(No Model.)

R. J. HOFFMAN.

LUBRICATING CUP.

No. 249,179. Patented Nov. 8, 1881.

Fig. 1.

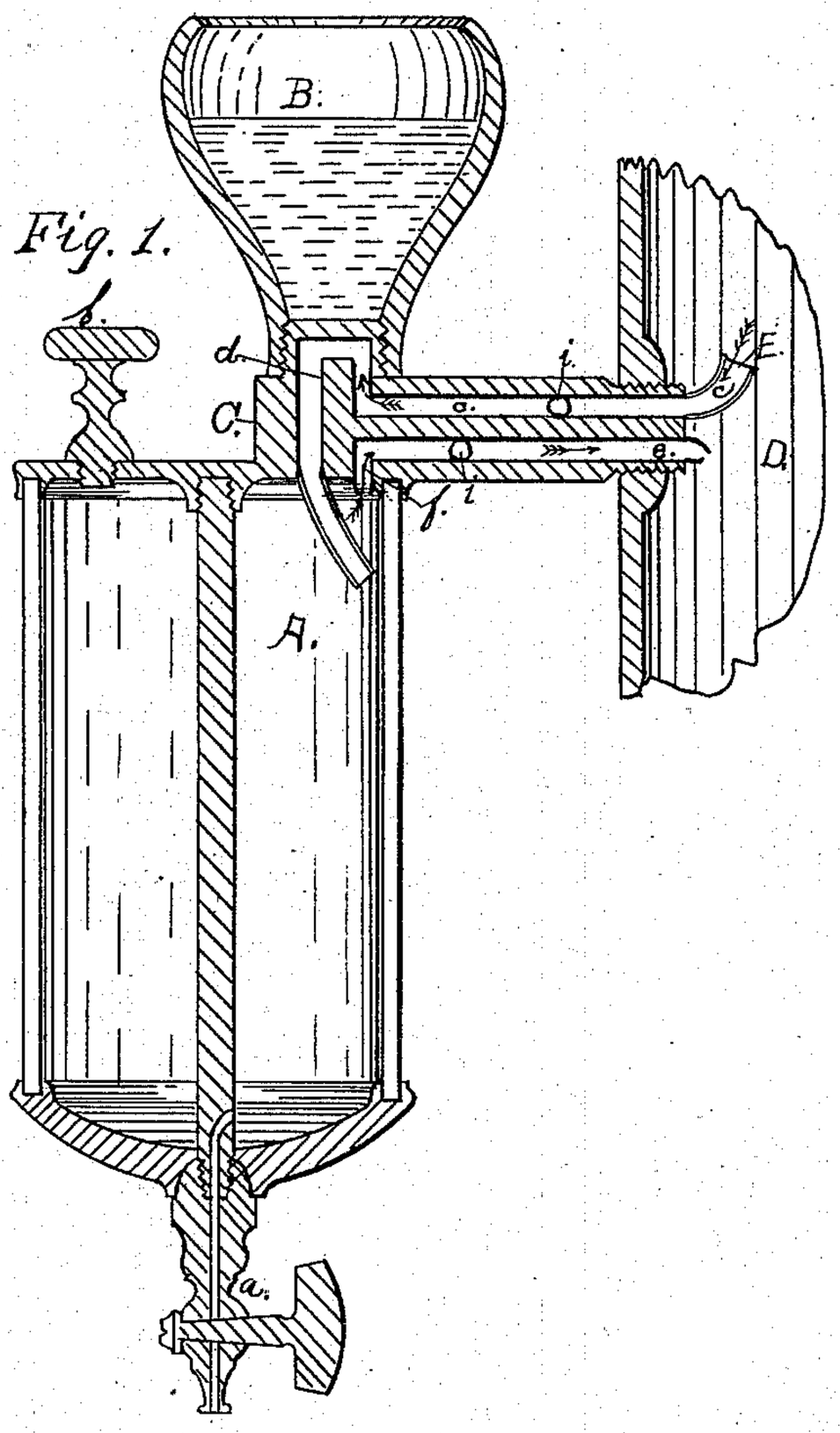


