

C. E. GRAEBING.
LUBRICATOR.
APPLICATION FILED JAN. 6, 1909.

934,722.

Patented Sept. 21, 1909.

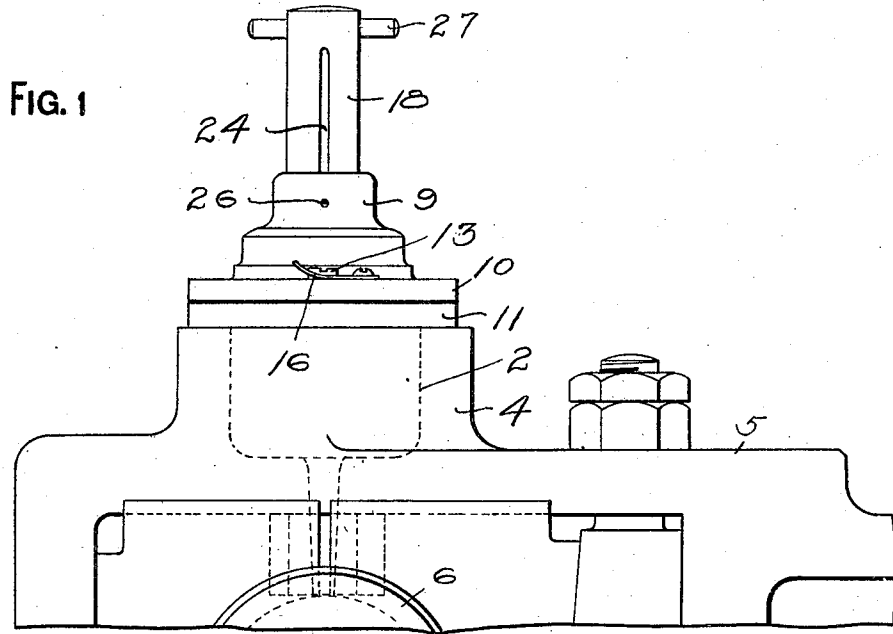


FIG. 2

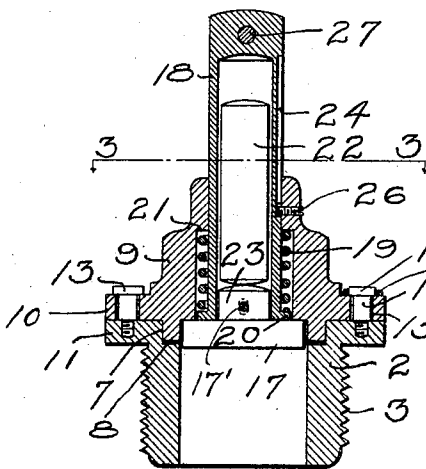


FIG. 3

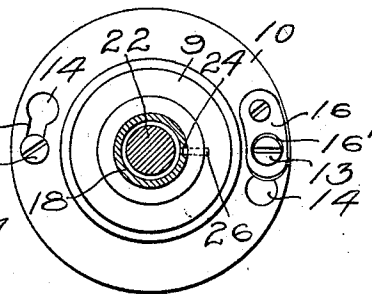
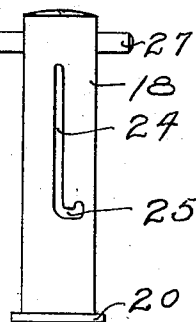


FIG. 4



WITNESSES.

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LUBRICATOR.

934,722.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed January 6, 1909. Serial No. 470,950.

To all whom it may concern:

Be it known that I, CHARLES E. GRAEBING, of Freedom, in the county of Beaver and State of Pennsylvania, have invented a certain new and useful Improvement in Lubricators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide apparatus for automatically feeding hard-grease to engine wrist-pins or other moving elements of machinery; and it consists in the combination with a cup or receptacle adapted to receive the lubricant, of a spring-pressed follower and means for imparting a vibratory movement of the follower.

I shall now describe my invention so that others skilled in the art to which it appertains may understand and construct the same, referring to the accompanying drawings wherein I have shown my invention as applied to engine wrist-pins. It will be understood, of course, that I do not desire to limit myself thereto.

In the drawings, Figure 1 is a side elevation of my improved lubricator, showing the same mounted on a crank-arm of an engine; Fig. 2 is a vertical sectional view of my invention; Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2; and Fig. 4 is a side elevation of the slidable post to be hereinafter referred to.

