J. POWELL.

LUBRICATOR.

No. 248,609. Patented Oct. 25, 1881.

FIG. 1.

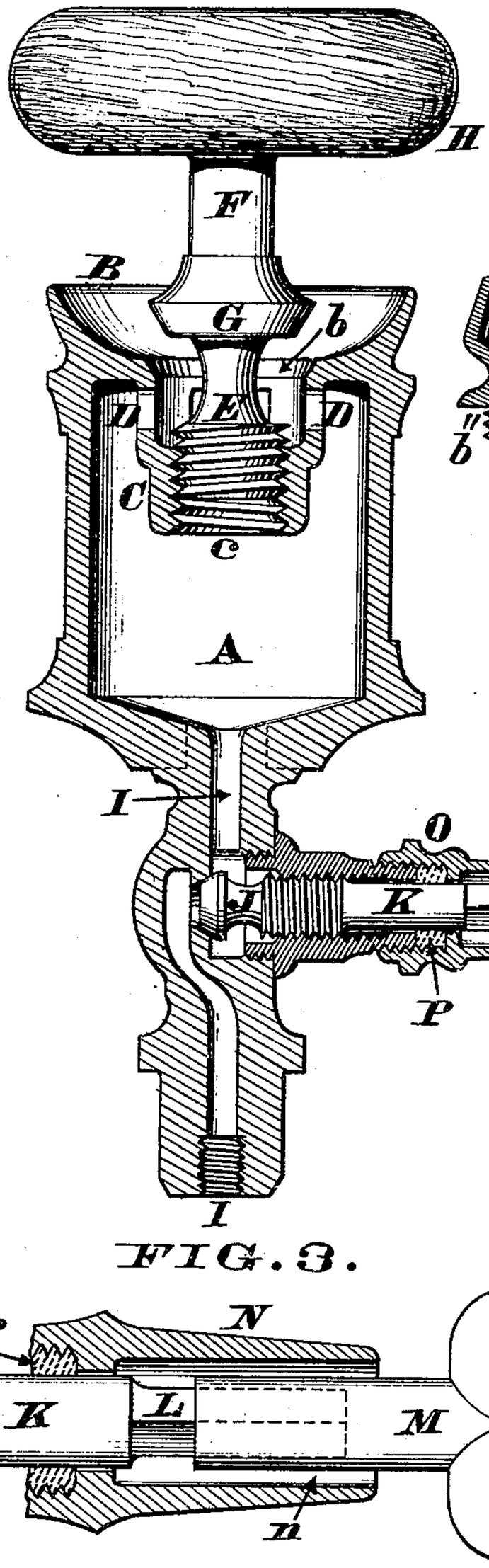


FIG. 3.

FIG. 5.

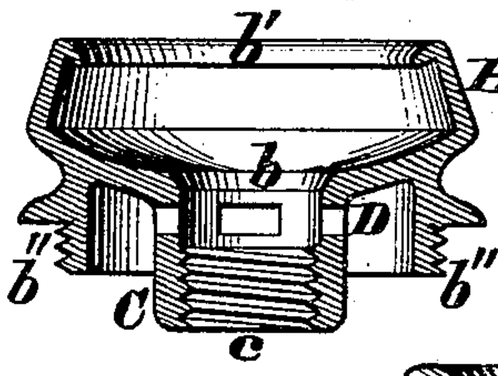


FIG. 2.

