F. COLLIGNON.
Lubricator.

No. 196,742. Patented Nov. 6, 1877.

FIG. 1.

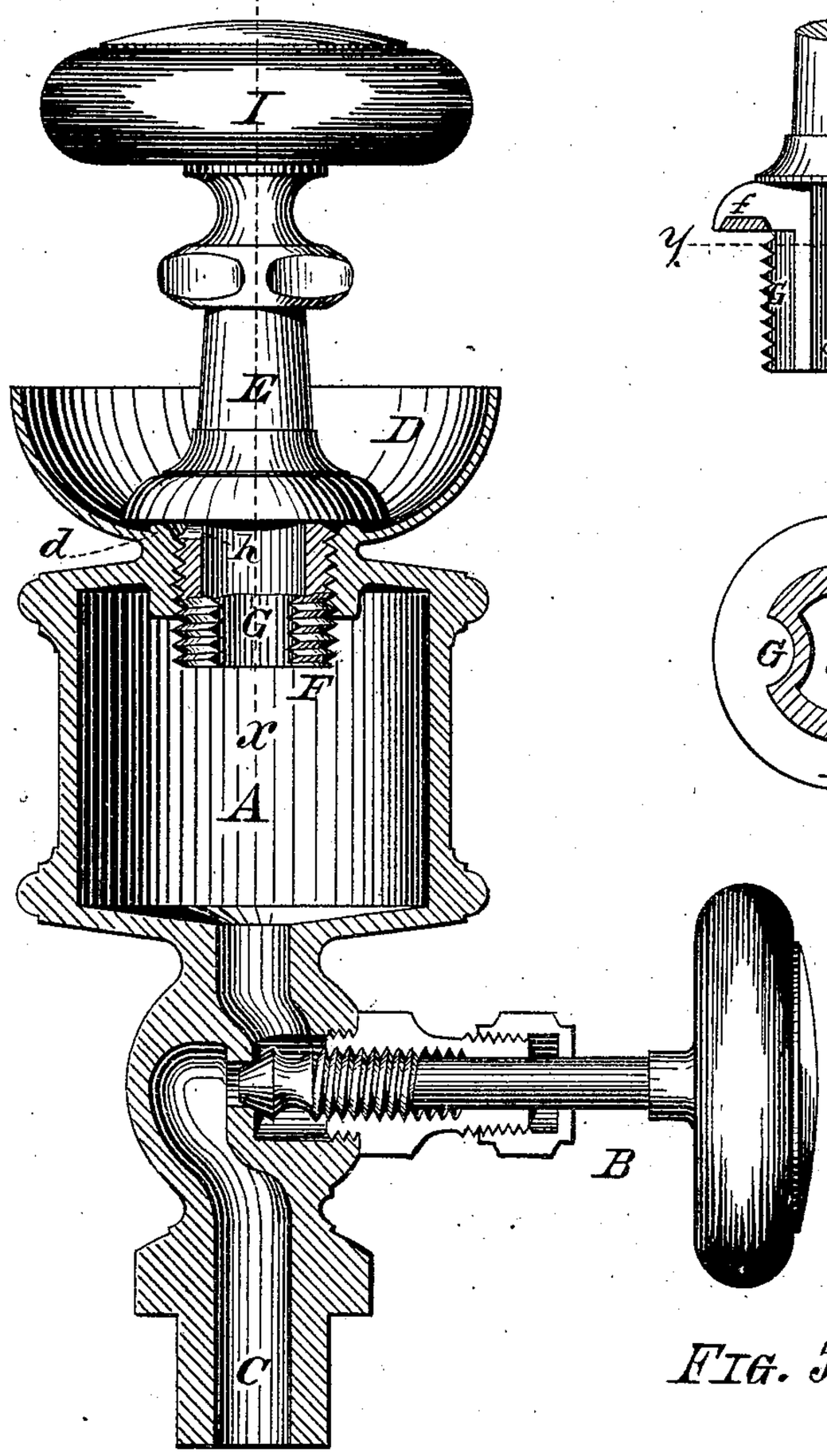


FIG. 2.

