No. 890,735. PATENTED JUNE 16, 1908.

C. J. VAN DOREN.

LUBRICATING DEVICE.

APPLICATION FILED SEPT. 29, 1906.

Fig. 1.

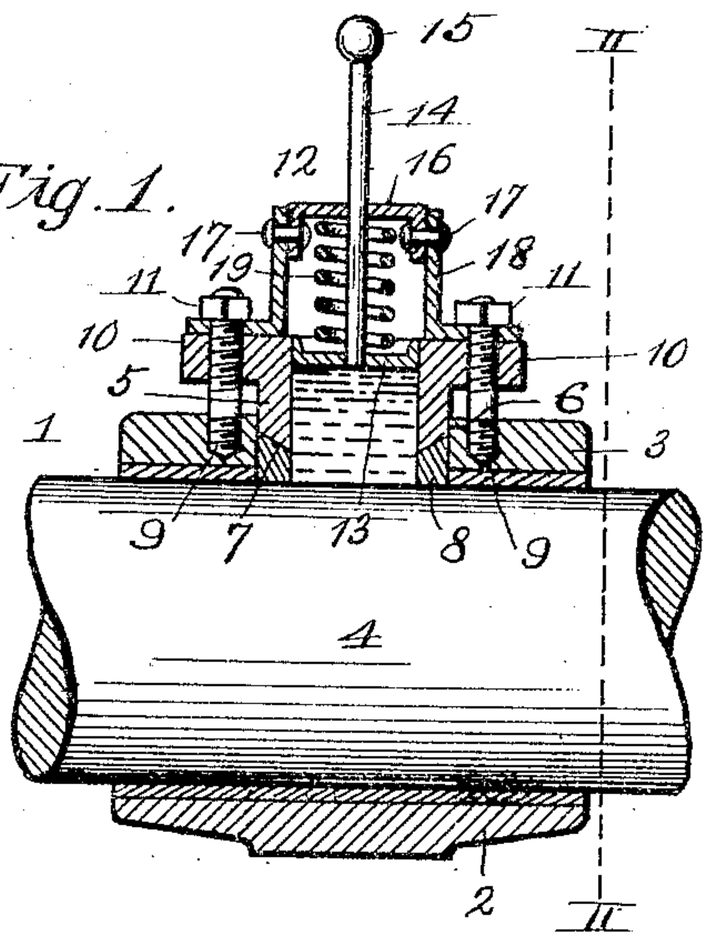


Fig. 2.

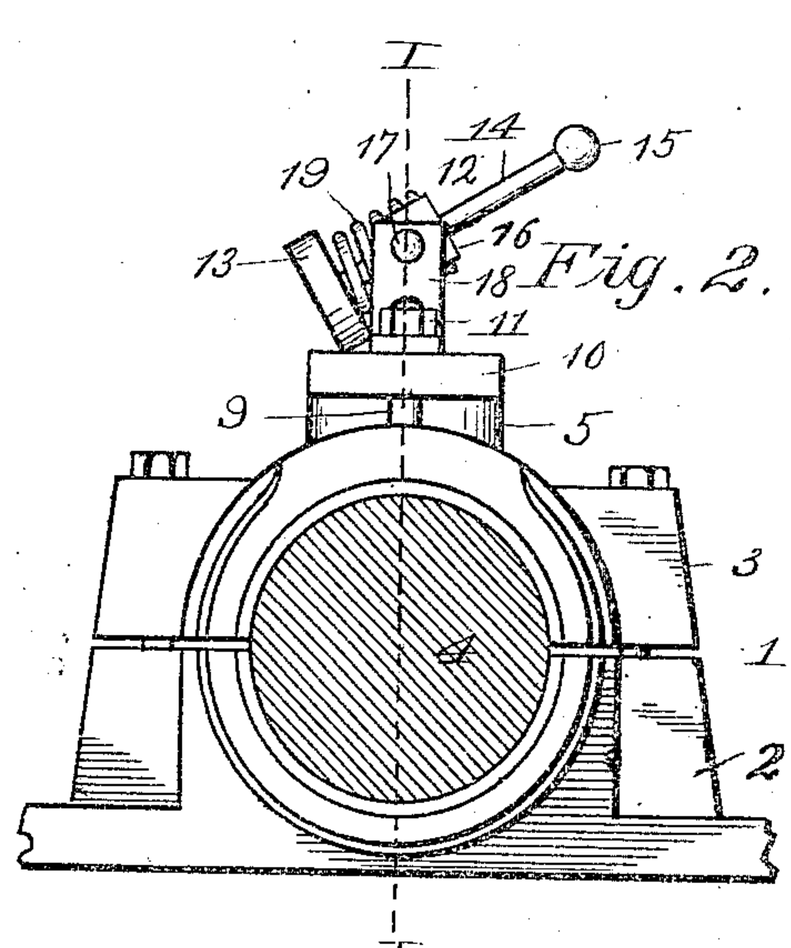


Fig. 4.

