(No Model.)

A. W. SWIFT.

LUBRICATOR.

No. 301,300. Patented July 1, 1884.

FIG-I-

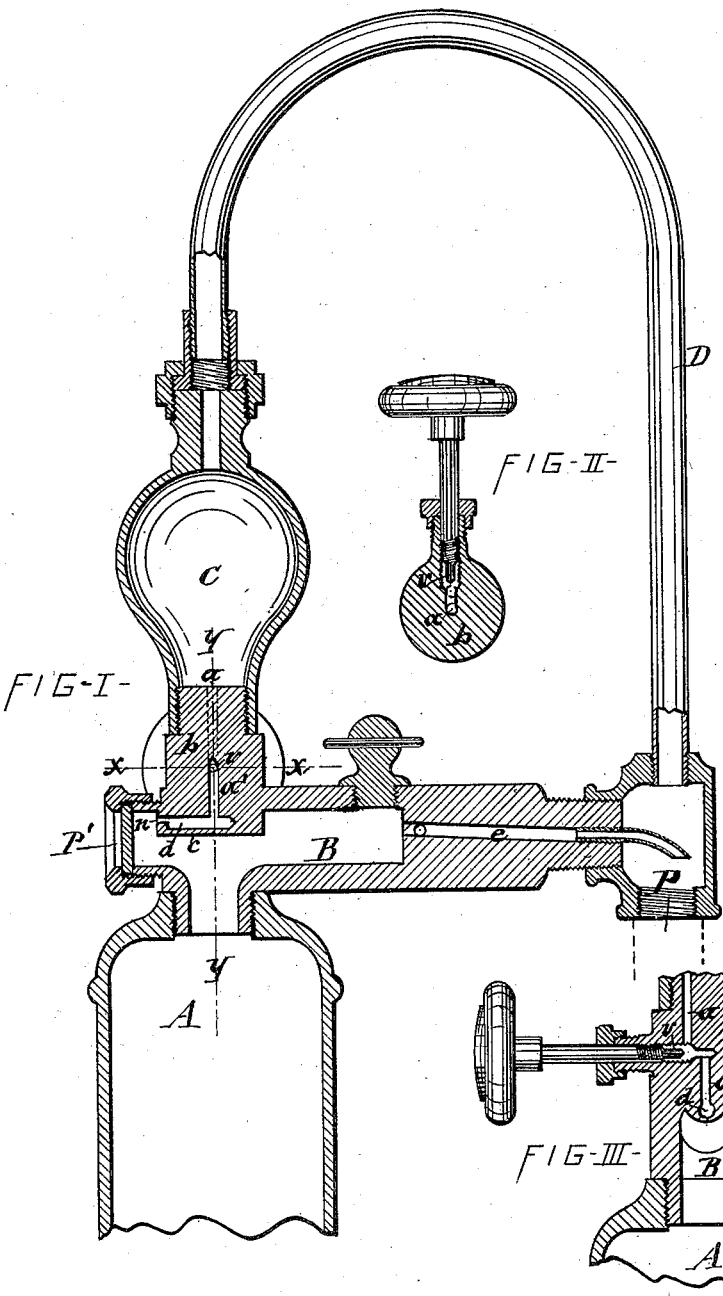
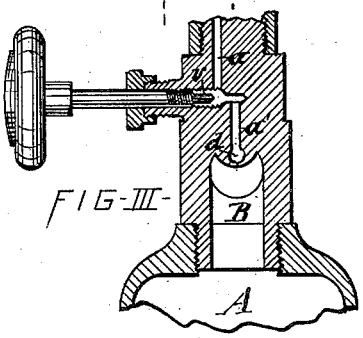


FIG-II-

FIG-III-



ATTEST—

E. Bondixon

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per Dodd, Laass & Hay

his Attys

UNITED STATES PATENT OFFICE.

ALLEN W. SWIFT, OF ELMIRA, NEW YORK.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 301,300, dated July 1, 1884.

