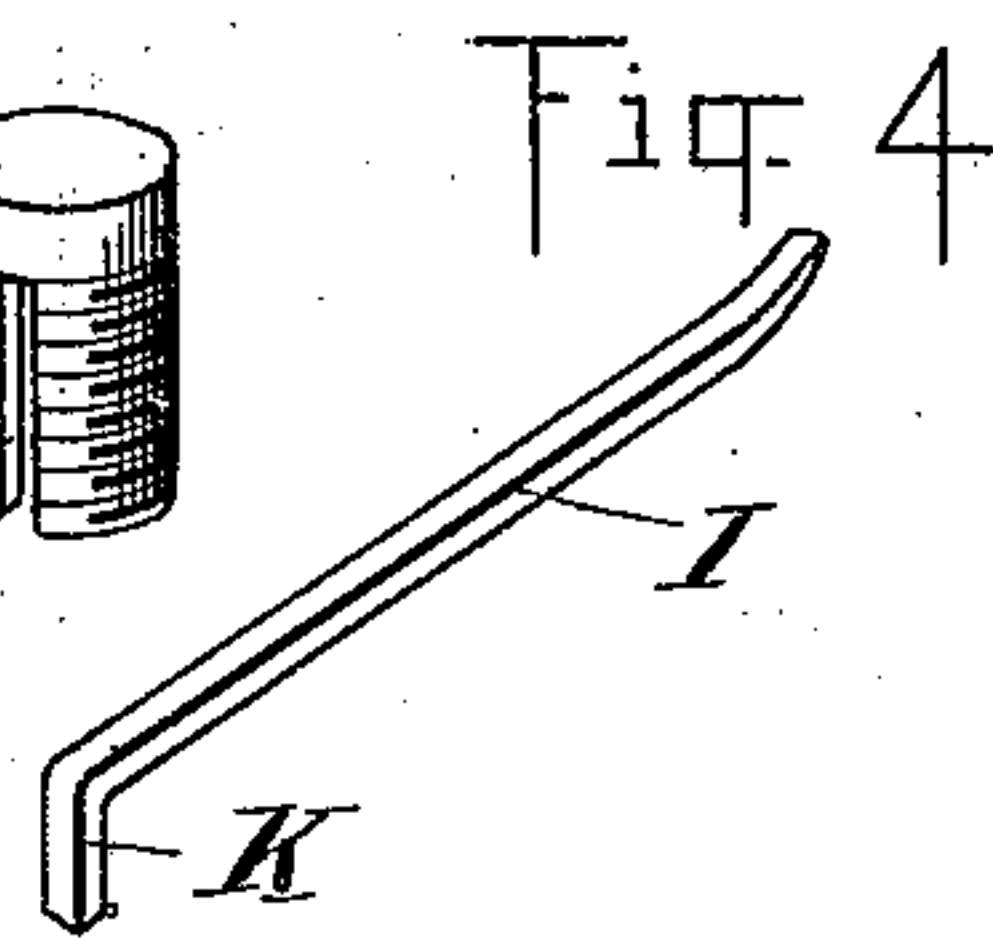
