(No Model.)

C. C. TYLER.

OIL CUP.

No. 531,401. Patented Dec. 25, 1894.

Fig. 1.

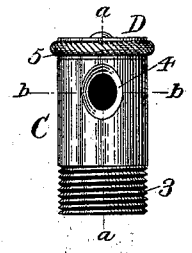


Fig. 2.

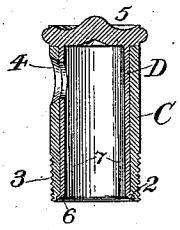


Fig. 3.

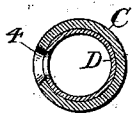


Fig. 4.

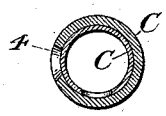


Fig. 5.

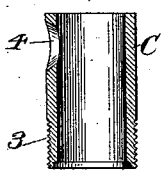


Fig. 6.

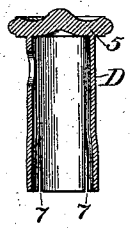
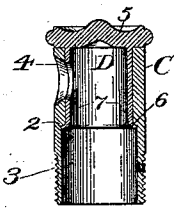


Fig. 7.



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By his Attorney,
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UNITED STATES PATENT OFFICE.

CHARLES C. TYLER, OF HARTFORD, ASSIGNOR OF ONE-HALF TO R. S. TYLER, OF JEWETT CITY, CONNECTICUT.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 531,401, dated December 25, 1894.

Application filed May 9, 1894. Serial No. 510,619. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. TYLER, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Oil-Cups, of which the following is a specification.

This invention relates to oil-cups; the object of the invention being to furnish a simple, compact and effective oil-cup adapted for use in connection with small oil-holes in bearings and other parts of machinery, and to so construct the same that it will be absolutely dust-tight when closed, may be readily opened for the introduction of oil, and will have no detachable parts liable to become loosened and lost.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view of an oil-cup embodying my invention, the oil-hole being shown open. Fig. 2 is a longitudinal section of the same, taken in line *a—a*, Fig. 1. Fig. 3 is a cross-sectional view of the same, taken in line *b—b*, Fig. 1. Fig. 4 is a similar cross-sectional view, showing the oil-hole closed. Fig. 5 is a longitudinal section of the outer-member, or casing, of the oil-cup. Fig. 6 is a central longitudinal section of the inner member of the oil-cup, said figure showing the member without the holding-flange at the lower end thereof, or in proper condition to be inserted into the outer member. Fig. 7 is a central longitudinal section of a slightly modified form of oil-cup embodying my invention.

Similar characters designate like parts in all the figures.

In the preferred form thereof herein shown, my improved oil-cup consists of two transversely-perforated cylindrical members, C and D, respectively of different diameters fitted for rotation one within the other, and permanently fixed against longitudinal movement with relation to each other by a flange upon one interlocked with a shoulder upon the other, as will be hereinafter more fully described.

The member C, which constitutes the outer-member or casing of the oil-cup, is in the nature of a tube open at both ends, as clearly shown in Fig. 5, said tube being counterbored at its lower end to form a shoulder, 2, which may be more or less remote from the extreme end thereof, and being externally screw-threaded, as shown at 3, whereby the same may be screwed into a screw-threaded oil-hole formed in the bearing to which it is desired to attach the oil-cup. The opposite or upper end of the casing will be perforated transversely, as shown at 4, to form an oil-hole through which oil may be introduced into the oil-cup.

The inner-member or revoluble slide D is in the nature of a tube closed and externally flanged at its upper end, as shown at 5, whereby it may overlap and close the upper open end of the casing C within which said member D is fitted to rotate, the external diameter of said member D being fractionally less than the internal diameter of the casing C, and having a transverse perforation therein to correspond and register with the perforation in said casing.

As a means for locking the two members together, when assembled, the lower end of the inner member D will, when the said member is seated in the outer member, be turned outwardly or upset to form an external flange, as shown at 6, which flange engages the shoulder 2 of the casing C, this construction preventing any longitudinal movement of the parts relative to each other, but permitting the inner-member to be turned within the outer-member; and as a means for preventing accidental rotation of the inner-member D with relation to the outer-member C, this member will be preferably slit longitudinally at its open end, as shown at 7, to form resilient arms or portions adapted for being bowed or bent outwardly as shown in Fig. 6, and to bear against the inner wall of the casing C with a yielding pressure, the extent of yielding pressure being sufficient to prevent any accidental turning of said member.

