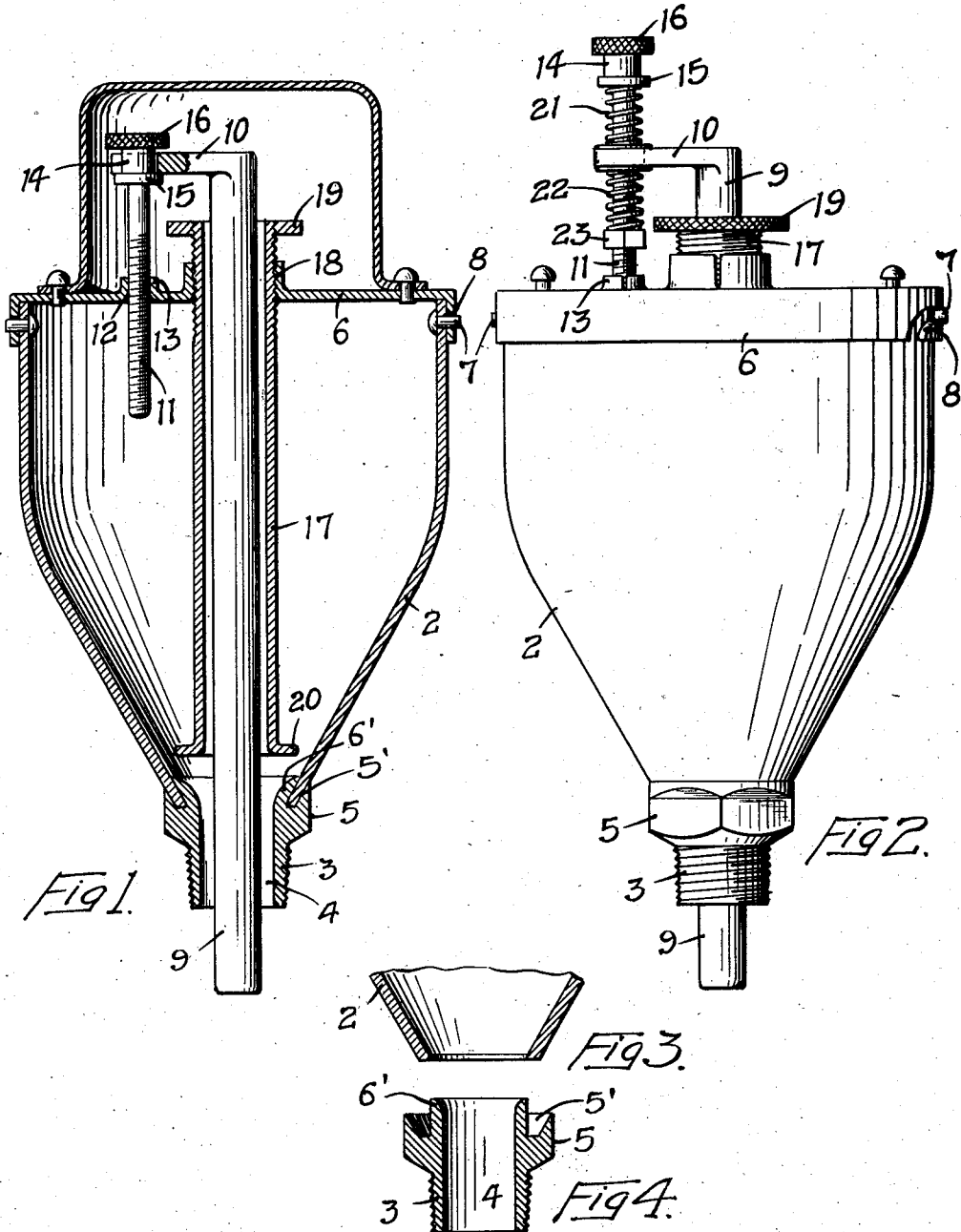


C. H. NEWHALL.
LUBRICATOR.
APPLICATION FILED SEPT. 27, 1910.

1,021,943.

Patented Apr. 2, 1912.



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CHARLES H. NEWHALL, OF MINNEAPOLIS, MINNESOTA.

LUBRICATOR.

1,021,943.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed September 27, 1910. Serial No. 584,051.

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 lubricating devices for bearings of various kinds and the object of the invention is to provide improved means whereby a constant feed of the lubricating agent may be maintained.

A further object is to provide a lubricator having means by which the flow therefrom can be shut off entirely or regulated to a nicety.

Further objects of the invention will appear from the following detailed description.

The invention consists 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, Figure 1 is a vertical, sectional view of a lubricating cup embodying my invention, Fig. 2 is a side elevation, showing a slight modification in the means for supporting the rod, Fig. 3 is a detail, sectional view of the lower portion of the cup, before it is united to the nipple, Fig. 4 is a detail, sectional view of the nipple before it is secured to the lower end of the cup.

In the drawing, 2 represents a cup of suitable material, such as cast or sheet metal, having an exteriorly threaded extension 3 at its lower end for convenience in mounting the cup on a bearing. This extension, as shown, is preferably formed integrally with the walls of the cup, by pressing, if preferred, or by some suitable process of welding, when the cup is made of sheet metal, or may be cast with the walls, if the cup is made of cast material. The extension has a discharge passage 4 through which the contents of the cup are fed upon the bearing. It has also a surface 5 for the application of a wrench thereto. The nipple has an annular depression or recess 5' formed in its upper end between the surface 5 and an upwardly projecting flange 6', said recess being adapted to receive the lower end of the cup 2 and constituting a seat therefor. In assembling the parts, the cup is thrust into the recess 5' and a suitable tool is then inserted

into the cup and the flange 6' expanded until the walls of the cup are clamped securely between the flange and the outer wall of the nipple, as shown in Fig. 1. This forms an inexpensive and very efficient means for securing the cup and the nipple together.

