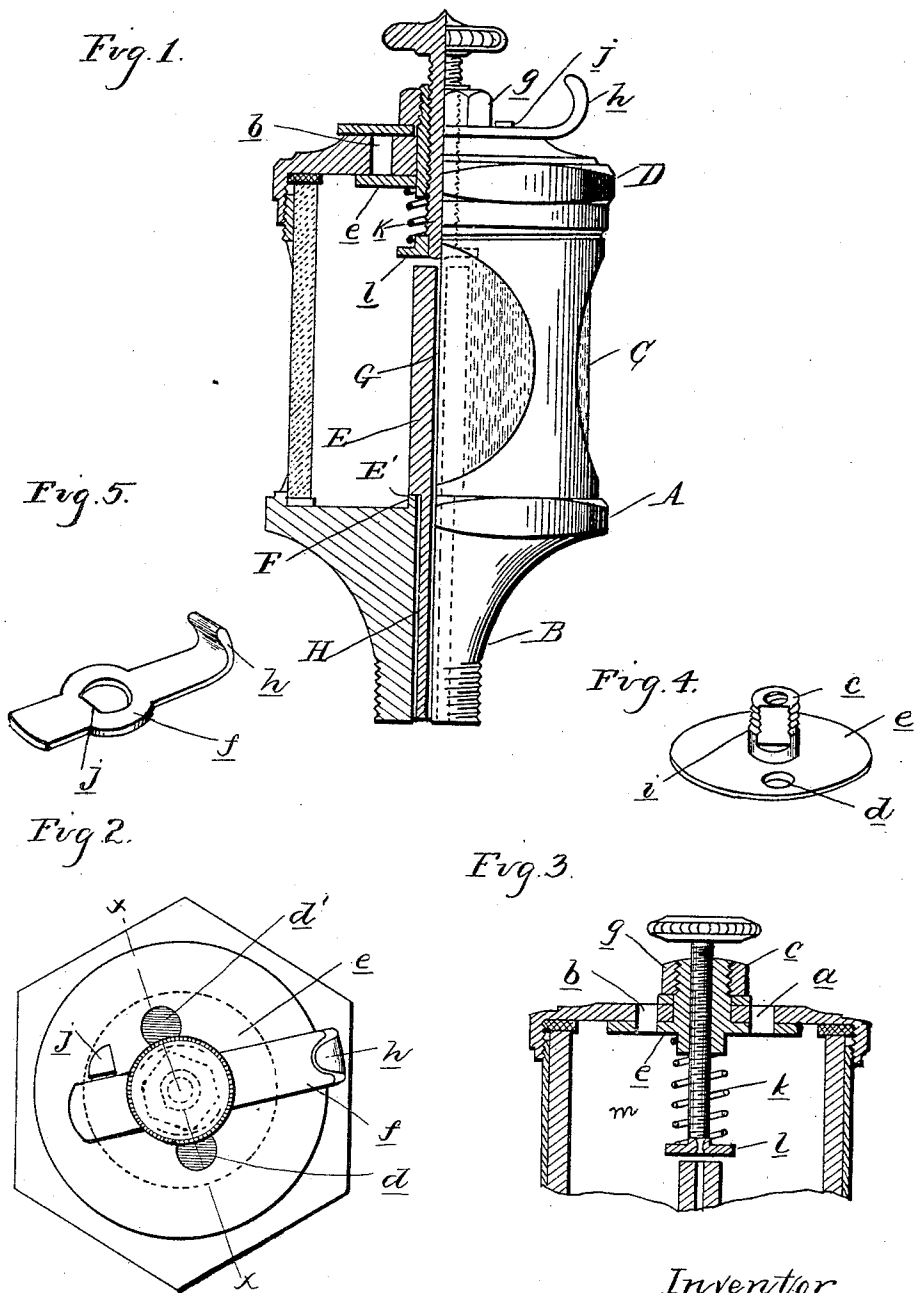


(No Model.)

W. A. DOWNES.
LUBRICATOR.

No. 467,734.

Patented Jan. 26, 1892.



Witnesses
A. L. Kabbie.
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UNITED STATES PATENT OFFICE.

WILLIAM ALBERT DOWNES, OF DETROIT, MICHIGAN, ASSIGNOR TO THE
PENBERTHY INJECTOR COMPANY, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 467,734, dated January 26, 1892.