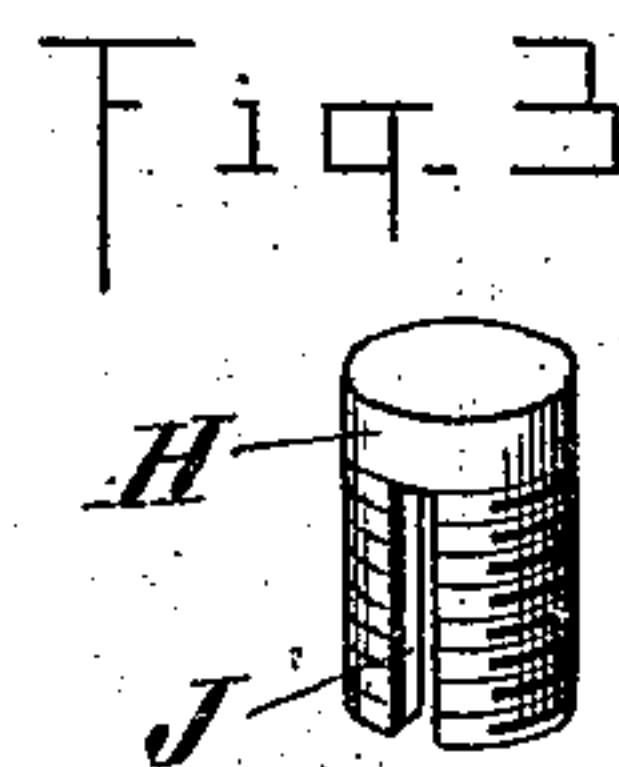
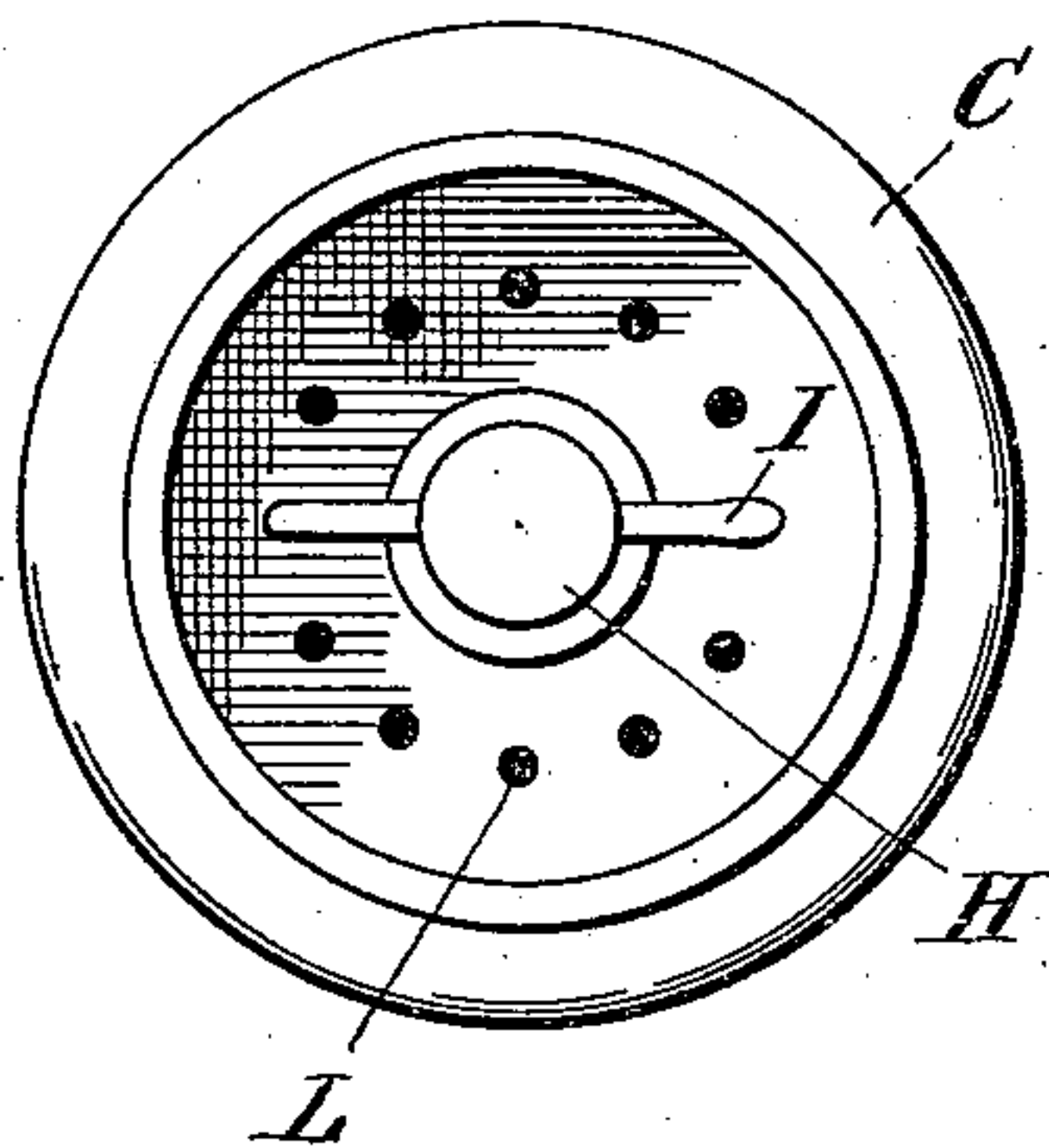