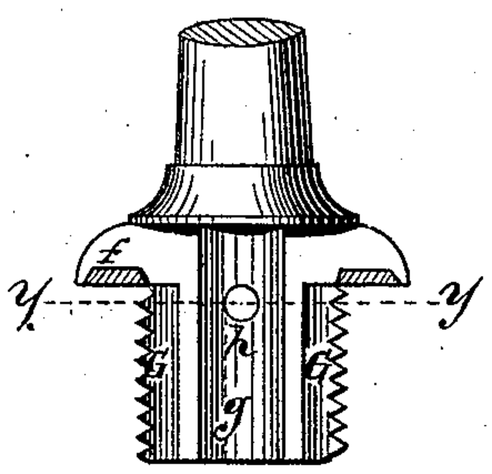


FIG. 3.

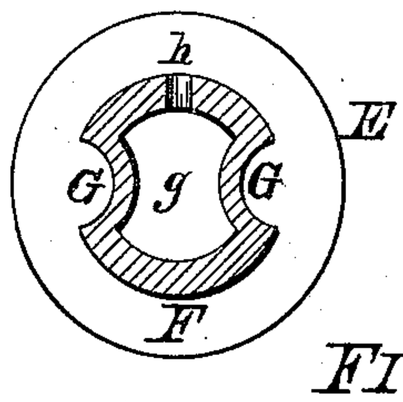


FIG. 4.

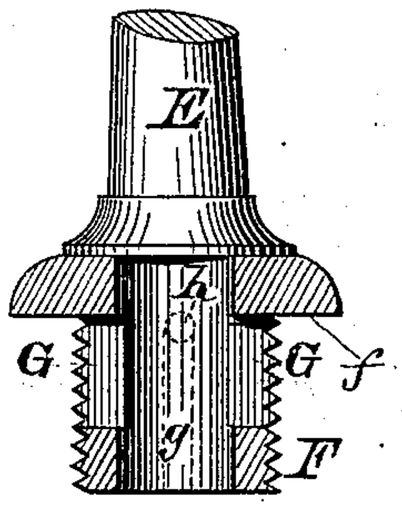
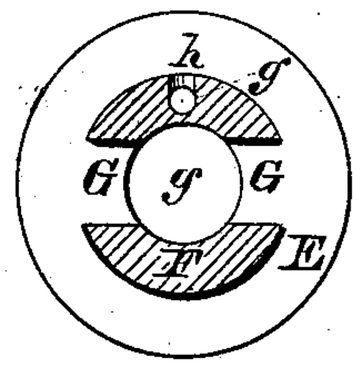


FIG. 5.



Witnesses:

Frank Hirsch

John Preis.

Inventor:

Frank Colligneon

by Michael J. Stark

his attorney

UNITED STATES PATENT OFFICE.

FRANK COLLIGNON, OF BUFFALO, NEW YORK.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **196,742,** dated November 6, 1877; application filed March 1, 1877.

To all whom it may concern:

Be it known that I, FRANK COLLIGNON, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Lubricators; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to improvements on lubricators for steam and similar engines; and it consists in the arrangement of parts and details of construction, as hereinafter first fully described, and then pointed out in the claims.

In the drawings heretofore mentioned, Figure 1 is a longitudinal sectional elevation of my improved lubricator. Fig. 2 is a fractional elevation of its closing-plug in line *x x* of Fig. 1. Fig. 3 is a sectional plan in line *y y*, Fig. 2. Figs. 4 and 5 are sectional views of a modified form of my improved screw-plug.

Like letters of reference indicate corresponding parts in all the figures.

A is the oil or lubricant reservoir. It is of the usual construction as regards its interior arrangement, the globe-valve B, and shank C below. This reservoir is provided on its upper end with a bell-shaped receiver, D, communicating with the interior of the reservoir A by means of a central passage having an internal screw-thread. The bottom of said receiver D, or rather that part surrounding the threaded passage, has an annular bead or rise, *d*, serving as a seat for the screw-plug E, which screw-plug has a threaded shank, F, below a square-faced seat, *f*, provided with one or more external grooves, G, terminating below the said seat *f*. The shank F is hollow, so as to form a passage, *g*, communicating with the exterior through the passage or passages *h*.

