(No Model.)

W. A. DOWNES.

LUBRICATOR.

No. 490,246. Patented Jan. 17, 1893.

Fig. 1.

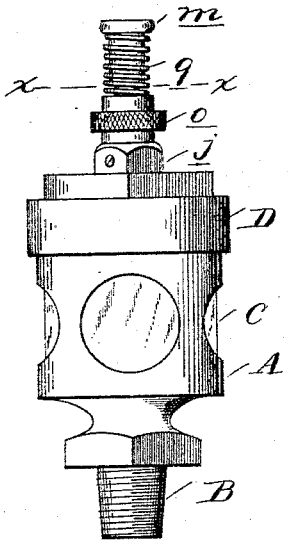


Fig. 2.

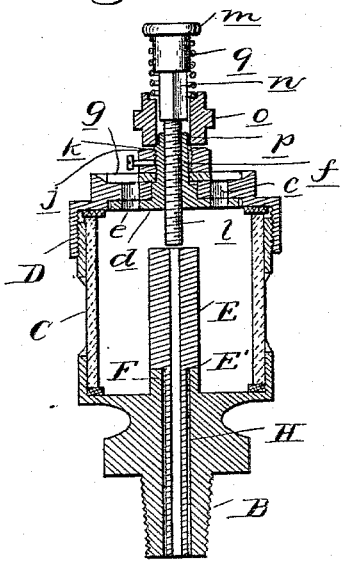


Fig. 4.

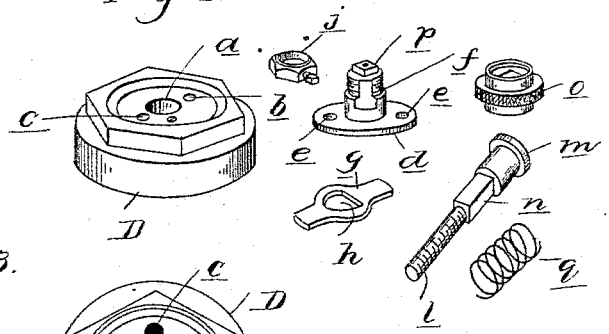
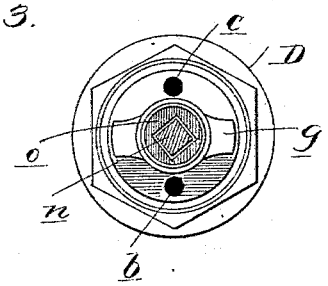


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 490,246, dated January 17, 1893.

Application filed August 23, 1892. Serial No. 443,858. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. DOWNES, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Oil-Cups, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in oil cups, of that class especially designed for oiling crank pins &c.

The object of the invention is to provide a suitable combination of means whereby the oil feed may be regulated, or the cup may be filled without removing the cap, and further in the means employed to prevent the escape of the oil from the inside and to prevent the passage of dust from the outside therein.

The invention further consists in the peculiar construction, combination and arrangement of the various parts to accomplish this object as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved cup. Fig. 2 is a vertical, central, longitudinal section therethrough. Fig. 3 is a cross-section on line *x*—*x* Fig. 1. Fig. 4 shows the cap and the various parts connected therewith in detached perspective views.

A is the cup proper having at its lower end the aperture nipple B suitably screw threaded on the exterior for securing it to the crank, the pin of which is desired to be oiled.

C is the usual glass lining for the cup, and D is the cap, provided with suitable means for securing it to the upper edge of the casing of the cup. I have shown it secured by means of suitable screw threads.

Within the cup is a hollow reciprocating plunger E extending through the aperture in the nipple and having the shoulder E′ resting upon the inwardly extending flange or nipple F, these parts being so arranged that the movement of the crank pin will vertically reciprocate the plunger allowing the oil to pass through the central aperture in the plunger at the top and in the annular passage H formed around the plunger through the nipple, the parts thus far described being of substantially well known construction.

