

(No Model.)

J. S. HALL.
LUBRICANT CUP.

No. 376,952.

Patented Jan. 24, 1888.

Fig. 1.

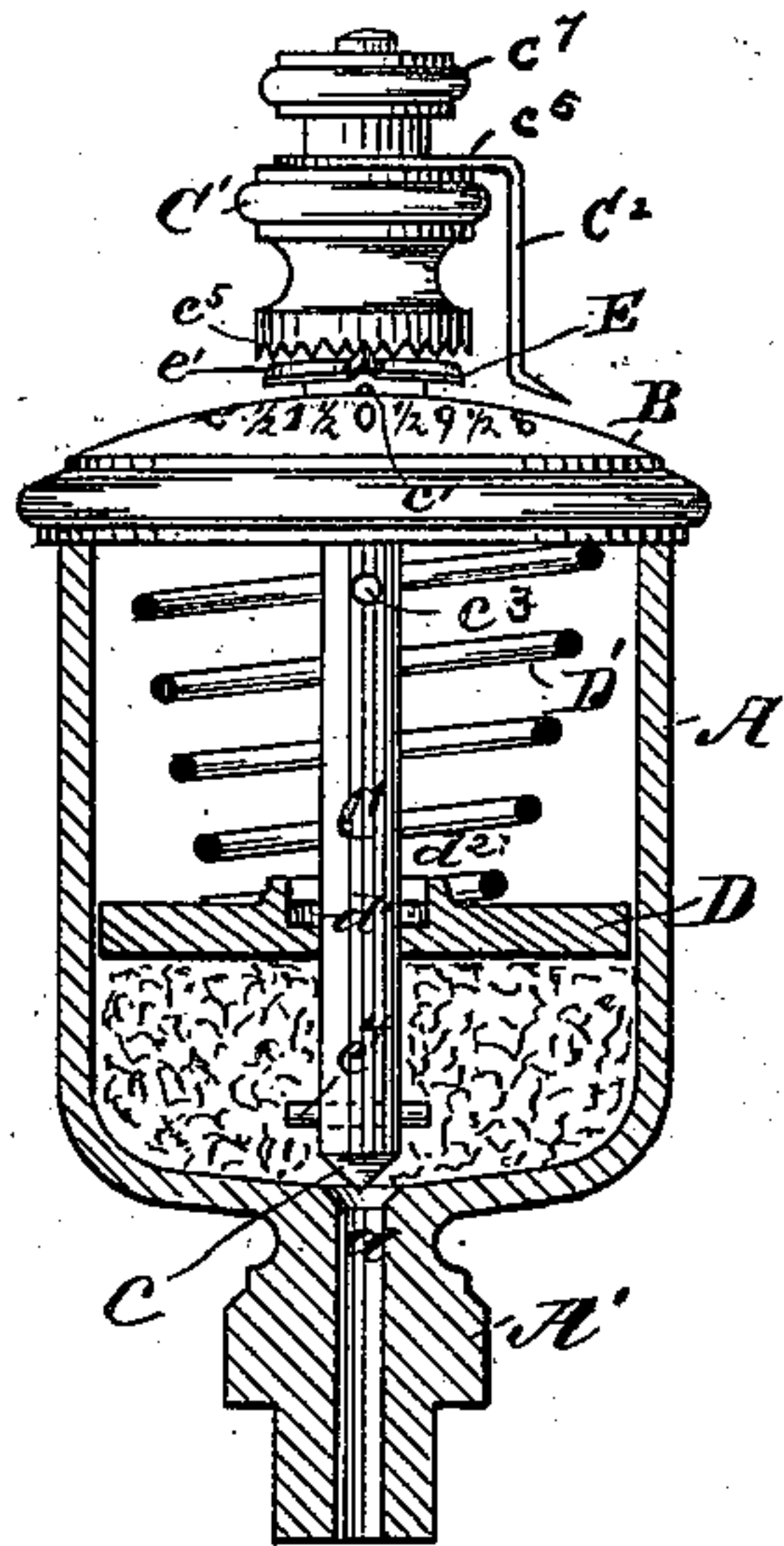


Fig. 2.

