

(No Model.)

J. R. HOLMES.
CUP LUBRICATOR.

No. 602,160.

Patented Apr. 12, 1898.

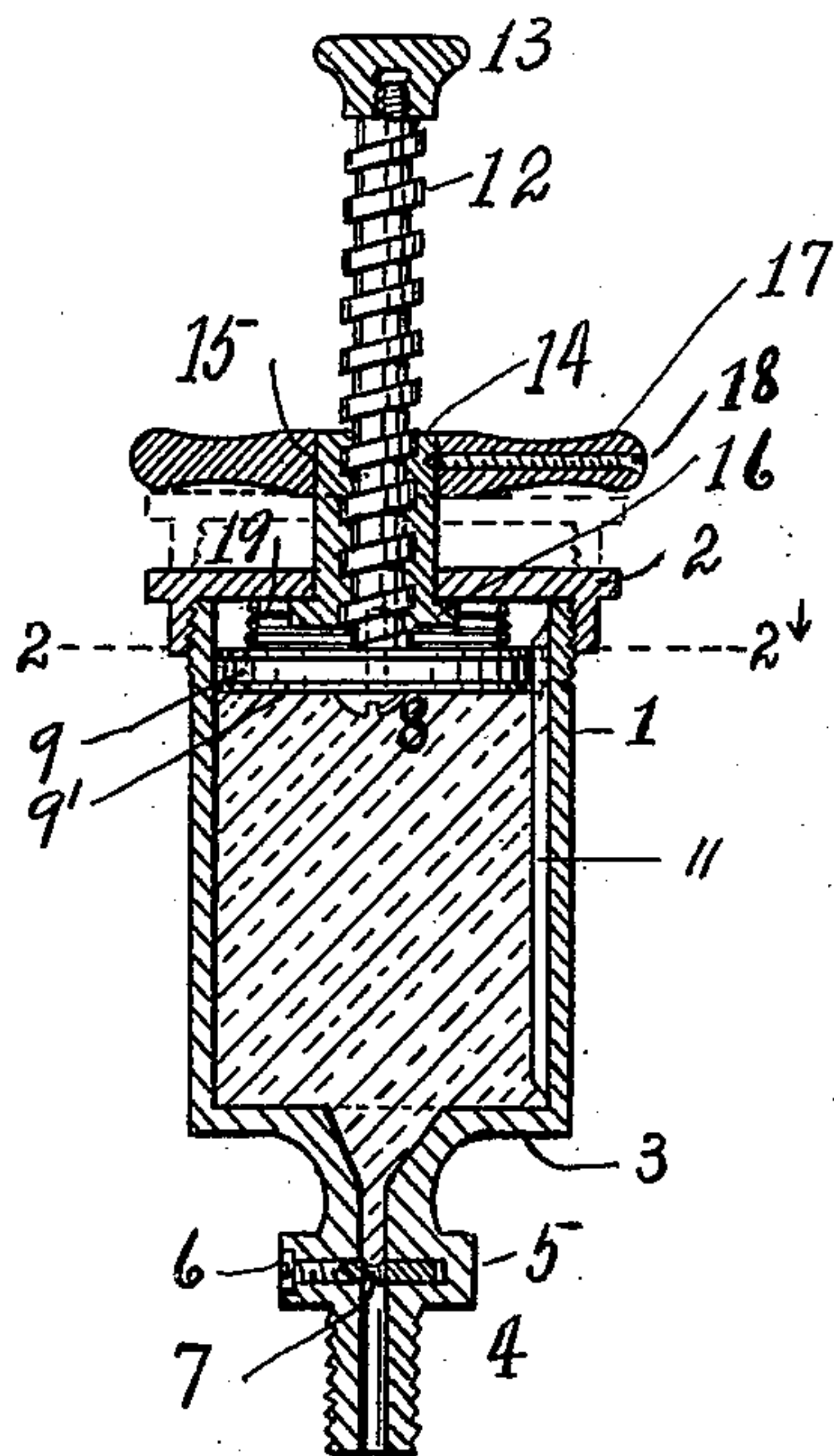
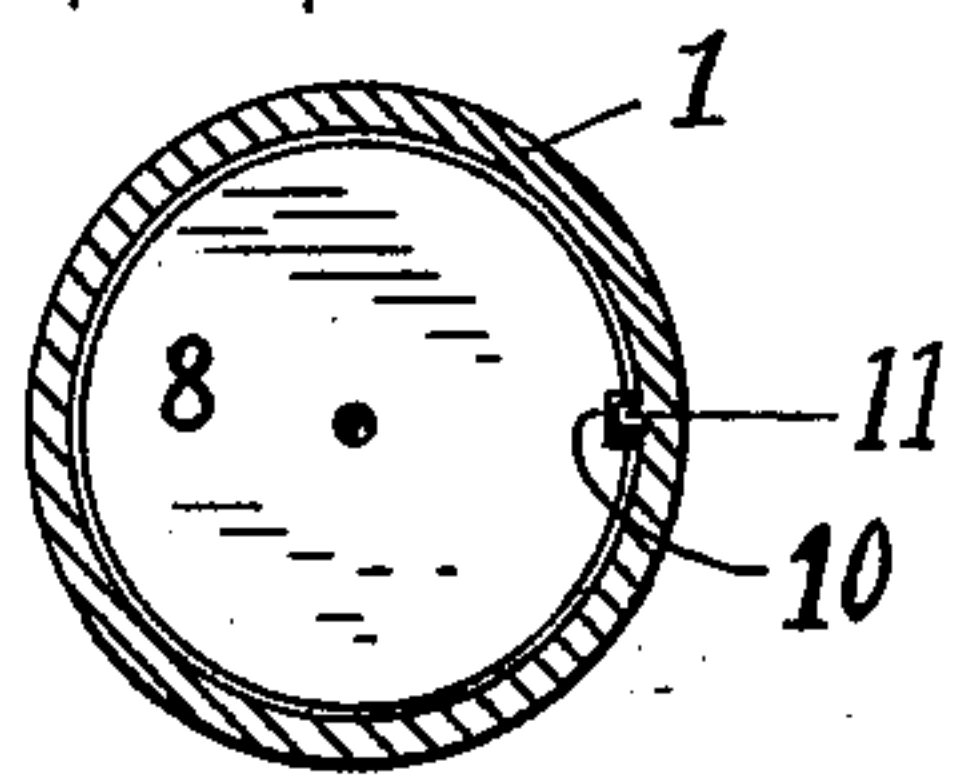


