

G. W. BOWEN.
GREASE CUP.
APPLICATION FILED FEB. 17, 1912.

1,046,051.

Patented Dec. 3, 1912.

Fig. 1.

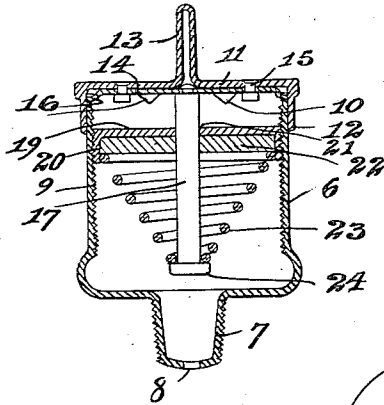


Fig. 2.

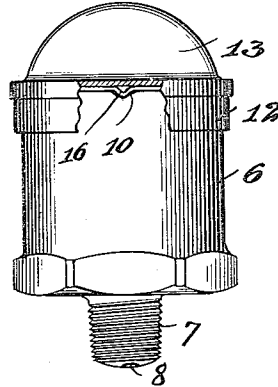


Fig. 5.

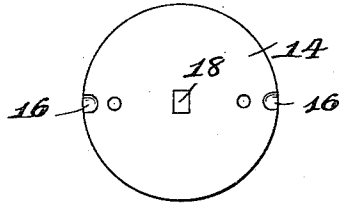


Fig. 3.

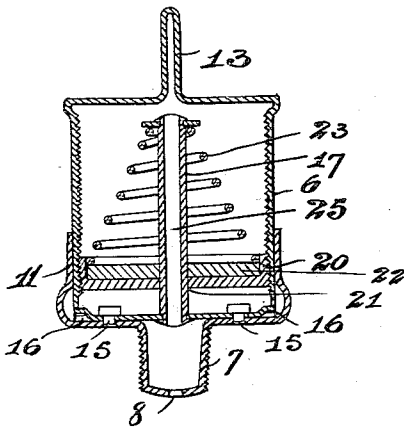
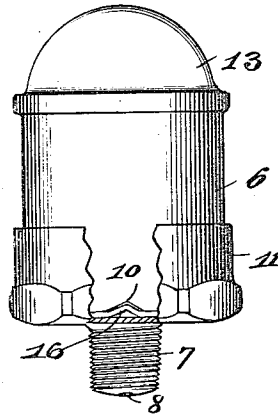


Fig. 4.



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GREASE-CUP.

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To all whom it may concern:

Be it known that I, GEORGE W. BOWEN, a citizen of the United States, residing at Auburn, county of Cayuga, and State of New York, have invented certain new and useful Improvements in Grease-Cups, of which the following is a specification.

My invention relates in general to grease cups, and more particularly to that class of cups adapted to contain a heavy lubricant, such as grease. Grease cups of this character are secured to machinery adjacent bearings, and are consequently subject to considerable vibration. It is desirable to provide means for forcing the grease into the bearings from time to time and also to provide means for preventing the unscrewing or back-turning of the movable portion of the cup relative to the fixed portion.

To these ends my invention resides in the structure hereinafter more fully described and shown in the drawings, in which—

Figure 1 is a vertical section of my improved cup; Fig. 2 is an elevational view with a part broken away; Figs. 3 and 4 are similar views to Figs. 1 and 2, respectively, of a modified form of cup; Fig. 5 is a plan view of one of the parts thereof.

Referring now more particularly to the drawings, my preferred form of cup consists of a cup member 6 provided with an exteriorly threaded stem 7 and a grease outlet or opening 8. The interior of the cup is provided with threads 9 throughout substantially its entire length. The open end of the cup is provided with a plurality of suitable notches 10 formed on the edge. A cap member 11 having an annular flange 12 fits snugly to the outside wall of the cup 6 and has a wing or gripping portion 13 formed integral therewith, whereby the cap may be turned relative to the cup. A plate 14 is secured to the cap 11 by means of suitable rivets 15 and one or more lugs 16 are formed thereon, the purpose of which will be hereinafter described. Secured to the plate 14, centrally thereof, is a post 17 herein shown as having a reduced end that passes through the opening 18 in the plate 14 and is thereupon headed over to form a rigid connection between the post and plate.

