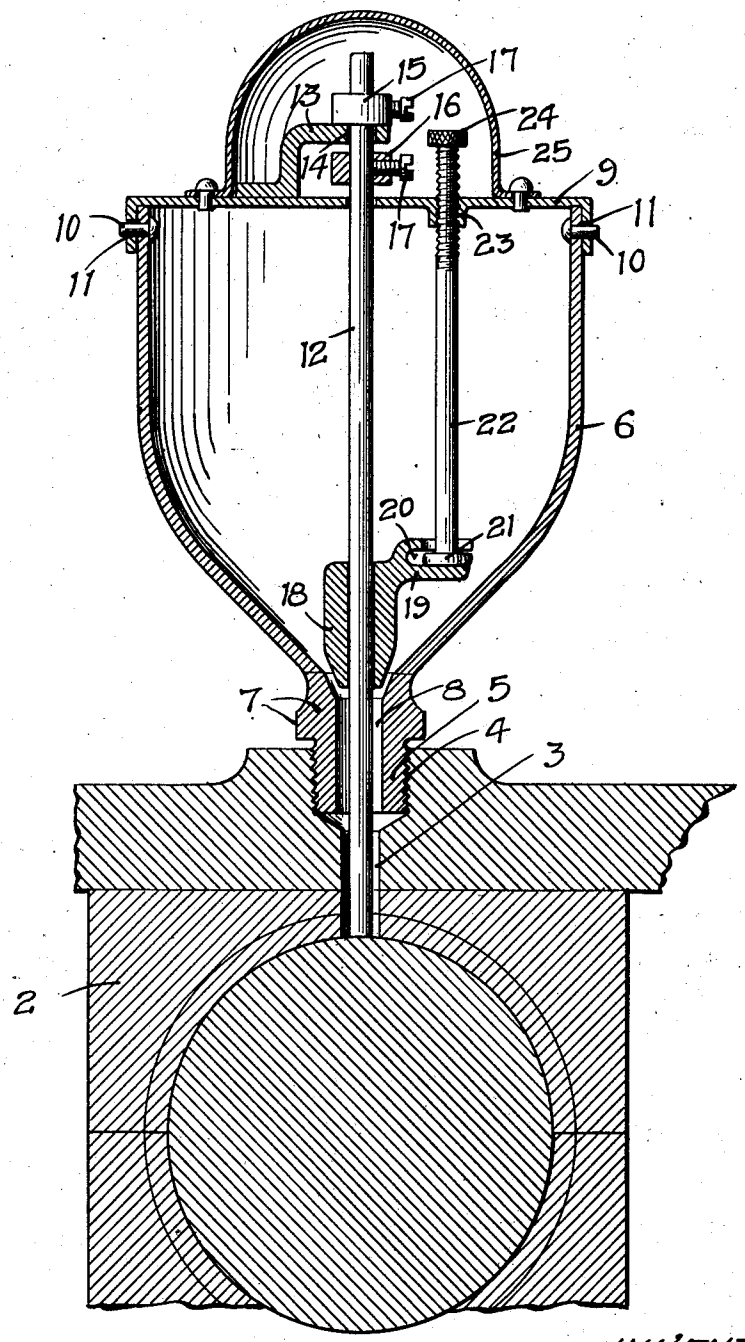
C. H. NEWHALL.

LUBRICATOR.

APPLICATION FILED SEPT. 27, 1910.

1,021,944. Patented Apr. 2, 1912.



WITNESSES

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LUBRICATOR.

1,021,944. Specification of Letters Patent. Patented Apr. 2, 1912.

Application filed September 27, 1910. Serial No. 584,052.

To all whom it may concern:

Be it known that I, CHARLES H. NEWHALL, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Lubricators, of which the following is a specification.

My invention relates to devices for lubricating bearings and the object of the invention is to provide means for positively and uniformly feeding the lubricant from the cup containing the same to the bearing.

A further object is to provide a lubricating device designed, particularly, for moving bearings, though capable of use wherever a device of the kind may be utilized.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, the figure is a vertical, sectional view through the bearing and a lubricator embodying my invention.

In the drawing, 2 represents a bearing to be lubricated having a lubricating passage 3 and an interiorly threaded socket 4 to receive the threaded plug 5 provided on the lower end of the cup 6. This cup may be made of any suitable material, such as cast or sheet metal, as preferred, the plug and the thickened portion thereof, 7, having surfaces to receive a wrench, being united to the cup, when a sheet metal construction is employed, by an electric or other suitable welding process. The plug has a passage 8 therethrough communicating with the passage 3 and with the interior of the cup. A cover 9 is mounted on the cup and held in place by suitable means, such as pins 10 and holes 11.