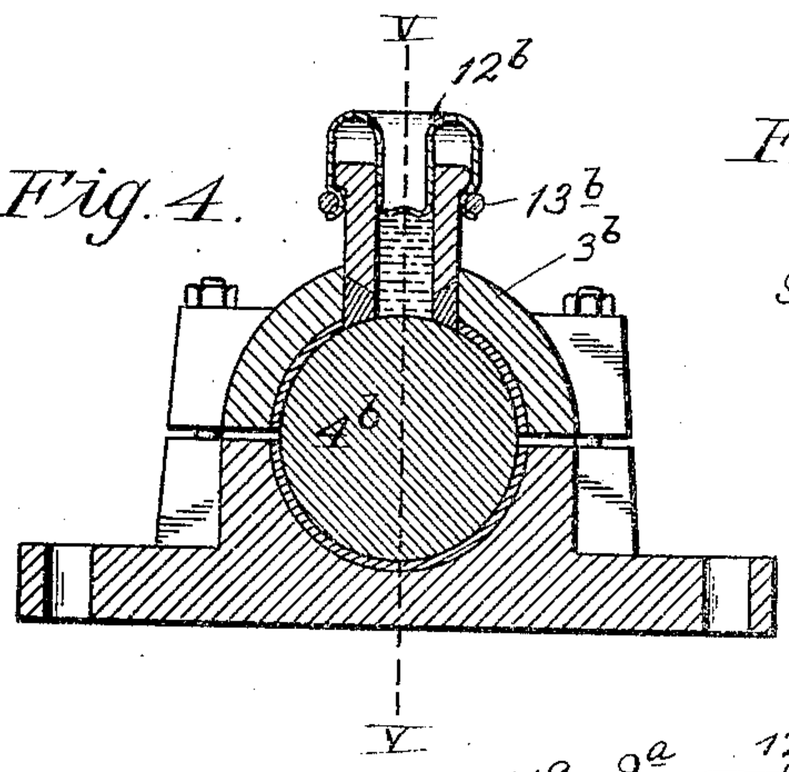


Fig. 5.

