J. G. HALLAS & W. N. WEEDEN.

Oil-Cup.

No. 161,783. Patented April 6, 1875.

Fig. 1.

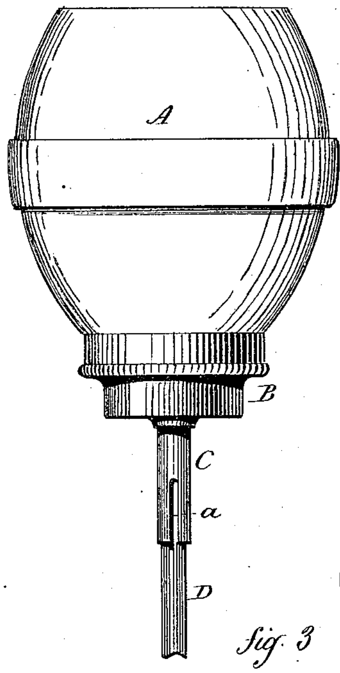


Fig. 2.

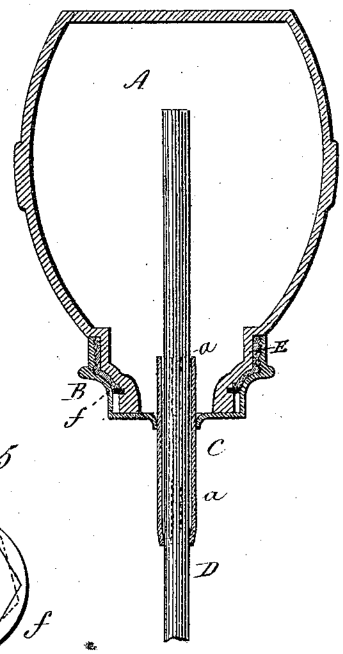


Fig. 5

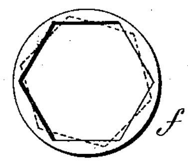


Fig. 3

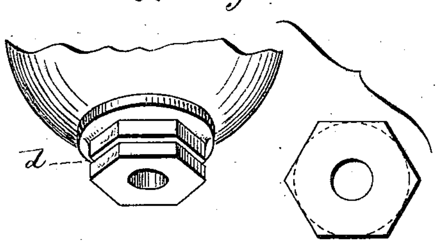
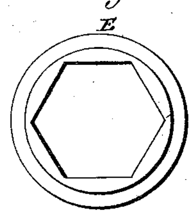


Fig. 4



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UNITED STATES PATENT OFFICE.

JAMES G. HALLAS AND WILLIAM N. WEEDEN, OF WATERBURY, CONN., ASSIGNORS TO BENEDICT AND BURNHAM MANUFACTURING COMPANY OF SAME PLACE.

IMPROVEMENT IN OIL-CUPS.

Specification forming part of Letters Patent No. **161,783**, dated April 6, 1875; application filed December 31, 1874.

To all whom it may concern:

Be it known that we, JAMES G. HALLAS and WILLIAM N. WEEDEN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Oil-Cup; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, a side view; Fig. 2, vertical central section; Figs. 3, 4, 5, detached views.

This invention relates to an improvement in that class of oil-cups which employ a rod reaching up into the cup and down to the journal, to conduct the oil from the cup to the journal. In the usual construction this rod—or in some cases several rods are used—is loose in the tube, its lower end riding directly on the journal, depending upon the agitation imparted to the rod by the journal to draw the oil from the cup, and in some cases that part of the journal upon which the rod rides has been made uneven or cam-shaped, so as to impart to the rod a vertical reciprocating movement, or to otherwise agitate the rod, that by such agitation the oil would be caused to flow from the cup down the rod to the journal. As such agitation of the rod is easily interrupted by a particle of foreign matter passing into the tube beside the rod, it follows that the flow of oil is to the same extent liable to interruption.