Fig. 2

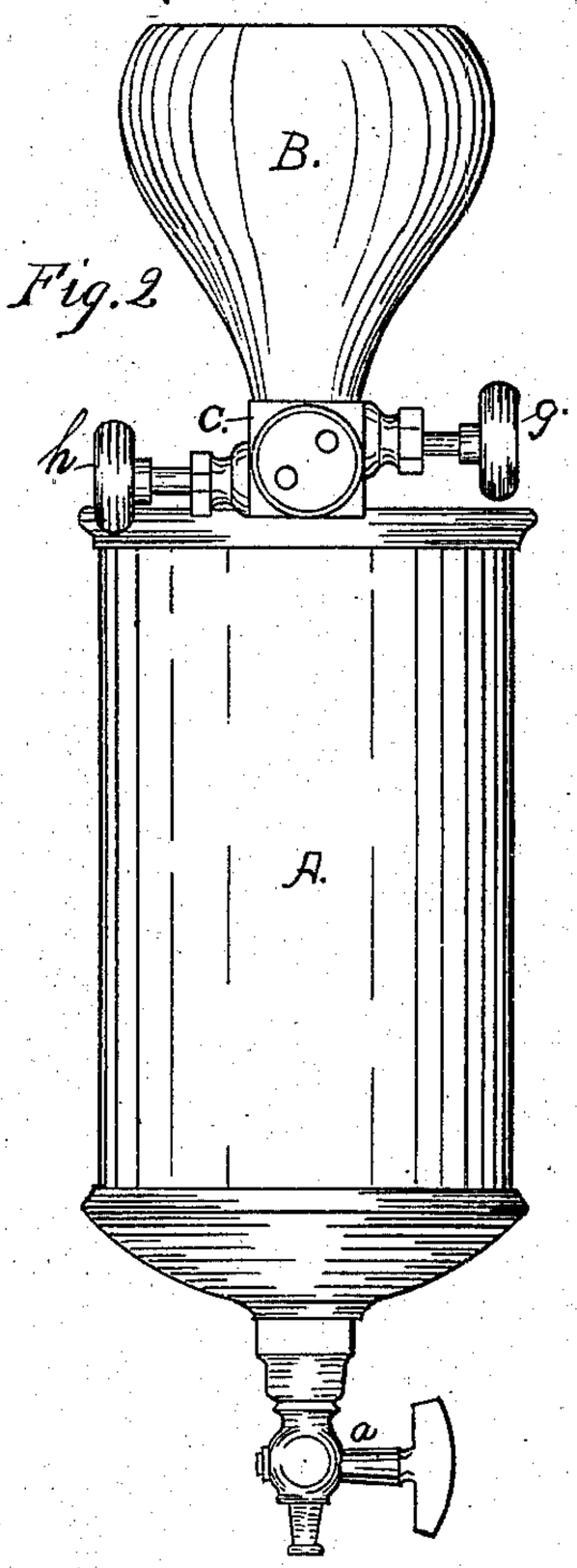
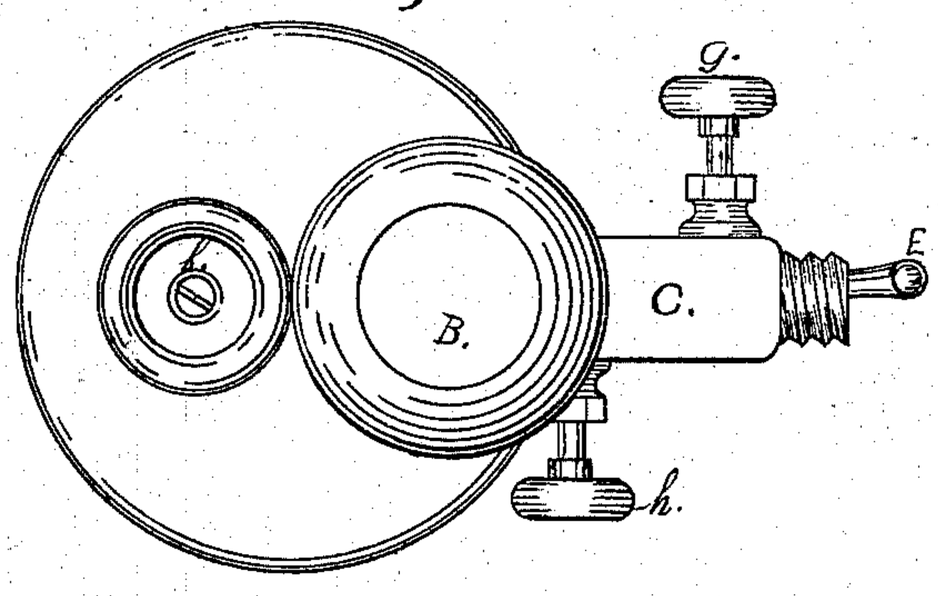


Fig. 3.