A piston 19 having an annular flange 20 is suitably threaded to engage the threads 9 on the cup 6 and a central opening 21 is formed therein to receive the post 17 and upon which said piston slides. While it is immaterial

what form is given the post or opening in the piston, the engagement between these parts, however, must be such that the piston rotates with the post but cannot rotate independently thereof. In my preferred form I place a leather washer within the space formed by the flange 20, it being also provided with a suitable central opening, the sole purpose of which is to fit closely against the post and prevent the lubricant from passing through the opening 21. A spring 23 has one of its ends bearing against the head 24 of the post 17 and its other end bearing against the washer 22, the action of which is to normally force the piston 19 against the cap 11.

Assuming that the cup is secured to a bearing and the cup portion 6 thereof filled with a suitable lubricant, its subsequent use and operation are as follows: The post 17 is inserted within the cup until the lower threads on the flange 20 come in contact with the upper edge of the cup, whereupon by turning the cap 11 the post 17 will be rotated, thus rotating the piston 19 causing the threads thereon to engage the threads 9, whereupon further rotation of the cap will run the piston lengthwise of the cup 6 and thus force the lubricant within the cup out through the opening 8. As the piston moves toward the free end of the post 17 the tension of the spring increases, and thus the friction between the threads on the piston and the threads on the interior of the cup is materially increased, which will prevent the back-turning of the piston, and consequently, the cap, under normal conditions. As a further means for preventing the back-turning of the piston and cap, I provide suitable notches 16 in the plate 14 and upon rotation of the cap the notches 16 will be drawn within the grooves 10, since the action of the spring 23 is to draw the cup and cap members together.

In the construction described and as illustrated in Figs. 1 and 2, when it is desired to fill the cup member with a lubricant, it is necessary to bring the lubricant to the cup, and since it is frequently desirable to take the cup to the lubricant I have devised a modified form of construction in which the parts are substantially identical with the parts shown in Figs. 1 and 2, but the operation is somewhat different. In this modified form of device the threaded end 7 is formed on the cap 11 and the flange or wing 13 is

formed on the cup 6 instead of on the cap 11, as shown in Figs. 1 and 2. The post 17 is provided with a longitudinal opening 25 extending from end to end, one end terminating adjacent the grease outlet 8 and its other end near the closed end of the grease cup. In such a construction the cup portion may be taken to the source of supply for grease and there filled and then by bringing the cup 6 in contact with the flange 20 and turning the cup 6, the rotation of the cup will force the piston upwardly within the cup (as shown in Fig. 3) and the grease within the cup will be forced into and through the opening 25 in the post 17.

It will be observed that the only difference between these two constructions is that in Fig. 1 the cup 6 is held stationary while the cap is the movable member, whereas, in Fig. 3 the cap is the stationary member and the cup the movable member, and since the grease is forced upward in the modified form of construction it is necessary to provide some outlet for it at the top of the cup. Both forms of construction, however, are within the scope of my invention, and, therefore, without limiting myself to either form, nor to such details of construction as might be easily changed without departing from the general principles,

I claim:

1. A grease cup comprising a fixed and a revoluble member, a piston having a threaded engagement with one of said members and movable therein, means on one of said members slidably engaging said piston whereby the rotating movement of one member causes said piston to move lengthwise within the member with which it has a threaded engagement and yielding means for increasing the friction between the threads on said threaded member and piston.

2. A grease cup comprising a fixed and a revoluble member, one of said members provided with threads on the interior surface thereof, a piston movable within said threaded member and provided with threads, means secured to one member for preventing the rotation of said piston but permitting it

to move lengthwise of said threaded member and yielding means for increasing the friction between the threads on the inner surface of said member and the threads on said piston.

3. A grease cup comprising a cup member and a cap member, threads formed on the interior surface of one of said members, a piston provided with threads on its periphery for complementary engagement with the threads on one of said members, a post secured to one of said members and upon which said piston is slidably mounted, and a spring engaging said piston and normally forcing said piston longitudinally of said post.

4. A grease cup comprising a cup member and a cap member, threads formed on the interior surface of one of said members, a piston provided with threads on its periphery for complementary engagement with the threads on one of said members, a post secured to one of said members and upon which said piston is slidably mounted and a spring secured to said post and bearing against said piston whereby said cup and cap members are drawn together upon the rotation of one member relative to the other and the friction between the threads on said piston and threaded member is increased.

5. A grease cup comprising a cup member and a cap member, threads formed on the interior surface of one of said members, a piston provided with threads on its periphery for complementary engagement with the threads on one of said members, a post secured to one of said members and upon which said piston is slidably mounted, lugs formed on one of said members and notches on the other member for complementary engagement, and a spring secured to said post and bearing against said piston whereby said lugs and notches engage and prevent relative rotation between the cup and cap members.

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