The lubricant receiving cup or receptacle is indicated by the reference numeral 2. This cup is provided with the external threads 3 whereby it may be secured in the socket 4 of the bearing 5 in which is journaled the wrist-pin 6. The upper end of this cup 2 is provided with the annular enlargement or off-set 7 in which is adapted to be seated the annular shoulder 8 of the head 9. Formed on the head 9 is the radial flange 10 which corresponds to and rests upon a similar flange 11 carried by the upper end of the cup 2. Projecting upwardly from the lower flange 11 are the two locking studs 12 which are provided with the heads 13. These locking-studs 12 are adapted to engage with the slots 14 formed in the flange 10 of the head 9; said slots 14 being provided with the restrictions 15 (see Fig. 3) which, by giving the head 9 a slight turn in the proper direction, are caused to be shifted under the heads 13 of the locking studs. By this arrangement I dispense with screw-threads to

secure the head 9 to the cup, enabling the head 9 to be easily and readily removed and replaced when desired. In order to prevent the head 9 from shifting to unlocking position I provide the spring catch 16 provided with a suitable opening 16' to enable the catch to snap over the head of the locking stud 12 when shifted to locking position.

The lubricant feeding mechanism comprises the follower 17 secured to by means of the pin 17' and capable of a slight vertical movement on the lower end of the hollow post 18 mounted within the head 9. This post is caused to bear downwardly against the follower 17 by means of the coiled spring 19 which at the lower end bears against the radial flange 20 of the lower end of the post 18 and at the upper end against the internal annular shoulder 21 of the head 9. Capable of a slight rise and fall within the hollow post 18 is the weight 22. The purpose of this weight is to cause a vibration of the follower 17 so as to facilitate the feed of the lubricant. This is accomplished by the rise and fall of the weight, the weight striking the head 23 which projects upwardly within the lower end of the post from the follower 17. This vibrating or pounding of the follower serves to force the hard-grease downwardly toward the discharge end of the cup 2 more effectually than would be the case were the tension of the coiled spring alone relied on for this purpose. The coiled spring serves to keep the follower firmly pressed against the lubricant causing all vibrating or pounding of the follower to effectually reach the hard lubricant. This rise and fall or vibratory action is imparted to the weight by the swinging or gyrating movement of the crank-arm of the engine. In the case of other machinery, this vibratory action of the weight may be accomplished by a similar or reciprocatory movement of the mechanism upon which the lubricator is mounted.

In attaching the head 9 to the cup 2 after the lubricant has been inserted, it is desirable to have the follower 17 retracted within the head 9 so as to allow of the ready seating of the head 9 within the cup. To accomplish this, I form on one side of the post 18 a longitudinal slot 24, as shown in Fig. 4. This slot is provided with the off-set 25, and projecting into the slot 24 is the pin or stud 26 which extends through a threaded opening in the side of the head 9. When it is desired to retract the follower 17, the post 18 to

which is attached the said follower 17 is drawn upwardly against the tension of the spring; and, when the pin 26 has reached the limit of its travel in the slot 24 the post, by means of the finger piece 27 is given a slight turn to one side so as to cause the pin 26 to enter the off-set 25, which off-set engaging with the pin 26 serves to hold the post in an elevated position as shown in Fig. 2. I do not, however, desire to limit myself to this precise arrangement as it will be evident that the arrangement may be reversed, that is, the pin 26 may be carried by the post 18 and travel in a slot in the head 9.

It will also be apparent that many other changes may be made without departing from my invention. And while I have described my invention as applied to engine wrist-pins, it will, of course, be understood that the invention is equally applicable to other mechanisms.

My invention will be appreciated by those skilled in the art. The device is simple, strong, and durable, and is cheap to manufacture.

Having thus described my invention what I claim and desire to secure by Letters Patent is—

1. A lubricator comprising a cup, a head carried by the cup, a spring pressed post within the head, a follower secured to the

post, and a weight for vibrating the said follower.

2. A lubricator comprising a cup, a separable head carried by the cup, a post within the head, a follower secured to the post, means for imparting a vibratory action to the follower and means for holding the follower in a retracted position within the head.

3. A lubricator comprising a cup, a head carried by the cup, a post within the head, a follower secured to the post, means for forcing the follower downwardly within the cup, means for imparting a vibratory action to the follower, and means for holding the follower in a retracted position within the head.

4. A lubricator comprising a cup, a head carried by the cup, a slidable post within the head, a follower secured to the post, means for forcing the follower downwardly, a slidable weight for vibrating the follower, and means for holding the said follower in a retracted position within the head.

In testimony whereof, I have hereunto set my hand.

CHARLES E. GRAEBING.

Witnesses:

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