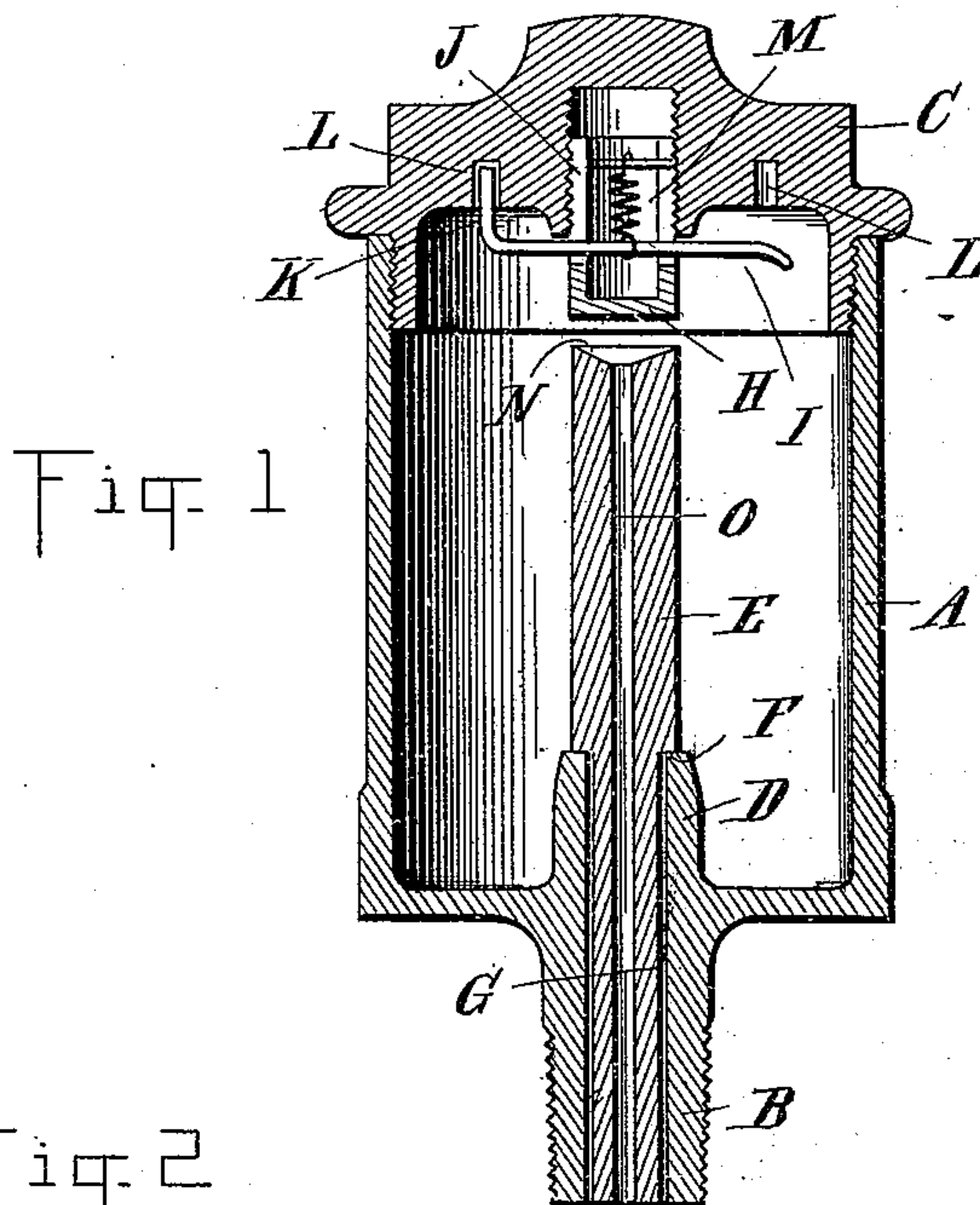