Witnesses;
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G. N. Bishop

Inventor;
Rob. J. Hoffman
Per Atty J. C. Robie

UNITED STATES PATENT OFFICE.

ROSS J. HOFFMAN, OF BINGHAMTON, NEW YORK, ASSIGNOR OF ONE-HALF TO CLARKSON A. SPENCER, OF SAME PLACE.

LUBRICATING-CUP.

SPECIFICATION forming part of Letters Patent No. 249,179, dated November 8, 1881.

Application filed July 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, ROSS J. HOFFMAN, of Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Lubricating-Cups, of which the following is a specification.

My invention relates to that class of lubricating-cups by which the oil is injected into the steam pipe and cylinder under the pressure of steam; and the objects of my improvements are, first, to obviate the use of the ordinary hydrostatic pressure for that purpose by substituting the direct action of steam on the surface of the oil in the cup, thereby rendering the device less liable to derangement and more reliable in use; second, to provide a condensing or cooling device by which the temperature of the steam may be controlled or varied to any required degree. I attain these objects by the mechanism illustrated in the accompanying drawings, of which—

Figure 1 is a vertical section of a part of the cup and condensing-chamber. Fig. 2 is an elevation, giving an end view of the base of the condensing-chamber. Fig. 3 is a top view of the device.

A is the oil-cup, the body of which is a glass cylinder armed with brass heads in the usual manner, the lower head having a faucet, *a*, for drawing off the water remaining in the cup, when required. In the upper head there is an opening for the admission of oil, which opening is closed by a screw and knob, *b*.

B is the condensing-chamber, which is left open at the top for the reception of water. This chamber is secured to the upper head of the cup, and its base C extends from the cup A for the purpose of attaching it to the steam-pipe D, as shown by Fig. 1 in the drawings. Two passage-ways are made in the base C, for the entrance of steam and discharge of oil. The steam-passage *c* passes under the chamber B, where it changes its direction, passing upward and over the projection *d*, thence down into the oil-cup A, thereby reducing the temperature by its close proximity to the water in its passage to the oil-cup. The oil-passage *e* connects with a short tube, *f*, in the cup. The end E of the steam-passage *c* is made in the form of a funnel, and so placed in the steam-pipe D as to receive the current of steam as it passes into the cylinder. This insures an effective and direct action of the steam on the oil in the cup. The knobs *g* and *h* operate the faucets *i i* in the steam and oil passage-ways *c* and *e*.

In use the faucets *i i* are opened. The cup A is then filled with oil, and secured by turning down the knob *b*. The condensing-chamber B is filled with water. The steam is then applied to the engine. The faucets are then adjusted for the required admission of steam into the cup and discharge of oil. As the oil diminishes in the cup A, its place is supplied by water from the steam, which retains the surface of oil in the same position until entirely discharged from the cup. The water is then drawn off and the oil replaced.

I am aware that various devices are now in use for the accomplishment of the purpose set forth in the foregoing specification, some of which are operated by hydrostatic tubes, and others by the introduction of steam into an elevated chamber or reservoir of water, the steam and water passing through pipes and cylinders, thence into the oil-cup.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the oil-cup A, the coupling-base C, having steam and oil passages through it, the former provided with a flaring mouth, E, and the water-chamber B, whereby the oil is injected into the steam pipe and cylinder by steam whose pressure has been partially reduced in passing in contact with the water-chamber, and which condenses sufficient water to supply the space caused by the discharge of oil, as shown and described, for the purpose set forth.

ROSS J. HOFFMAN.

Witnesses:
J. C. ROBIE,
JAMES ELDREDGE.