Application filed December 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALLEN W. SWIFT, of Elmira, in the county of Chemung, in the State of New York, have invented new and useful Improvements in Lubricators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of lubricators which are known under the title of "sight-feed lubricators," and are also sometimes designated "displacement-lubricators," said lubricators being made to operate automatically by the admission of condensed steam into the interior of the cup, where, by reason of the superior specific gravity, it displaces a corresponding quantity of the lubricant, which by a suitable duct escapes to the pipe leading to the parts to be lubricated, an observation-port or transparent portion of the cup in front of the discharge end of the water-duct exposing to view the ingress of the water, and thus rendering the operation of the lubricator visible.

The object of my present invention is to simplify the construction of said lubricators, and thus reduce the cost of the manufacture of the same, which object I attain by the peculiar features of construction hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure I is a vertical transverse section of a lubricator embodying my improvements; and Figs. II and III are sectional views, respectively, on lines *x x* and *y y*.

Similar letters of reference indicate corresponding parts.

A represents the lubricant cup or reservoir, suspended from a tubular arm, B, by which the lubricator is attached to the pipe P, which leads to the part to be lubricated, the cavity of said arm communicating with the interior of the suspended cup and constituting an extension of the same. A duct, *e*, extended through the attached end of the arm, allows the lubricant to escape from the cup to the pipe P, which conveys it to the parts to be lubricated.

C denotes the condenser, screwed onto an upward-projecting boss, *b*, on the arm B, said condenser receiving steam through a pipe, D, extended therefrom to the steam-pipe P. The communication between the condenser and cup has heretofore been formed by an extra tube extended through the boss *b* to conduct the water of condensation to the lubricant-cup. A trap or water-seal was arranged at the discharge end of the aforesaid tube to prevent the oil from entering the water-duct, the final delivery of the water into the cup being arranged to face an observation-port or transparent portion of the lubricant-reservoir or its extension.

In order to obviate the expense of fitting the extra tube in the boss *b*, and, in fact, dispense with the employment of extra water-tubes of any description inside of the lubricant-reservoir, and to also dispense with the trap heretofore employed in conjunction with the aforesaid tubes, I form the water-duct of the tubular or perforated bosses *b* and *c*, which are integral with the reservoir and lead from the condenser or source of water toward the observation-port P′. The perforation of the boss *b*, to which the condenser is attached, I prefer to form by drilling from the top of said boss part way down into the same, as shown at *a*, and drilling from the side of the boss horizontally across the lower end of the aforesaid vertical drilling and into a channel, *a′*, which is formed below the channel *a*, by a core set in the mold when casting the reservoir. The boss *c* is on the interior of the reservoir, and has a horizontal channel, *d*, which is rectilineal and can be easily drilled into it. The two channels *a′* and *d* intersect each other, and thus establish communication between the condenser and interior of the reservoir. To prevent the oil from entering the channel *d*, I contract the discharge end thereof, or partly close the same in any suitable manner, leaving only a small aperture, *n*, for the escape of the water, which issues gradually and accumulates on the outside of the aperture until it forms a globule of sufficient size to cause it to drop from the end of the duct, whence it descends through the oil to the bottom of the reservoir. The constant outward pressure of the water against the aperture *n* prevents the oil from entering the duct *d*. By means of a valve, *v*, in the horizontal channel which connects the two

vertical channels *a a'*, the influx of water to the lubricator is regulated, and consequently the flow of lubricant from the cup is controlled.

Having described my invention, what I claim is—

1. In a lubricator of the class specified, the water-induction channel extended rectilineally from the cavity of the cup into a boss on the interior of the cup, substantially as set forth.

2. In combination with the cup provided with the transparent portion P' and condenser C, the boss *b*, having vertical perforations *a a'*, and the boss *c*, having horizontal perforation *d*, intersecting the vertical perforations substantially in the manner described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Elmira, in the county of Chemung, in the State of New York, this 4th day of December, 1883.

ALLEN W. SWIFT. [L. S.]

Witnesses:

WALTER P. CHASE,

HENRY V. RANSOM.