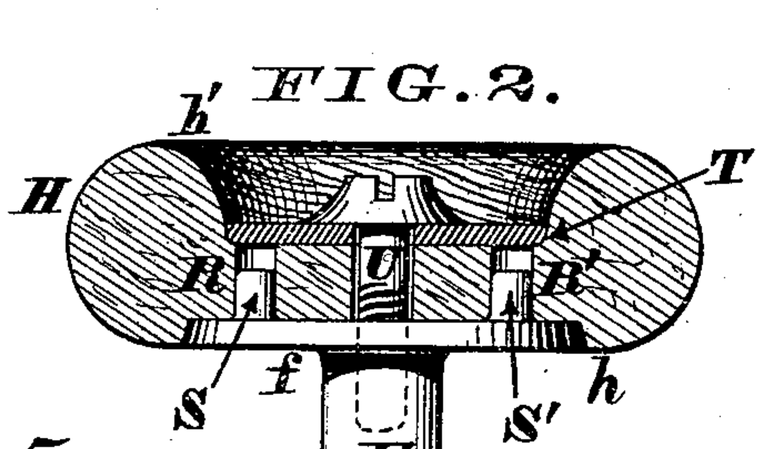
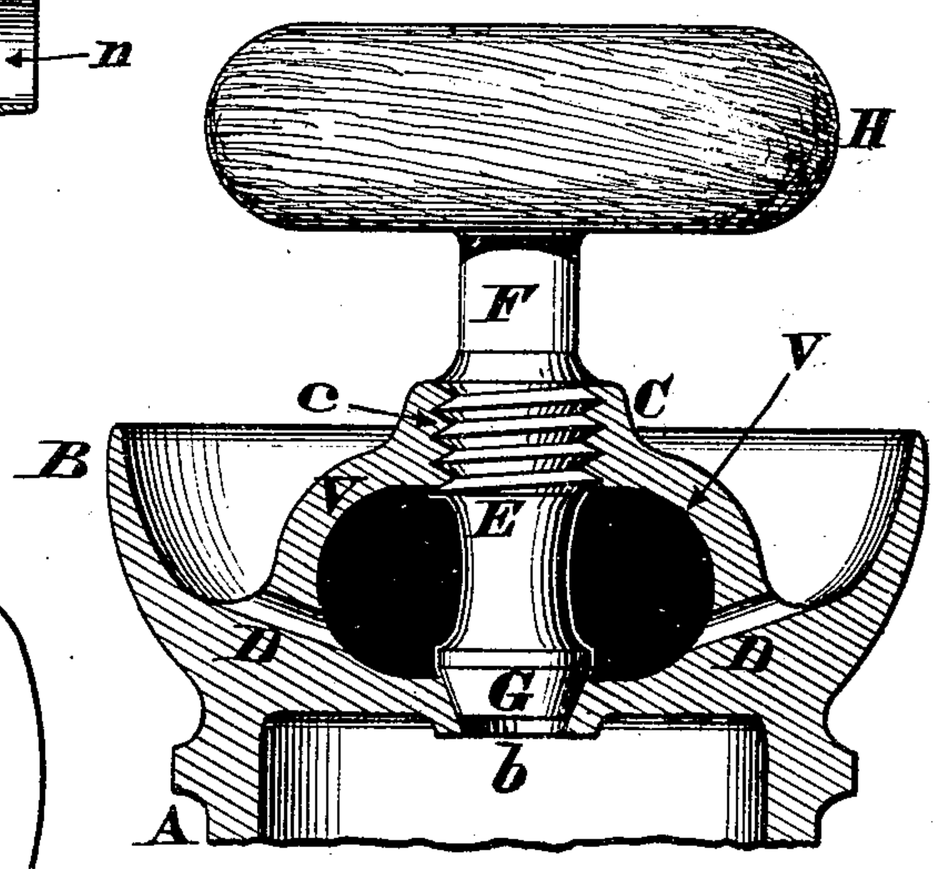


FIG. 4.



Attest.

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UNITED STATES PATENT OFFICE.

JAMES POWELL, OF CINCINNATI, OHIO.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 248,609, dated October 25, 1881.

Application filed September 2, 1878.

To all whom it may concern:

Be it known that I, JAMES POWELL, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Lubricators, of which the following is a specification.

This invention relates to those lubricators whose reservoirs are surmounted with a cup or bell-shaped receptacle, from which receptacle the oil or other lubricant flows into the reservoir as soon as the screw-plug is elevated by rotating a hand-wheel or crank located above said oil-receptacle.

The first part of my improvements comprises a novel construction of the lubricator, whereby, as the screw-plug is elevated from its seat to charge the reservoir with oil, the accumulated gases and steam are deflected against the sides and inwardly-projecting rim of the cup, instead of being thrown out violently on the person of the engineer.

The second part of my improvements comprises a novel combination of devices, whereby I am enabled to dispense with channels or grooves or other oil-passages in the operating-stem of the screw-plug. The oil-cup has a depending neck projecting into the reservoir, the lower portion of said neck being provided with a female thread, wherewith is engaged the male screw of the plug-stem, whose upper or exposed end carries a hand-wheel or other convenient rotating device. Situated between the screw and hand-wheel of this stem is a conical plug adapted to close against a suitable seat in the cup or neck when the supply of oil is shut off; but as soon as it is desired to charge the reservoir said plug is elevated from its seat, and the lubricant then flows through lateral ports in the neck and fills said reservoir, as hereinafter more fully described.