In order to regulate the amount of oil fed to the crank pin, I limit the length of the reciprocation of the plunger E, and to accomplish this from the outside of the cup so that the cap may not be removed, and also to allow of filling the cup from the outside without removing the cap, I employ the following construction: The cap is provided with a central aperture *a* and with apertures *b* and *c* upon opposite sides of this central aperture forming respectively filling and vent apertures.

d is a flat disk seated against the under side of the cap and provided with filling and vent passages *e* arranged to correspond with the location of the passages *b* and *c* through the cap. This disk is provided with a central hub *f* which passes through the aperture *a* in the cap.

g is a scutcheon resting upon the top of the cup and extending upon both sides of the hub *f*, having a squared portion *h* engaging with a corresponding squared portion on the hub, whereby the rotation of the hub will also carry with it the scutcheon.

j is a nut engaging the screw threaded extension *k* of the hub for holding the disk and scutcheon upon the upper and lower sides of the cap. The hub *f* is centrally apertured and interiorly screw threaded to receive the screw threaded stem *l*, which forms an adjusting stem to limit the motion of the plunger E. This stem is provided at its upper end with a finger piece *m* and the squared portion *n*.

o is a collar slidingly secured upon the squared portion *n* of the stem, and adapted to engage with a correspondingly squared lug *p* upon the hub *f*.

q is a spring tending to hold the collar *o* in its lowest position and in engagement with the squared lug *p* on the hub.

The parts being in the position shown in Fig. 2, it is evident that depending upon the position of the lower end of the screw threaded stem *l*, the plunger E will have more or less movement, and that this movement and thereby the feed may be adjusted by turning the stem *l* up or down. To do this it is necessary to raise the collar *o* from the squared lug *p* when the stem may be turned within the hub. When the adjustment is satisfactory the collar is allowed to again engage upon the lug,

being held in such position by the spring *q*. When the parts are in this position a rotation of the stem *l* will carry with it the scutcheon *g* and the disk *d* and these parts may be turned so that the filling and vent apertures in the disk and the cover register to fill the cup or so that the disk will close the apertures on the under side of the cap and the scutcheon will close the apertures on the top side, thereby preventing the escape of oil from the inside and ingress of dust from the outside.

What I claim as my invention is:

1. In an oil cup, the combination of the casing, the reciprocating plunger therein, a cap for the casing having a filling aperture, a valve to close said aperture having a central hub passing through the cap, an adjustable stem for regulating the throw of the valve supported in said hub, and means for connecting and disconnecting said hub and stem, whereby the stem may be adjusted independent of the valve or may be used to turn the valve, substantially as described.

2. In an oil cup, the combination of the cap, having perforations therein, a hollow hub passing through the cap having an interior thread, an adjustable stem having a threaded exterior passing through the hub, a disk on the lower end of the hub within the cap, a scutcheon on the upper end of the hub outside the cap, said disk and scutcheon controlling the upper and lower ends of the perforations in the cap, a binding nut on the hub above the scutcheon, an independent connection between the hub and stem, and a reciprocating plunger below the stem, substantially as described.

3. In an oil cup, the combination of the casing, the cap having a filling aperture and valve to control said filling aperture, a reciprocating feed plunger and an adjusting stem to control said plunger, of a clutch on said stem to connect and disconnect it from the valve controlling the feed aperture in the cap, substantially as described.

4. In an oil cup, the combination with the casing, the apertured cap, the valve for said aperture having a squared hub extending from the cap, the reciprocating plunger, the adjusting stem *l* for said plunger passing through the hub and squared portion *n* at the upper end of said stem a sliding clutch member *o* engaging on said squared portion and the corresponding squared portion *p* on the member end of the hub and a spring *q* for holding said clutch member normally in engagement with the squared portion on the hub, substantially as described.

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

WILLIAM A. DOWNES.

Witnesses:

JAS. WHITTEMORE,

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