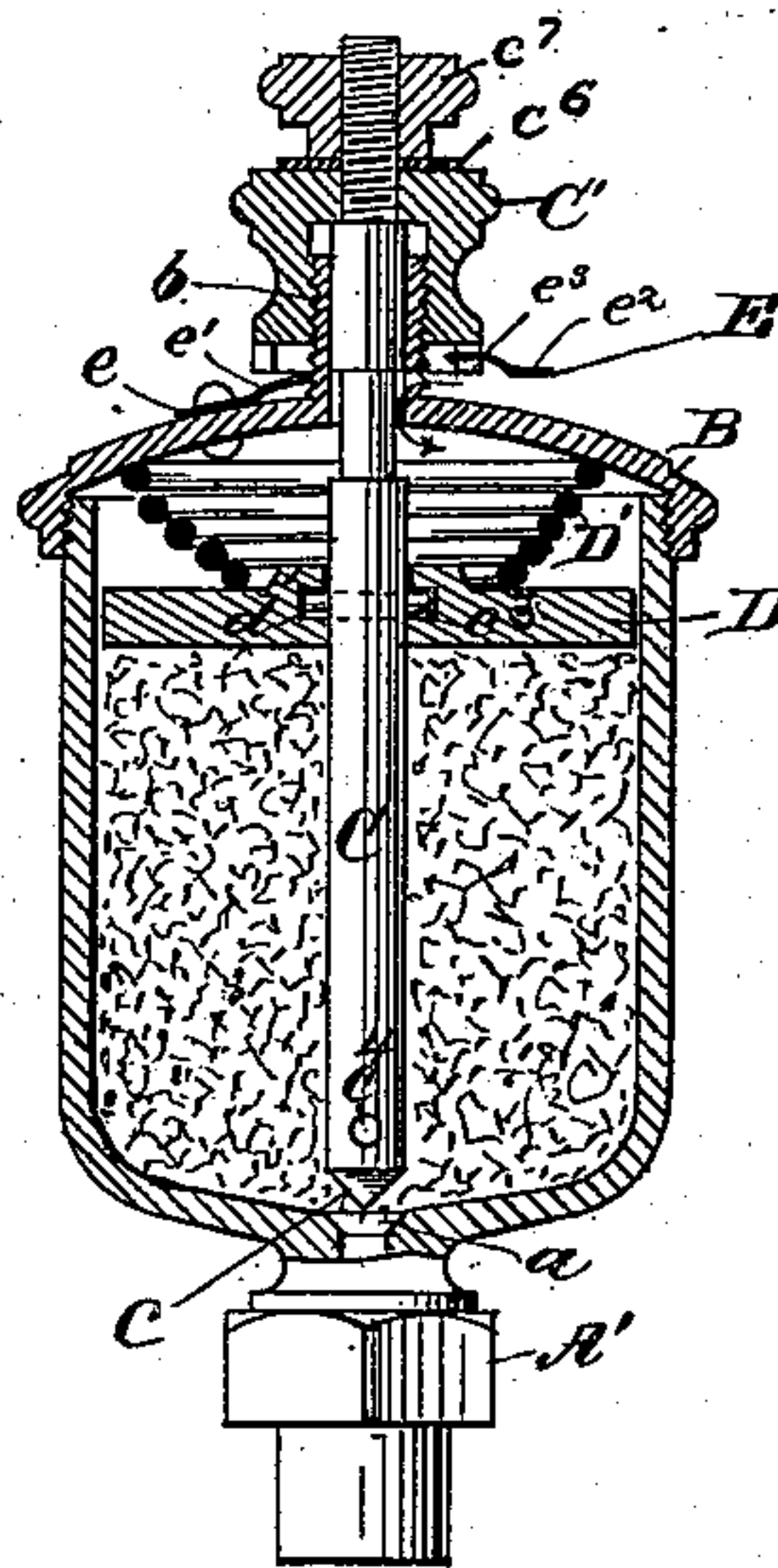


Fig. 3.