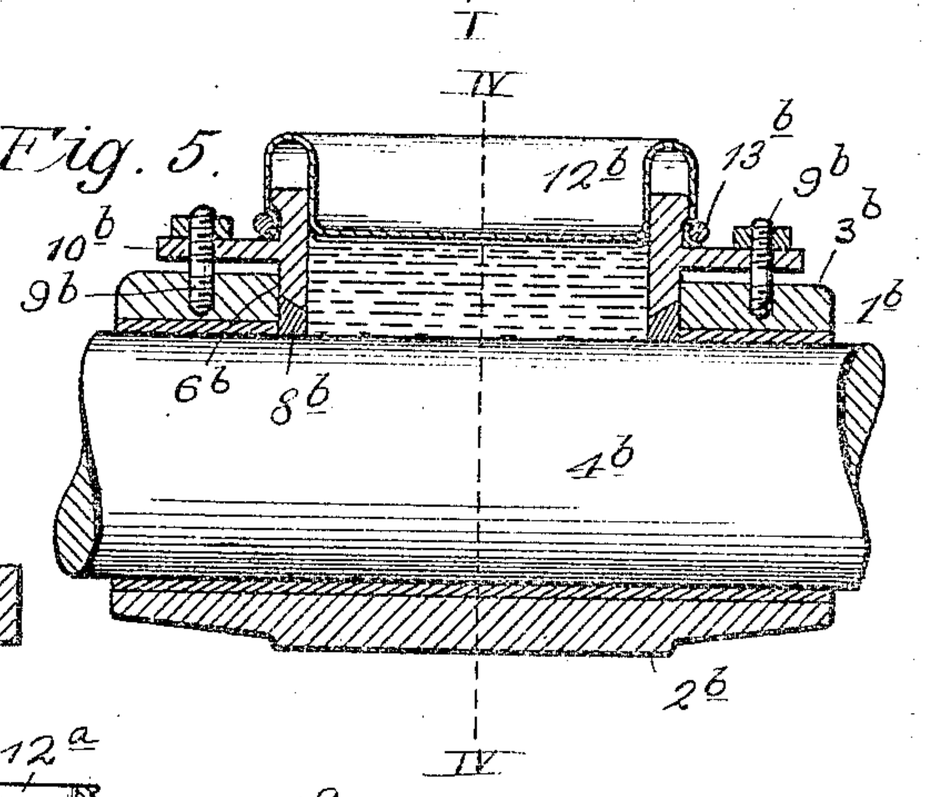
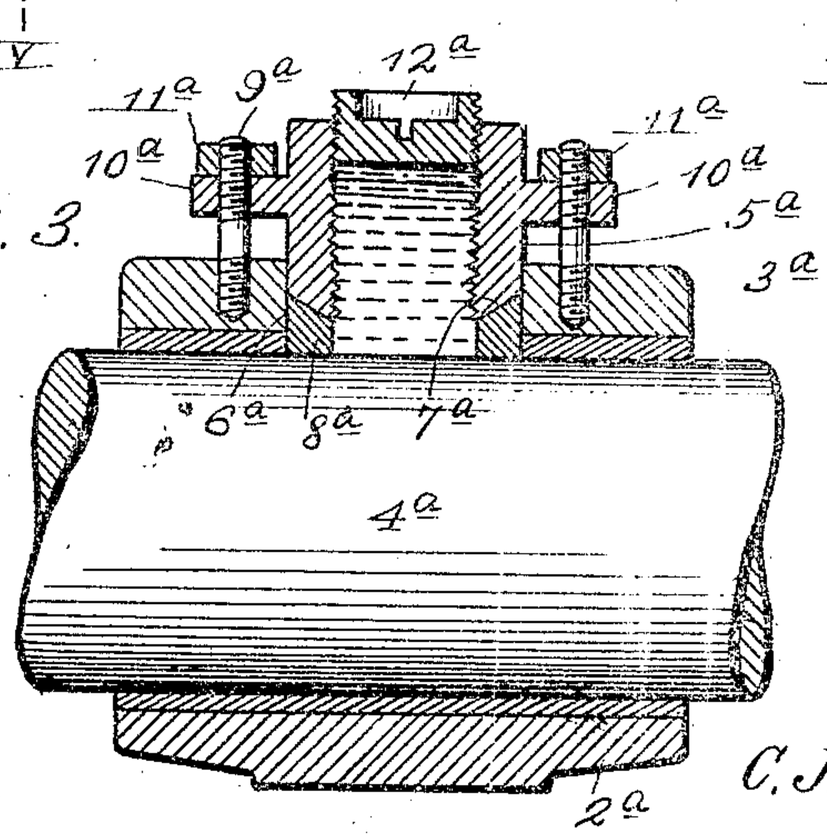


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHESTER J. VAN DOREN, OF YANKTON, SOUTH DAKOTA.

LUBRICATING DEVICE.

No. 890,735. Specification of Letters Patent. Patented June 16, 1908.

Application filed September 29, 1906. Serial No. 336,702.

To all whom it may concern:

Be it known that I, CHESTER J. VAN DOREN, a citizen of the United States, residing at Yankton, in the county of Yankton and State of South Dakota, have invented certain new and useful Improvements in Lubricating Devices, of which the following is a specification.

My invention relates to improvements in lubricating devices; and one of my objects is to provide means for reliably supplying oil to a journal and its bearing irrespective of the position in which said journal is placed.

A further object is to provide means for regulating the flow of oil upon the journal, so that the latter may be coated with a film of desired thickness.

Another object is to have the several parts interchangeable, so that they may be replaced when too badly worn for further use.

Referring now to the accompanying drawing; Figure 1 represents a vertical section of a journal box, provided with my improved device, on line I—I, Fig. 2. Fig. 2 is a vertical section of the same taken on line II—II, Fig. 1. Figs. 3, 4, and 5 show modified forms of the invention, Fig. 4 being taken on line IV—IV of Fig. 5, and Fig. 5 being taken on line V—V of Fig. 4.

1 designates a journal box, consisting of a pillow-block 2 and a cap 3. 4 designates a journal mounted in said box.

5 designates a reservoir communicating with an opening 6, centrally arranged within cap 3, said reservoir being provided with a beveled lower end 7, held in contact with the corresponding upper surface of packing 8, by stud-bolts 9, extending through ears 10 on the upper portion of the reservoir and engaging cap 3. Said bolts are provided at their upper terminals with taps 11, whereby the reservoir is drawn tightly into contact with the packing, and the latter is drawn into contact with the journal 4, so as to render the joint between the packing and the reservoir proof against the leakage of oil therethrough.