(No Model.)

W. A. DOWNES.
OIL CUP.

No. 446,250.

Patented Feb. 10, 1891.



Witnesses.
P. M. Hulbert
M. B. Ogheerly

Inventor:
William A. Downes
By Thos. S. Magner & Son
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM A. DOWNES, OF DETROIT, MICHIGAN, ASSIGNOR TO THE PEN-BERTHY INJECTOR COMPANY, OF SAME PLACE.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 446,250, dated February 10, 1891.

Application filed April 3, 1890. Serial No. 346,487. (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.

10 This invention relates to new and useful improvements in oil-cups designed for oiling crank-pins; and the invention relates to the peculiar construction of the plunger for forcing the feed, and in the means for adjusting the throw or movement of the plunger, and in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

20 In the drawings, Figure 1 is a vertical central section through my improved oil-cup. Fig. 2 is a plan view of the screw-cap detached, looking at it from its underside. Fig. 3 is a detached perspective view of the adjustable stop, and Fig. 4 is a detached perspective view of the locking-latch.

25 A is the cup, having screw-nipple B, for securing it into the crank, and screw-cap C, fitted in the upper end of the cup. The screw-nipple B has the inward extension D, which forms a bearing for the plunger E, which has a shoulder F, resting upon the top of the extension D. The lower end of the plunger engages into the nipple and has a free play therein, forming an oil-duct G, through which the oil may pass out of the cup when the shoulder F is raised off the nipple D by the motion of the crank.

40 To adjust the vertical play of the plunger E, a stop H is adjustably secured in the cap by screwing into a suitable screw-threaded aperture formed therein. This stop is prevented from being displaced from its adjusted position by means of the locking-latch I, which passes through the slot J, and is held in its locked position by the engagement of the end K into any of the series of holes L formed in the cap, being held in engagement therewith by means of the tension of the spring M, which is secured within the slot.

The stop may be turned in either direction 50 to raise or lower the same, and thereby increase or decrease the distance between the upper end N of the plunger and the stop, and when such distance is properly adjusted the latch I is engaged with a suitable hole L in the cup. The plunger has a central oil-duct 55 O to provide for the passage of the oil. The top of the plunger is suitably recessed to carry the oil toward the oil-duct O.

The parts being thus constructed, their operation is as follows: The motion of the crank will reciprocate the plunger E, which in its raised position abuts against the plug and closes the oil-duct O. The oil enters the oil-duct G, and as the plunger descends the 65 shoulder F acts as a piston to force the oil downward to the crank-pin. When the cup descends in the rotation of the crank, the oil rises to the top, opening the duct G, and when the pitman ascends in its rotation the oil is forced down by the shoulder F, and when the oil is at the top it enters the opening and is fed by gravity. 70

It will thus be seen that my cup has two independent feed-channels, one of which is 75 closed and the other open, and these channels or ducts are alternately opened and closed in the rotation of the cup. It will also be seen that the opening to one duct is at the top and the other at the bottom of the cup. 80 When the cup is full, little oil will enter the duct O, as the oil will then move but little in the cup. It will then feed through the duct G in the cup.

When the oil in the cup is low, it will follow 85 around the sides and top of the cup, and little or none will enter the duct G, but some will enter the duct O at each revolution. I thus provide for ample lubrication at each revolution of the crank regardless of the amount 90 of the oil within the cup.

What I claim as my invention is—

In an oil-cup of the kind described, the combination, with the casing and depending nipple and flange integral therewith, having 95 an opening therein, and a plunger having a central opening and a reduced portion of smaller diameter than the opening in the

casing and nipple, of a cap having a screw-threaded central opening and openings equidistant from the said opening, a bifurcated screw-threaded stop in said central opening,
5 and a spring-actuated latch I in said bifurcation, adapted to be inserted in the openings around the center, substantially as described.

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

WILLIAM A. DOWNES.

Witnesses:

P. M. HULBERT,
JAMES WHITTEMORE.