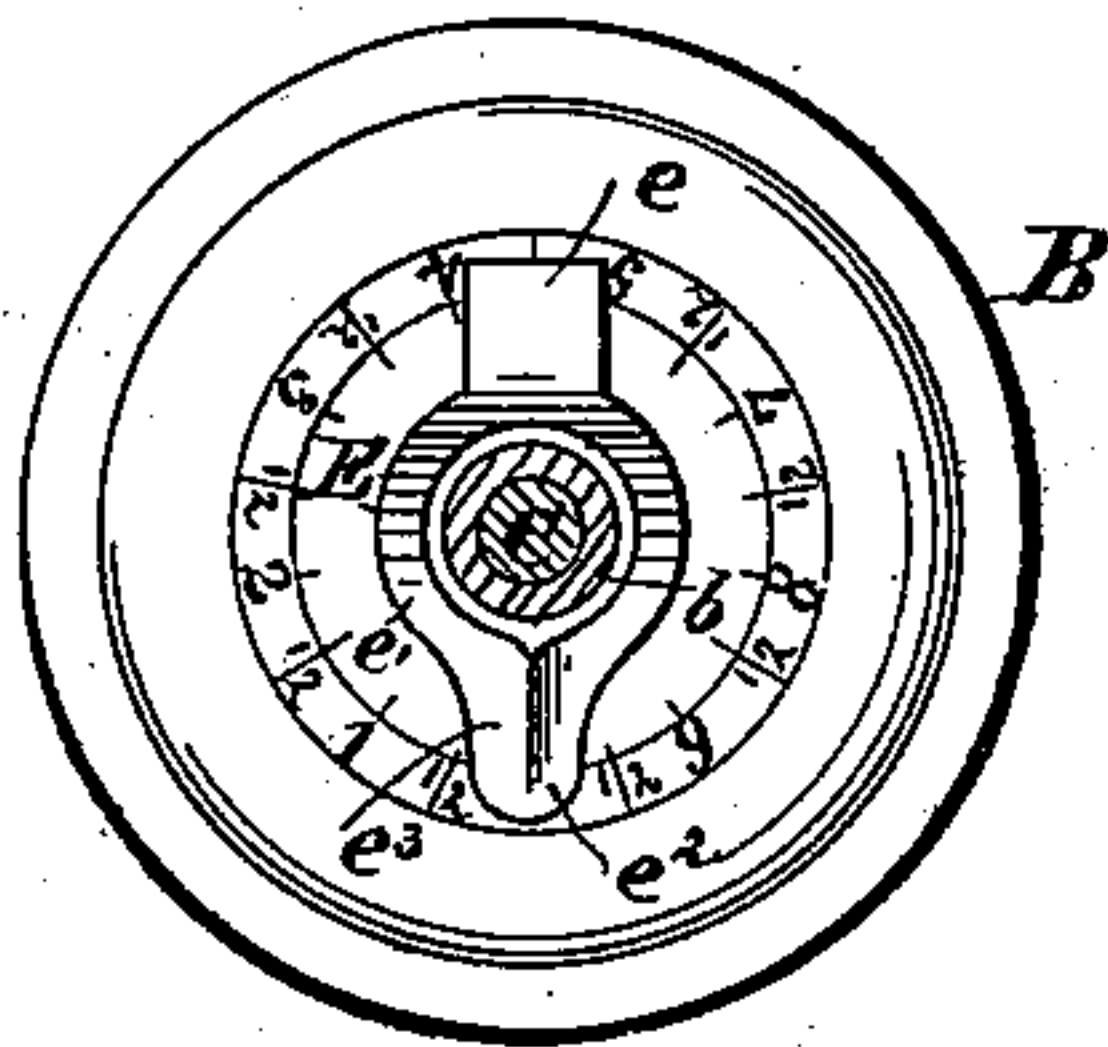


Fig. 4.

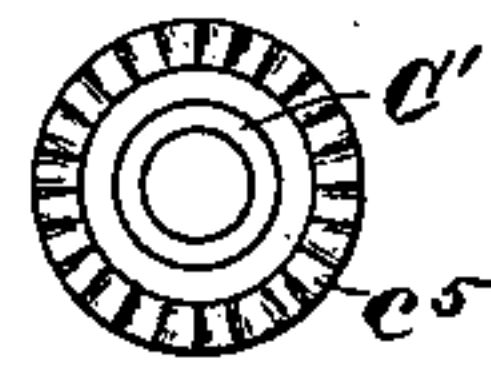


Fig. 5.