The oil within the reservoir is forced outwardly upon the journal by a plunger 12, consisting of a piston-head 13, and a stem 14, provided at its outer terminal with a handle 15 whereby the plunger may be manipulated. Stem 14 extends loosely through a yoke 16, pivotally secured by rivets 17 to a pair of brackets 18, removably secured to the outer end of the reservoir by bolts 9 and taps 11. The plunger is pressed inwardly upon the oil by an expansion spring 19, interposed between the piston-head 13 and the yoke 16. When it is desired to refill the reservoir, the plunger is drawn outwardly against the spring 19, and tilted to the position shown in Fig. 2, so that access may be readily had to said reservoir.

Access may be had to the packing for the purpose of renewing the same, by unscrewing taps 11 and removing the reservoir.

In the modified form Fig. 3, 1^a designates a journal box, consisting of a pillow block 2^a and a cap 3^a. 4^a designates a journal mounted in said box. 5^a designates a reservoir, having one end arranged in an opening 6^a in cap 3^a, said end being beveled as indicated at 7^a. 8^a designates resilient packing interposed between journal 4^a and the beveled end 7^a. 9^a designates stud-bolts passing through the ears 10^a on the reservoir and engaging cap 3^a. 11^a designates taps which engage the upper threaded ends of said bolts, for the purpose of holding the reservoir and the packing in position. 12^a designates a plunger arranged in the form of a screw-plug, engaging the internal threads 20 of the reservoir, in which it is adjustably arranged so that it may be screwed downwardly and force the oil in the reservoir upon the journal. This form, like the one shown in Figs. 1 and 2, forces the oil upon the journal, the difference being that the plunger 12, automatically adjusts itself, with respect to the quantity of oil within the reservoir, whereas the screw-plug 12^a must be manually adjusted.

The advantages obtained in providing a force feed lubricant, are: first, that the journal and its bearing will be constantly supplied with oil until the reservoir is emptied. Second, the device will operate equally as well when the journal box is in an inverted position, or fastened to the side of a post, as when in the position shown.

Referring now to the modified form shown in Figs. 4 and 5, which illustrate a gravity-feed device, 1^b designates the journal box consisting of a pillow block 2^b and a cap 3^b. 4^b designates a journal mounted in said box. 5^b designates a reservoir communicating with an opening 6^b, in cap 3^b. 8^b designates packing interposed between journal 4^b and the edge of the reservoir. 9^b designates stud-bolts extending through ears 10^b on the reservoir, and entering cap 3^b. 12^b designates a cover for closing the upper portion of the reservoir, for the purpose of excluding

dust, etc., from the oil, said cover being reliably held in position by a wire 13b.

By interposing packing between the journal and the reservoir, and providing the stud-bolts and the caps for regulating the pressure of the reservoir upon said packing, it is obvious that the flow of oil upon the journal may be graduated as desired, as said flow will be diminished in proportion to the pressure of the packing upon the journal. Hence, the latter may be coated with either a thick or a thin film of oil, as conditions may necessitate.

Having thus described my invention, what I claim is:

1. The combination with a box, and a journal mounted therein, of a reservoir adjustably secured to said box and communicating with the journal, and packing interposed between said journal and the edge of the reservoir.

2. The combination of a box, and a journal mounted therein, of a reservoir secured to said box and communicating with the journal, packing interposed between the edge of said reservoir and shaft, and means for forcing the reservoir downwardly upon the packing.

3. The combination with a box, and a journal mounted therein, of a reservoir adjustably secured to said box and communicating with the journal, packing interposed between the edge of the reservoir and the journal, and means for forcing the lubricant out upon the journal.

4. The combination with a box, and a journal mounted therein, of a reservoir communicating with said journal, resilient means interposed between the edge of the reservoir and the journal, and means for regulating the pressure of said means upon the journal.

5. The combination with a box, and a journal mounted therein, of a reservoir adjustably and removably secured to the box and communicating with the journal, and resilient means interposed between the edge of the reservoir and the journal.

6. The combination with a box, and a journal mounted therein, of a reservoir adjustably secured to said box and communicating with the journal, and a plunger in said reservoir.

7. The combination with a box, and a journal mounted therein, of a reservoir communicating with said journal, brackets secured to the outer end of the reservoir, a yoke pivotally secured to said brackets, a plunger extending through said yoke and removably arranged in the reservoir, and means normally pressing the plunger into the reservoir.

In testimony whereof I affix my signature, in the presence of two witnesses.

CHESTER J. VAN DOREN.

Witnesses:

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LOUISE PECHACEK.