The object of this invention is to avoid the hitherto necessary agitation, as well as to avoid the contact of the rod with the journal, whereby the constant wear upon the journal, and at their point of contact, is avoided; and the invention consists, first, in constructing the tube so as to hold the rod by friction, and yet allow a space around the rod for the flow of oil, as more fully hereinafter described. Second, in constructing the cup with a neck of other than cylindrical form, over which the metallic ring sits, and is prevented from turning by said form, and with an annular groove around the neck, combined with an auxiliary collar to sit over said neck and turned in said groove to interlock with the angles of the neck, so as to secure said metallic ring, as more fully hereinafter described.

A is the cup of glass, or other suitable material, provided with a suitable socket, B, in which is a vertical tube, C, extending a short distance up and down from the socket, as seen in Fig. 2. This tube C is split at one or both ends, as at *a*, and the ends slightly contracted, so as to lessen the diameter of the tube at the ends. Through this tube the rod D is set. This rod is of less diameter than the interior of the tube, so that there will be a space within the tube around the rod, but the contraction at the end of the tube will produce sufficient friction upon the rod to hold it at any point of elevation at which it may be set. The rod extends up into the cup, as seen in Fig. 2. The rod is set in the usual manner, but so that it will not quite touch the journal, or so as to leave a slight space between the end of the rod and the surface of the journal. The cup is supplied with oil in the usual manner, and placed over the journal. The oil will flow into the tube around the rod; thence, through the slits or openings at the lower end of the tube, down the rod to the journal. If the journal be still, or not revolving, the flow of the oil will stop, but as soon as the journal commences to revolve the oil between the end of the rod and the journal will be carried out by the journal. This drawing away of the oil from the end of the rod causes, by capillary attraction, a flow of the oil downward, so that the space between the journal and rod will and must be always full; hence the quantity of oil supplied to the journal will depend upon the distance between the journal and end of the rod, and the quantity is regulated by adjusting the rod vertically, the friction of the tube upon the rod allowing of such adjustment, but yet holding the rod firmly at the desired elevation. Such adjustment may, however, be made by a screw through the cup, but in any case the rod should closely fit the tube, for a large part of its circumference, at the lower end, as the slit or slits *a* allow the flow

of oil down the rod only so fast as it is drawn by capillary attraction, caused by the removal of the oil from beneath the pin. By thus suspending the rod it remains stationary, and the wear caused by the constant agitation or working of the rod in the usual construction is avoided, and a flow of oil during the time it is needed is insured. Various devices have been resorted to for the purpose of attaching the metallic ring to the cup and avoid the use of cement or solder, but more or less difficulty is experienced in the manufacture or use of such devices, which is avoided in the second part of this invention. The lower or neck end of the cup is made of irregular form, represented in Fig. 3 as hexagonal. Around this is a groove, *d*. The metallic ring E (see Fig. 4) is made with an opening corresponding to the shape of, and so as to pass freely over, the end of the cup. The depth of the metallic ring is such that when in place its upper end will rest against the body of the cup, and the lower end lie close to the groove *d*, as seen in Fig. 2. Then a collar, *f*, Fig. 5, is passed on over the end of the cup, the opening in the collar corresponding to the shape of the end of the cup, and when set against the end of the metallic ring the collar is turned in the groove *d*, bringing the sides of the opening in the collar beneath the angles or larger diameter of the end of the cup, as denoted in broken lines, Fig. 5. This locks the metallic ring onto the cup, so that it cannot be removed until the collar be returned to bring its angle coincident with the angles of the cup. It will be understood that the metallic ring is threaded to receive the socket in the usual manner.

We do not broadly claim the employment of a rod to conduct the oil from a cup to a journal, as such, we are aware, is an old invention, and may be seen in a French patent granted to Victor Lieuvain, December 17, 1862, No. 56,577, but—

What we do claim as our invention is—

1. In combination with an oil cup or reservoir, a tube, C, contracted at one or both ends, and the rod D held in suspension in said tube, substantially as and for the purpose specified.

2. The combination of the cup, its neck of other than cylindrical form, and constructed with the groove *d*, the metallic ring E, constructed to pass onto the neck above the groove, and the auxiliary collar *f* set onto the neck, and turned in said groove to interlock with the angles of the neck, substantially as described, to secure the neck to the cup.

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