The seat of the valve-stem is preferably made of soft metal or some flexible material, to make a perfectly tight joint when the said valve-stem is screwed home, and said stem is provided with the usual wooden knob I, or equivalent devices, such as a crank-handle, &c., for convenience in handling and operating the same.

The principal feature of my improved lubricator is the peculiar arrangement of the screw-plug in combination with the bell-shaped receiver, whereby the entire removal of the same from the reservoir to fill the cup is rendered unnecessary, a simple turning of the screw one or two revolutions being all that is necessary to open a passage to the interior of the cup.

The operation of my improved lubricator is as follows, to wit: When it is desired to fill the reservoir A, and the engine or machine is in action or under pressure, the screw-plug E is turned in the proper direction sufficiently to raise the same from its seat in the bell-shaped receiver D. This will bring the passage or passages *h* just above the seat *d*, and allow the steam, gases, &c., contained in the interior to escape, the valve B having been previously closed to shut off the communication between the interior of vessel A and that part of the machine, &c., to which the lubricator is attached. If, now, the plug be given one or more turns, the passage or passages G will be fully exposed, and the lubricant can be poured into the receiver D, from where it will flow through said passages G into the interior of the vessel A, the air contained therein being displaced and escaping through the vent *g h* in said plug F. When a sufficient supply of the lubricant has entered, the plug F is screwed home upon its seat and the valve B opened, when the apparatus will automatically deliver its contents in the usual manner and desired quantity.

It will be readily observed that by my arrangement of the vent being located directly below the seat *f* several objections to the common screw-plug are overcome. Thus, in steam and other engines working with highly-heated gases, the interior of the vessel A is always more or less filled with these gases, which, as soon as the common screw-plug is turned, force their way past the threads and escape in a line coinciding with the axial line of the said screw, whereby they always more or less injure the hand of the person having hold of the handle. Furthermore, should the vessel A contain a residue of the liquid lubricant, this will also be ejected past the screw-plug, and, being scattered outside of the lubricator, turned into waste. These obstacles are avoided by my improved screw-plug, in combination

with the bell-shaped receiver D, in which, as soon as the screw-plug F leaves its seat, a comparatively large vent is opened, which will cause the ejection of the escaping steam, &c., in a line at right angles to the axial line of said screw-plug, where the stream is thrown against the wall of the bell-shaped receiver, and thus checked. In the same manner any ejected lubricant is caught within the said receiver, and returned to the reservoir as soon as the pressure within is released.

In Figs. 4 and 5 I have shown a modified form of screw-plugs. In these the interior of the plug serves as the exterior passages G, and a separate passage that of the passages *g h*. This arrangement will produce the desired results in precisely the same manner as that illustrated in the preceding figures, and will therefore be a mechanical equivalent of the same.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. As an improved article of manufacture, a lubricator provided with a stop-valve, B, below, and a bell-shaped receiver above, fitted with a screw-plug having a square-faced seat, *f*, overlapping a threaded screw-shank, F, of less diameter than said valve-seat, said screw-shank being provided with filling and vent passages, terminating directly below said seat *f*, with their exit-passage parallel therewith, whereby the escaping gases and lubricant are ejected against the walls of and collected within said bell-shaped receiver, all as hereinbefore set forth and described.

2. In lubricators, a bell-shaped receiver having a valve-seat in the bottom of the bowl, in combination with a screw-plug provided with a square-faced seat, *f*, and filling and vent passages whose exit-passage is parallel with said seat *f*, as hereinbefore set forth and described.

In testimony that I claim the foregoing as my invention I have hereto set my hand and affixed my seal in the presence of two subscribing witnesses.

FRANK COLLIGNON. [L. S.]

Attest:
MICHAEL J. STARK,
JOSEPH MORRIS.