In the annexed drawings, Figure 1 is an axial section of one form of my lubricator, the plug being shown open and the discharge-valve closed. Fig. 2 is a section of another form of the device, the screw-plug being disengaged from the reservoir. Fig. 3 is an enlarged sectional view, showing a key applied to the non-circular arbor of the discharge-valve stem; and Fig. 4 is an axial section of the upper portion of an old and well-known form of lubricator. Fig. 5 represents a modification of my invention.

The reservoir A, which may be of any suitable size and shape, is furnished at its upper end with a cup or bell-shaped receptacle, B, which cup may be cast with said reservoir, as seen in Figs. 1, 2, and 4, or it may be separate therefrom, as shown in Fig. 5, in which illustration said cup is represented as provided with a male screw, *b''*; but, if preferred, this cup may be connected to reservoir A with a female screw.

In the more complete form of my lubricator cup B has a marginal flange or rim, *b'*, as seen in Figs. 2 and 5, which rim is so shaped as to deflect steam and heated gases inwardly when the screw-plug is first elevated from its seat, preparatory to charging reservoir A. This inward deflection of such vapors may be assisted by imparting to the walls of said cup the shape shown in Fig. 5, or any effective approximation to this shape. Furthermore, the center of cup B is counterbored at *b* to serve as a seat for the screw-plug, said seat being located at the upper end of a depending neck, C, screw-threaded interiorly at *c*, and pierced above the latter with one or more apertures or ports D.

Adapted to engage with thread *c* is the male screw E of stem F, whose conical plug G seats in counterbore *b* when it is desired to close communication between reservoir A and cup B.

H is the hand-wheel or other rotating device of stem F.

I is the discharge-channel of reservoir A, and J is the controlling-valve of this channel, said valve being furnished with a screw-threaded stem, K, whose outer end terminates with a square or other non-circular arbor, L, adapted to receive the key or socket-wrench M, as seen in Fig. 3. This arbor L is housed within the chamber or bore *n* of prolongation N of the stuffing-box cap O, which prolongation may be cast in one piece with said cap, or it may be screwed to the same.

P is the packing around stem K.

The plug-stem F has a flange or collar, *f*, that fits into a recess, *h*, on the under side of hand-wheel H, which latter is pierced at R R′ to receive stumps S S′ of said flange, as seen in Fig. 2. Furthermore, this wheel is recessed on its upper side at *h′* to admit a disk, T, which is se-

cured in position by a screw, U, tapped into the upper end of plug-stem F. By this arrangement the hand-wheel and plug-stem are securely united together.

To charge my lubricator, valve J is closed, and stem F is rotated so as to elevate the plug G from its seat *b*, as seen in Fig. 1, after which act oil is poured into cup B and flows through ports D into reservoir A, the plug being again screwed down onto its seat as soon as said reservoir is filled. Key M is now inserted in chamber *n* and applied to arbor L, so as to adjust the discharge-valve J in such a manner as to deliver the proper quantity of lubricant when the key is disengaged from said arbor. As this arbor is housed within chamber *n*, it is evident stem K cannot be rotated by any person except the custodian of the key, and consequently the flow of oil can be maintained with the utmost regularity and certainty.

If preferred, the arbor L may be omitted, and stem K may have a square or non-circular hole in it to receive a suitable shank of key, M, or the outer end of said stem may be slotted to admit a screw-driver or other handy implement.

I am aware that a lubricator with an external or upwardly-projecting neck, as seen in Fig. 4, is not new, and therefore my claim to the charging appliances of the device is expressly limited to the stem F, whose plug G is situated above the screw E, and is adapted to seat within the counterbore *b* of the internal depending neck C *c* D, as herein described.

I claim as my invention—

1. An improved lubricator consisting of the oil-cup B, having an internal depending neck, C *c*, pierced with one or more ports, D, and provided with a seat, *b*, to receive the plug G, said plug being situated between the operating-screw E and the upper end of plug-stem F, as herein described, and for the purpose set forth.

2. A lubricator oil-cup having the inwardly-deflecting rim *b'* or its described equivalent, for the purpose specified.

In testimony of which invention I hereunto set my hand.

JAMES POWELL.

Witnesses:

JAMES H. LAYMAN,

GEORGE H. KOLKER.