12 is a rod provided within the cup having its lower end extending down through the passages 3 and 8 and resting upon the shaft or other part to be lubricated and its upper end extending through the central opening in the cap 9. A bracket 13 is mounted on the cap and has an opening 14 to receive the rod, and collars 15 and 16 are mounted on the rod above and below the bracket and held in place by set screws 17 and adapted to be adjusted vertically on the rod to regulate its throw or movement. Obviously, the extent of this throw or movement can be easily controlled by the adjustment of these collars and without the necessity of removing the cap 9 from the cup. It is evident, also, that these collars can be adjusted so that the rod will be held rigid against movement in either direction. Within the cup and slidably mounted on the rod 12 is a valve 18 preferably cone shaped whose lower end is tapered and adapted to close the passage 8, shutting off the flow of the lubricating agent from the cup to the bearing. To raise or lower this valve, I prefer to provide an arm 19 thereon having a socket 20 to receive a head 21 provided on the lower end of an operating pin 22. The upper end of this pin is threaded and passes through the cover 9 and is engaged by lugs 23 formed in said cover by pressing or punching an opening therein. The pin is also provided with a finger grip 24 by means of which it may be easily revolved in the socket 20 to raise or lower the valve.

The importance of having the adjusting means for the feed controlling valve project outside the cup will be evident when the cup is mounted on a moving bearing where the cover could not be removed when the bearing was in motion. A cup of this kind has been found to possess great efficiency for use on the moving parts of engines where an ordinary feed cup will consume or waste a large amount of oil or grease and where it has been found that a simple adjustment for the feed controlling valve extending outside the cup will permit such a close adjustment of the valve that no oil or grease will be wasted and at the same time the bearing will be thoroughly lubricated. I regard, therefore, the means extending outside the cup for adjusting the feed controlling valve as an important feature of this invention.

To conceal the operating mechanism of the rod and valve, I prefer to provide an auxiliary cover 25, resting upon the cover 9 and secured thereto by a suitable means. The cup may be made in different sizes, according to the style of bearing or the place where the device is to be used.

I claim as my invention:—

1. A lubricating device comprising a cup having a cover and a discharge opening, a rod arranged within said cup having its ends projecting respectively through said cover and said discharge opening, collars mounted on said rod above said cover and capable of adjustment thereon, and means extending between said collars and coöp-

erating therewith to limit the longitudinal movement of said rod in both directions.

2. A lubricating device comprising a cup having a cover and a discharge opening, a rod arranged within said cup and projecting into said discharge opening and through said cover, a bracket having an opening through which said rod projects, and means mounted on said rod and capable of adjustment thereon to limit the throw or longitudinal movement of said rod in both directions.

3. A lubricating device comprising a cup having a cover and a discharge opening, a rod arranged within said cup and projecting into said discharge opening and through said cover, a bracket mounted on said cover and having an opening therein through which said rod projects, and stops mounted on said rod above and below said bracket to limit the longitudinal throw of said rod, one at least of said stops being adjustable.

4. A lubricating device comprising a cup having a cover and a feed opening, a rod therein adapted to rest on a journal and having normally a slight longitudinal movement with the revolution of the journal, means exterior to the cup for regulating the throw of the rod, a valve operating to close said feed opening, and means operable from the outside of the cup for opening or closing said valve.

5. A lubricating device comprising a cup having a cover and a discharge opening, a rod therein, means exterior to the cup for regulating the movement of the rod, a closing device mounted on said rod and movable thereon, and means connected with said closing device and operable from the outside of said cup and permitting the movement of said closing device to regulate the feed from said cup.

6. A lubricating device comprising a cup having a discharge opening and a cover, a rod within said cup projecting into said discharge opening, a closing device arranged to regulate the feed through said discharge opening, and an operating pin connected with said closing device independent of the rod and projecting outside said cup and permitting the adjustment of said closing device.

7. A lubricating device comprising a cup having a cover and a discharge opening, a rod arranged in said cup and projecting through said discharge opening, a valve slidably mounted on said rod for regulating the feed through said opening, and a pin attached to said valve independent of the rod and projecting outside said cup and capable of adjustment to move said valve back and forth on said rod to increase or decrease the size of the feed opening.

8. A lubricating device comprising a cup having a cover and a discharge opening, a rod therein projecting through said opening, a valve slidably mounted on said rod, a pin loosely attached to said valve independent of the rod and projecting through said cover and having a threaded connection therewith and a finger grip, the revolution of said pin raising or lowering said valve to increase or decrease the feed opening.

9. A lubricating device comprising a cup having a discharge opening and a cover, a rod within said cup projecting into said discharge opening, a valve arranged to move up and down on said rod to close or open said feed opening, a pin loosely connected with said valve and projecting through said cover and having a threaded connection with said cover, said pin having a finger grip above said cover and adapted, when revolved, to raies or lower said valve.

10. A lubricating device comprising a cup having a cover and a feed opening, a rod free to move lengthwise in said cup a limited distance and normally bearing upon the journal to be lubricated, means exterior to the cup for regulating the throw of the rod a valve arranged to open or close said feed opening, and means projecting through said cover for operating said valve.

In witness whereof, I have hereunto set my hand this 20″ day of September 1910.

CHARLES H. NEWHALL.

Witnesses:

GENEVIEVE E. SORENSEN,

C. H. REHFUSS.