Application filed June 17, 1891. Serial No. 396,647. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ALBERT 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 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 and the cup filled without removing the cap, and, further, to prevent the escape of the oil from the cup and to prevent dust from passing therein; and it consists in the peculiar construction, arrangement, and combination of the various parts to accomplish this object, as more fully hereinafter described.

In the drawings, Figure 1 is an elevation of the oil-cup, one-half thereof being in vertical central section. Fig. 2 is a top plan view. Fig. 3 is a vertical central section on line *xx*, Fig. 2. Fig. 4 is a detached perspective view of valve-disk for closing the filling-aperture. Fig. 5 is a detached perspective view of the escutcheon.

A is the cup, having the centrally-apertured nipple B exteriorly screw-threaded for securing it into the crank.

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. Within the cup is the reciprocating plunger E, having the shoulder E' resting upon the nipple F and the central aperture G, all so arranged that the movement of the crank-pin reciprocates the plunger, allowing the oil to pass through the aperture G and the channel H, formed between the lower end of the plunger and the interior of the nipple B, these parts being substantially as shown and described in my patent, No. 446,250, dated February 10, 1891.

In order to regulate the feed, I limit the movement of the plunger E, and to accomplish this from the outside of the cup, so that the cap need not be removed, and also to allow of filling the cup from the outside, I employ

the following devices: The cap is centrally apertured and is also provided with a filling-passage *a* and a vent-aperture *b*, preferably arranged upon opposite sides of the central aperture in the cap. *e* is a disk valve seated against the under side of the cap and provided with corresponding feed and vent passages *d d'*. This valve is provided with a central hub *c*, which passes through a central aperture in the cap. *f* is an escutcheon secured to the hub *c*. *g* is a nut engaging with the hub *c* and holding it tightly in engagement with the under side of the cap, while it clamps the escutcheon upon the top of the cap. The escutcheon extends to both sides of the hub and is provided at one end with a finger-piece *h*, by means of which it may be turned. The hub *c* is provided with a squared portion or shoulder *i*, as shown in Fig. 4, against which a corresponding squared portion *j* on the escutcheon bears, all so arranged that the turning of the escutcheon will carry with it the disk valve *e*. *j'* is a stop arranged upon the outside of the cap in such position as to limit the movement of the escutcheon, so that it will stop when the escutcheon is turned to open or close the passage through the cap. *k* is a stem passing through a central aperture in the hub of the valve and extending into the oil-cup above the upper end of the plunger. At its lower end it is provided with a disk *l*. *m* is a spring bearing against the under side of the disk valve *e* and against the top of the disk *l*, the function of the same being to prevent the stem from rotating in the pounding of the cup on the crank-pin, so that the adjustment of the valve controlling the supply of oil to the bearings will not be changed. The parts being thus constructed and arranged, it is evident that turning the escutcheon to open or close the filling-passage and the vent-passage also turns the disk valve *e* within the cup.

By arranging the escutcheon to close the filling-passage at the top and the disk valve to close it at the bottom I prevent dust from entering therein from the outside and prevent the oil from escaping from the inside. By having the stem *k*, carried by the valve, control the filling-aperture it is carried with said valve in its movement, but without af-

fecting its circulation to the plunger and still allows it to be adjusted independent of the movement of the valve to and from the plunger to regulate the feed.

5 What I claim as my invention is—

1. In an oil-cup, the combination, with the cap having perforations therein, of a hollow hub passing through the cap, having a threaded interior, a valve-stem having a threaded exterior passing through and engaged directly with the hub, a disk on the lower end of the hub within the cup, a plate on the upper end of the hub for closing the upper ends of the perforation and moving the disk, a binding-nut on the hub above the plate, and a movable hollow plunger in the cup below the valve-stem, and a valve on the stem above the plunger, substantially as described.

2. In an oil-cup, the combination, with a perforated cap, of a disk for closing the lower end of the perforation and a plate for closing the upper end of the perforation, substantially as described.

3. In an oil-cup, the combination of the cap having a filling-passage therein, a disk valve bearing against the inner face of the cap, a hub on said valve extending through the cap, and an escutcheon secured to said hub outside the cap for controlling said valve, substantially as described.

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

WILLIAM ALBERT DOWNES.

Witnesses:

S. OLIN JOHNSON,
GEO. W. CHILDS, Jr.