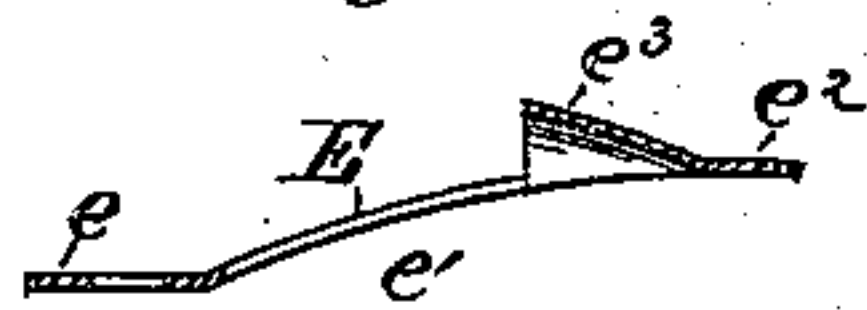
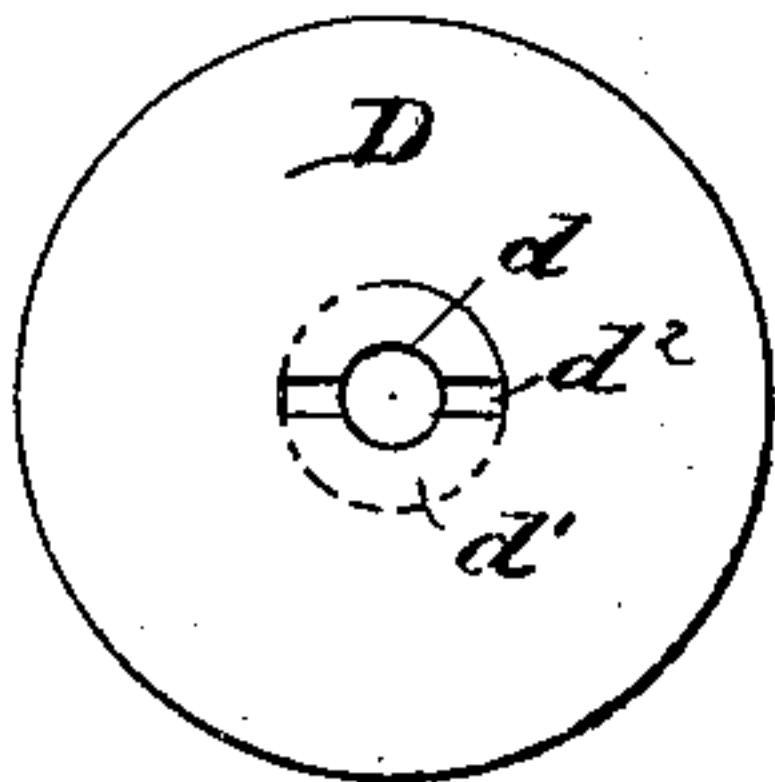


Fig. 6.



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LUBRICANT-CUP.

SPECIFICATION forming part of Letters Patent No. 376,952, dated January 24, 1888.

Application filed March 23, 1886. Renewed June 9, 1887. Serial No. 240,734. (No model.) Patented in England March 23, 1886, No. 4,017.

To all whom it may concern:

Be it known that I, JOHN S. HALL, of the city, county, and State of New York, and a citizen of the United States, have invented certain new and useful Improvements in Lubricant-Cups, (for which Letters Patent have been granted to me in Great Britain, No. 4,017, dated March 23, 1886,) of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an oil or grease cup employed to feed the lubricant to machinery journals and bearings; and it consists in the devices and their combinations, hereinafter particularly described, and as more at length recited in the claims.

Figure 1 is a vertical central longitudinal sectional view of a lubricant-cup containing my invention. Fig. 2 is a similar view of the same on a plane at right angles to the plane of the section in Fig. 1. Fig. 3 is a top view with the screw-regulating cap removed. Fig. 4 is an under face view of said cap. Fig. 5 is a central longitudinal view of my improved ratchet-spring for controlling the regulating-cap; and Fig. 6 is a plan of the piston of the grease-cup.

A is the cup for holding the lubricant, and is usually in the form of a cylinder with a closed bottom, through and from which extends the discharge-passage A', by which the cup may be seated in the bearing to be lubricated, and through which the lubricant passes to the journal. A cap, B, closes the top of the cup.

C is a rod, the lower end of which forms or carries a valve, c, which works to a seat, a, on the cup end of the discharge-passage A'. This rod reaches longitudinally through the cup and passes through a tube, b, fixed or formed centrally of the cap B, and its upper end is fixedly seated in the cap C', through which it passes, said cap being interiorly threaded and working upon the exterior threaded surface of the tube b. An air-inlet is provided at c'.

