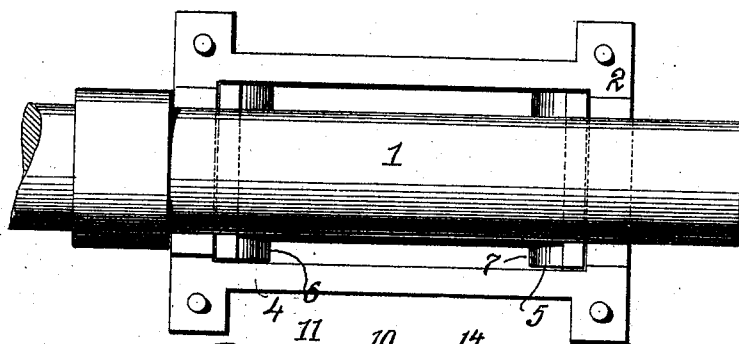


Fig. 4.

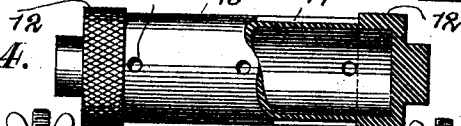


Fig. 2.

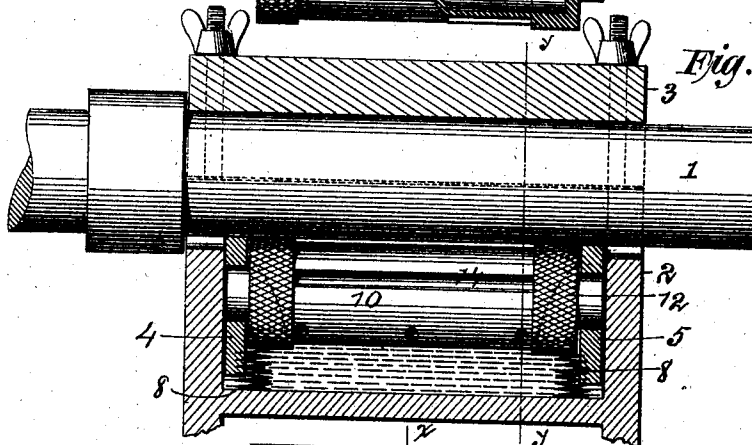
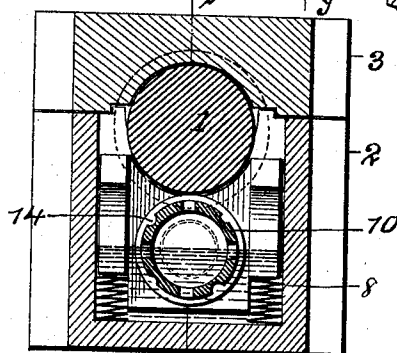


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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JOURNAL-BEARING.

No. 823,693.

Specification of Letters Patent.

Patented June 19, 1906.

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To all whom it may concern:

Be it known that I, DAVID J. LLEWELLYN, of Wilmerding, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Journal-Bearings, of which the following is a specification.

The invention relates to journal-bearings; and it consists in the construction more particularly recited in the claims, whereby liquid lubricant is projected centrifugally from the periphery of a rotating roller situated at a distance from the journal to be lubricated and whereby said journal is supported in bearing-recesses in loose plates disposed within the journal-box, in which plates the said lubricant-supplying roller is itself journaled.

In the accompanying drawings, Figure 1 is a plan view of my improved self-lubricating roller-bearing. Fig. 2 is a longitudinal section on the line *x x* of Fig. 3. Fig. 3 is a transverse section on the line *y y* of Fig. 2, and Fig. 4 shows the roller separately.

Similar numbers of reference indicate like parts.

1 is the journal.

2 is the journal-box, provided with the cover 3, secured in place by threaded bolts and nuts, as shown. The journal-box and cover are recessed at their ends to receive the journal. Within the box are two removable supporting-plates 4 5, also recessed on their upper edges to receive the journal. Each plate is provided with side projections 6 7, beneath which are helical springs 8, which rest on the bottom of the box 2. Journaled in the plates is the roller 10. Said roller is preferably hollow and is provided with openings, as 11, in its wall and with flanges at its ends milled or roughened, as shown at 12. The effect of the springs 8 is to force the plates 4 5 upward, and thus to press the milled portions 12 of the roller against the journal.

In operation oil is placed in the box 2, so that the roller will be partly submerged and will enter the roller through the openings 11. The rotation of the roller causes the oil therein to be thrown outwardly, and hence to be projected through the unsubmerged openings and against the journal-surface, which is thus kept constantly lubricated at the bear-

ings. The roller-journals in the plates 4 5 are already partly submerged in the oil. By this device I convert a large portion of the normal sliding frictional resistance at the journal-bearings into rolling friction between journal and roller and also insure a more perfect lubrication of said bearings and again diminish friction in that way. The movable roller-supports and springs allow of the device being readily taken apart for cleaning or replacement of portions.

While I prefer to use a hollow roller with openings, as described, I may use a solid roller with recesses formed on its surface, such as the elongated recesses 14. These will act as buckets to pick up the oil and throw it off by centrifugal force, as before, or, as here shown, I may employ a roller that is hollow and also provided with such recesses 14.

I claim—

1. The combination of a journal, a journal-box and within said box a hollow roller having liquid-escape apertures in its wall, circumferential flanges on the ends of said roller and means for holding said flanges in contact with said journal.

2. The combination of a journal, a journal-box, loose plates in said box provided with bearing-recesses, and a roller rotatably supported in said plates, having circumferential flanges and constructed to project liquid lubricant centrifugally from its periphery to said journal: the said journal having its bearings both on said roller-flanges and in said bearing-plate recesses.

3. The combination of a journal, a journal-box, loose plates in said box disposed below said journal and provided with bearing-recesses for said journal in their upper edges, springs supporting said plates, a roller rotatably supported in said plates constructed to project liquid lubricant centrifugally from its periphery to said journal, and circumferential end flanges on said roller in contact with said journal.

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

DAVID J. LLEWELLYN.

Witnesses:

WILLIAM KIEFER,
JOHN C. SLOAN.