Fig. 1.

Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH R. HOLMES, OF ELGIN, ILLINOIS.

CUP-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 602,160, dated April 12, 1898.

Application filed July 27, 1897. Serial No. 646,095. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. HOLMES, a resident of Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Cup-Lubricators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to lubricating-cups, and has for its object to simplify and cheapen their manufacture and increase their efficiency; and the invention consists in the construction hereinafter described and pointed out.

In the accompanying drawings, Figure 1 is a vertical central section. Fig. 2 is a section on line 2 2 of Fig. 1.

Numeral 1 denotes an oil or grease cup having a detachable cap 2. Its bottom 3 is made integral therewith and entirely closed, except that it has a perforated extension 4, suitably screw-threaded for its attachment to the mechanism to be lubricated.

5 denotes an angular portion of said extension adapted to receive a wrench, and 6 indicates a cock having a passage 7, whereby the amount of oil-discharge under a given pressure may be regulated or whereby it may be entirely cut off, as customary in this class of devices.

8 denotes a piston having a packing 9 and a washer 9' and provided with a notch or groove 10 to receive the rib or feather 11, suitably situated inside the cup to guide the piston longitudinally and prevent its rotation.

12 denotes a screw-threaded piston-rod having a detachable head or knob 13.

14 denotes a sleeve screw-threaded to engage the threaded piston-rod. The sleeve fits movably in an opening 15 in the cap.

16 is a flange on the sleeve, which is adapted when the said sleeve is suitably moved to engage and be stopped by the cap.

17 is a handle for turning the sleeve, and 18 is a securing-screw for said handle.

19 denotes a spring bearing on the piston and on the cap and surrounding the sleeve 14 and the piston-rod.

The cup is charged at its top, the cap having been removed and the discharge-cock

closed. The cap carrying the sleeve, piston, and piston-rod loosely and the spring under tension between the cap and piston is screwed upon the cup with the rod in approximately its upper or outermost situation. The piston and attached sleeve are prevented from sliding inwardly in this operation by the contents of the cup. The screwing on of the cap will increase the tension of the spring and hold the piston and sleeve in their upper or outermost situation, the sleeve being caused to move through the cap until stopped by its flange 16. This situation is illustrated in Fig. 1 of the drawings. Upon opening the discharge-cock the contents of the cap will be gradually discharged by the spring pushing the piston, sleeve, and rod inwardly until the handle and sleeve are stopped by the cap. During such time the situation of the sleeve and handle indicates the operative or non-operative situation of the parts. When the spring has forced down the piston and fed out the lubricating material until the operation is checked or is about to be checked by the engagement of the handle with the cap, said handle is rotated to turn the sleeve upon the piston-rod, the discharge-cock being closed to prevent the descent of the piston. The cock being now opened the contents of the cup will be fed out and the operation repeated.

Spring-operated pistons have heretofore been employed to discharge lubricating-cups, and such combination is not claimed herein.

The flange 16 and handle 17 on the sliding sleeve 14 constitute stops for the same, and the situation of the handle indicates whether or not the parts are in situation to automatically discharge the lubricant. The device, however, ceases to act automatically as soon as the handle bears on the cap and whenever the spring loses its tension. In prior constructions having springs to automatically feed out the contents of the cup the springs have not been situated entirely within the cup and beneath a simple flat cap. By the present improvement the structure is simplified and cheapened and reduced in size without loss of efficiency by the use of a flat cap and a spring held entirely below the cap and within the cup. This enables a spring of large coils to be so placed that it touches nothing but the cap and piston, and, further, the

spring and its bearings cannot interfere with positively screwing down the piston to the bottom of the cup by the use of the handle 17 on the sleeve, a useful result never before attained in a cup adapted normally for automatically discharging the lubricant. If this occurs before the grease is exhausted, the piston can be positively operated by hand until the cup is emptied. The amount of grease discharged is proportioned to the number of rotations of the sleeve. Should the spring fail to act at any stage of the operation, or should it not act at all or even be omitted, the construction is such that the piston and handle can be used to discharge the entire contents of the cup by successive steps and as required for lubrication.

Having described my invention, what I claim is—

1. The combination of the cup having a removable flat cap, the sleeve moving through said cap and provided with a stop at each end, a piston and a piston-rod, said piston and rod being adapted to be operated positively to discharge the entire contents of the cup independently of a spring and said sleeve having a handle and screw-thread connection

with the rod and adapted to bear directly on the cap within the cup, and the spring situated in the cup and bearing on the cap near the upper plane of the cup and also bearing on the piston, substantially as described.

2. The combination of the cup having a removable flat cap, the sleeve movable through said cap and provided with a stop at each end, a piston and a piston-rod, said piston being keyed to the cup, and the piston and rod adapted to be operated positively to discharge the entire contents of the cup independently of a spring, and said sleeve having a handle and screw-thread connection with the rod and adapted to bear directly on the cap within the cup, and the spring situated within the cup and bearing on the cap near the upper plane of the cup and also bearing on the piston, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH R. HOLMES.

Witnesses:

H. L. GIVEN,
HARRY MUNTZ.