The peripheral flange C at the lower edge of the member D will, in practice, be formed by spinning or upsetting the metal at the edge of said member laterally after the two members C and D are assembled, which will be readily understood by comparison of Figs.

6 and 7 of the drawings, the member D being in the condition illustrated in Fig. 6 preparatory to being interlocked with the member C.

While it is preferable to form an external flange upon the inner-member D to engage a shoulder upon the interior of the casing C, I do not wish to limit myself to this particular form of connection between the two members, as in some cases it may be desirable to externally groove the inner-member D and form an internal annular flange upon the outer-member C to fit said groove, by spinning or otherwise.

The chief novelty of my present invention consists in providing two cylindrical members of different diameters, one of which is open at both ends, and the other of which is closed at one end only, and has an external flange to overlap the open end of the other member, and in interlocking the two members against longitudinal movement with relation to each other by means of an annular flange upon one member engaging an annular shoulder or groove of the other member.

One especially important feature of my present invention is the special construction and operation of the two revoluble members C and D, whereby the outer member is adapted to be screwed into the oil-hole of the part to which the oil-cup is to be applied, thus rendering the outer member a fixture with relation to the part to which it is attached, and the inner member revoluble with relation to the outer member, whereas in oil-cups of this class as heretofore made where revoluble members constituted said cup, it has been customary to fix the inner member and rotate the outer member. By my construction, it will be readily seen, that when the oil-cup is applied to a revolving part of a machine, as a pulley, or when applied to the hub, for instance, of a bicycle, any oil which might pass between the two members if these are loosely fitted naturally passes back again when the position of the oil-cup is reversed, and this action is such as to tend to hold the oil within the cup and maintain the cleanliness of the exterior of the cup as well as the part to which said cup is attached, whereas with oil-cups constructed to have the inner member fixed and the outer member revoluble, any oil which once works out of the inner member into the joint between the inner and outer members tends to continue working outward, thereby covering the outside of the cup with oil as well as the outside of the part to which said cup is attached. It will also be noticed that the divided portion of the inner tube forming the resilient arms for holding the inner tube against rotation is opposite to the openings through which the oil is inserted, so that the surfaces adjacent to said opening in the inner tube are held firmly in contact with the interior of the outer tube, thereby taking up any play between the two tubes in such a manner as to prevent the escape of oil from the cup.

By constructing an oil-cup after the manner herein shown and described, I am enabled to produce a merchantable article at a very small cost and dispense with detachable parts commonly employed in connection with oil-cups of ordinary construction.

Having thus described my invention, I claim—

1. The herein-described oil-cup, it consisting of an inner cylindrical member having an external flange or shoulder at each end thereof adapted for engaging and preventing longitudinal movement of an outer member, and a concentric outer member supported between the end-flanges of the inner member, substantially as described.

2. The herein-described oil-cup, it consisting of a cylindrical transversely-perforated casing externally screw-threaded at one end, and a cylindrical coincidingly-perforated member revolubly contained in said casing and having an external flange at each end thereof, in engagement with opposite ends of the casing, substantially as described and for the purpose set forth.

3. In an oil-cup, in combination, the open-ended cylindrical outer member screw-threaded at one end and having the transverse oil-hole and internal annular shoulder, and the inner cylindrical member closed and externally flanged at one end and having a transverse perforation to register with the oil-hole of the casing, and having an external flange at its opposite end in engagement with the shoulder of said casing, whereby the parts are locked against longitudinal movement, substantially as described.

4. In an oil-cup, in combination, the internally-shouldered cylindrical casing or outer member C open at both ends and having the oil-hole 4 therein, and the cylindrical inner-member D closed and externally flanged at its upper and lower ends and slit longitudinally at its lower end to form resilient arms for holding the said member against accidental rotation within the casing and locked against longitudinal movement with relation to said casing by means of the external flange engaging the shoulder of said casing, substantially as described.

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