6 is a cover mounted on the cup and held in place by pins 7 and slots 8.

9 is a rod extending centrally in the cup, having its lower end projecting through the passage 4 and its upper end extending through a central opening in the cover. The upper end of the rod is preferably provided with a laterally extending arm 10. This rod, in the well-known way, serves to promote the feed of the lubricant from the cup and insure a continuous, uniform delivery thereof upon the bearing. In a broad sense, this rod has been used before and I make no claim to the rod itself in this application.

To regulate the longitudinal movement or throw of the rod, I provide a threaded pin 11 passing through an opening 12 in the cover, a flange 13, formed by punching the hole in the cover, gripping the pin and pinching the threads sufficiently to hold the pin in place. A head 14 is mounted on the upper end of the pin, having a flange 15 and a finger grip 16. The arm 10 is forked and straddles the head between the stop and finger grip, the space between the stop and finger grip being sufficient to allow vertical movement of the arm and a reciprocation of the rod. The position of the rod in the cup may be varied by the rotation of the pin 11.

17 is a sleeve inclosing the rod, having a threaded connection at 18 with the cover and provided with a finger grip 19 at its upper end and with a flange 20 at its lower end. This flange, when the sleeve is depressed, is adapted to engage the wall of the cup and close the opening leading to the passage 4 and shut off the delivery of the lubricating material from the cup. The volume of the delivery may be regulated by the vertical adjustment of this sleeve. Its walls are, preferably, spaced from the rod to allow the free vertical movement of the latter. In some cases it may be desirable to yieldingly resist movement of the rod, instead of providing a rigid stop therefor, and I therefore illustrate in Fig. 2 springs 21 and 22 arranged on the pin 11, above and below the forked arm 10, one spring being seated against the flange 15 and the other against

the nut 23. These springs will allow vertical movement of the rod, but will yieldingly resist such movement in both directions.

I claim as my invention:

5 1. A lubricating device comprising a cup having a discharge opening, a rod therein adapted to rest on the journal and having normally a slight longitudinal movement with the revolution of the journal, and
10 means outside the cup for regulating the throw or longitudinal movement of said rod in both directions.

2. A lubricating device comprising a cup having a cover and a discharge opening, a
15 rod within said cup projecting into said discharge opening and through said cover, said rod having an arm thereon, and means mounted on said cover and engaging said arm for regulating the longitudinal move-
20 ment of said rod.

3. A lubricating device comprising a cup having a cover and a discharge opening, a rod extending through said opening and said cover and yielding means for control-
25 ling the longitudinal movement of said rod in both directions.

4. A lubricating device comprising a cup having a discharge opening and a cover, a rod projecting through said opening and
30 through said cover, means adjustably mounted on said cover and engaging said rod to regulate the longitudinal movement or throw thereof in both directions.

5. A lubricating device comprising a cup having a discharge opening and a cover, a
35 rod arranged within said cup and projecting through said cover, and having a forked arm extending laterally therefrom, a pin having a threaded connection with said
40 cover and adapted to enter the fork of said arm, and stops above and below said fork, for the purpose specified.

6. A lubricating device comprising a cup having a discharge opening and a cover, a
45 rod therein, having a normally slight longitudinal movement, means outside of the cup for regulating the throw of the rod, a sleeve inclosing said rod and independently movable with respect thereto and having an
50 inner end adapted to close said passage.

7. A lubricating device comprising a cup having a discharge opening and a cover, a rod within said cup, having a normally slight longitudinal movement, means outside

of the cup for regulating the throw of the
55 rod, a sleeve having a threaded connection with said cover, and an inner end adapted to close said passage.

8. A lubricating device comprising a cup having a cover and a discharge opening, a
60 rod centrally mounted in said cover and projecting into said discharge opening, and said rod having a normally slight longitudinal movement, and means outside of the cup for regulating the throw of the rod, a sleeve
65 carried by said cover and inclosing said rod and spaced therefrom and having a flanged inner end adapted to close said discharge opening.

9. A lubricating device comprising a cup
70 having a suitable cover, a rod slidable therein and extending down through the discharge passage of said cup and through said cover, and means above said cover for regulating the longitudinal movement of said
75 rod in both directions, for the purpose specified.

10. A lubricating device comprising a cup having a cover, a rod disposed within said cup and projecting through said cover and
80 through the discharge opening of said cup, and adjustable means disposed above said cover for regulating the longitudinal movement or throw of said rod in both direc-
85 tions.

11. A lubricating device comprising a cup having a discharge opening, a rod therein adapted to rest on the journal and having normally a slight longitudinal movement with the revolution of the journal, and
90 means mounted on the cover and operable outside the cup for regulating the throw or longitudinal movement of said rod in both directions.

12. A lubricating device comprising a cup
95 having a discharge opening, a rod therein adapted to rest on the journal and having normally a slight longitudinal movement with the revolution of the journal, and adjustable means operable outside the cup for
100 regulating the throw or longitudinal movement of said rod in both directions.

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

CHARLES H. NEWHALL.

Witnesses:

GENEVIEVE E. SORENSEN,
C. H. REHFUSS.