D is a piston, which is conformable in outline to the interior of the cup, and has a transverse opening at its center, at d, through which the valve-rod C passes. The piston is free to move longitudinally of the cup, and is oper-

ated to be driven or pressed to the lower end of the cup by the spring D', and is prevented from escaping from the lower end of the rod by the pin or collar c² thereon, as shown. Near the upper end of the valve-rod, within the cup, is the pin c³, extending transversely of the rod, as shown. The wall of the central opening, d, in the piston has the annular recess d', of a depth equal to the length of the extended ends of the pin c³, and the upper face of the piston has the transverse slot d², leading to said annular recess, and adapted to allow said pin c³ to pass to said recess.

It is evident that when the cup is freshly filled with grease and it is desired to seat the piston upon the top of such contained grease and to replace the cap B, the piston, which, with its spring and the valve-rod, has been removed from the cup with the cap, in order that the charge of grease may be introduced, may be slid to the upper end of the rod, the spring being collapsed between the piston and the cap B, and the piston be locked in this position on the rod by passing the pin c³ through the slot d² into the recess d' and then giving the piston a half-turn on the rod, so as to seat the pin c³ in said recess. The cap B and the spring-piston may then be seated, the piston being introduced into the cup without the liability of the piston to press upon the grease in the cup. When the cap B is secured in place, a half-turn of the valve-rod, which may be effected by its attached cap C', will bring the pin c³ coincident to the slot d², when the spring D' will operate to release the piston from the pin and press the piston upon the grease, whereby, when the valve c is opened, the grease will be forced out through the discharge-passage A'.

E is a leaf-spring composed of the shank e, the ring-like body e', and the tongue e², on the upper face of which is the projection e³. This spring, it is obvious, may be stamped and struck complete in one piece from a suitable piece of steel. This spring is mounted on the top of the cap B by means of a rivet passing through the shank e, and the ring-like body e' encircles the tube b, so that the tongue e², bearing the projection e³, is brought under the perimeter of the cap C', as shown. This under side of the perimeter of the cap C' has the

radial ratchet-teeth c^4 , and the projection e^3 is adapted to engage the notches between these teeth, thus constituting a spring-pawl. The cap C' may thus be held in any desired position on the tube b , and at the same time the spring-pawl permits the rotation of the cap at pleasure. The turning of the cap C' , which I term the "regulating-cap," up or down on the tube b operates to open or close more or less the valve c , and the described spring thus affords an effective means for holding the valve fixedly open to any desired extent, or firmly closed. The engagement of the ring-like body e' of the spring with the exterior of the tube b prevents the shifting or turning of the entire spring on its rivet-fastening to the cap B.

With the screw-cap C' , I connect an indicator, whereby the position of the said cap will indicate to the eye when the valve is closed down to its seat, and also to what extent the valve is opened.

To the cap C' , I attach a pointer, C^2 , preferably by means of a disk, c^6 , which is pressed into engagement with the top of the cap by a nut, c^7 , turning on the extremity of the valve-rod, the said disk carrying the pointer C^2 . The pointer is thus given a lateral adjustable connection to the valve-rod and cap C' . I prefer to put the indicator-scale shown in Figs. 1 and 3, and which may be figures, letters, or other characters, onto the upper face of the cap B of the oil-cup, with the pointer C^2 reaching down from the disk c^6 to near the top of cap B. It is also desirable to arrange the scale and pointer so that when the pointer points to zero of the scale the valve will be closed, and as the cap C' is turned to open the valve suc-

cessive characters on the scale will be pointed to by the pointer moving with the cap. Thus the indication of the extent of the opening of the valve and the act of opening the valve are both effected by the cap C' , and the operator is enabled to readily set the valve for any desired rate of outflow of the grease from the cup. Of course the indicator-scale may be put on the cap C' , and an adjustable pointer fixed on the cap B, which would be the equivalent of the arrangement described.

In the devices described, when any wear takes place of the valve on the valve-seat, the pointer may be readjusted to the cap C' , so that when the valve is closed the pointer will indicate zero or the other proper character on the scale.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a lubricant-cup having the lubricant-holder and its discharge-passage A' , and cover B, valve-rod C, piston D, and its operating-spring D' , the combination of the pin c^3 in the valve-rod, said piston D provided with the annular groove d' and slot d^2 in its central opening, as and for the purpose specified.

2. In a lubricant-cup having the lubricant-holder A and its discharge-passage A' , cover B, and its central exteriorly-threaded tube, b , and valve-rod C, and its hollow interiorly-threaded cap C' , the combination therewith of the leaf-spring E, carrying projection e^3 , adapted to engage the ratchet e^5 on said cap, as and for the purpose set forth.

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Witnesses:

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