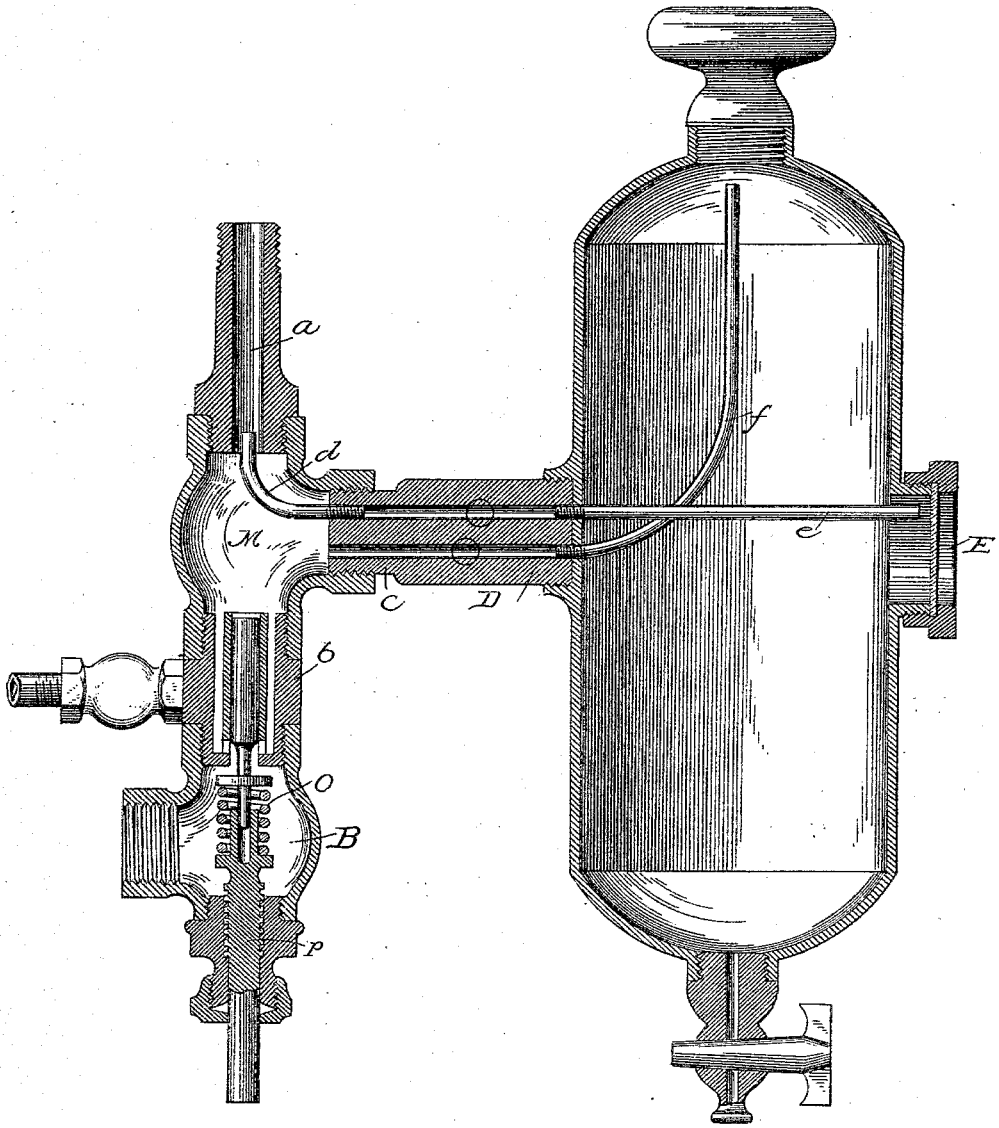
(No Model.)

R. J. HOFFMAN.

LUBRICATOR.

No. 303,281. Patented Aug. 12, 1884.



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UNITED STATES PATENT OFFICE.

ROSS J. HOFFMAN, OF BINGHAMTON, NEW YORK.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 303,281, dated August 12, 1884.

Application filed June 3, 1884. (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 a new and useful Improvement in Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to lubricators, and is an improvement on the form shown in Letters Patent of the United States No. 267,430, granted to me on the 14th day of November, 1882.

The invention consists, first, of an enlarged chamber above the valve, shown in my said patent, for the purpose of allowing the oil and steam to thoroughly mix and the oil to vaporize before it passes to the engine.

In the second place it consists in a new form of the cup and arrangement thereof in relation to the shank and the pipe-connections.

It consists, thirdly, in the use of an automatically-acting valve between the mixing-chamber and the valve-chamber, by which the supply of oil is regulated to the demands of the cylinder when under pressure, and also when steam is shut off.

In the drawing the figure represents a central longitudinal section through the cup and its connections.

The valve is the same as that in my said patent. In the chamber B below is the spring O, which, when properly adjusted by means of the threaded stem *p*, acts against the pressure of the steam from above, and, by the aid of the steam below when it is on, regulates the valve-orifice, so as to enlarge it under the proper conditions. Above the valve-chamber B is a mixing-chamber, M, connecting with the pipe *a*, to boiler, pipe *b*, to valve-chamber, and pipe *c*, to the oil-cup. A small tube, *d*, in connection with the induction-tube *e* of the oil-cup, extends through the mixing-chamber into the steam-pipe from the boiler with its mouth opening against the steam to divert the current into the pipe *e*. A pipe, *f*, from the upper part of the oil-cup, leads the oil to the mixing-chamber, where it is met by the current of steam down the pipe *a*, past the mouth of pipe *d*, and there is thoroughly vaporized and mixed, and from thence is carried on past the valve to the working parts of the engine. The stem or shank D is screwed directly into a boss on the side of the oil-cup, which is made symmetrical, having a sight-feed preferably opposite the boss, connected to stem or shank D. Thus the induction-pipe may be carried straight across, and there is no opening required in the top, except for the admission of oil. A draw-pipe and cock are in the bottom. The sight-feed E may be a little higher or lower, if desired.

What I claim as new is—

1. The mixing-chamber, in combination with the valve-chamber, oil-cup, and steam and oil ducts, substantially as described.

2. The mixing-chamber, in combination with the valve-chamber, oil-cup, oil-duct, and steam-tube *d*, opening into steam-pipe, as described.

3. A mixing-chamber, in combination with a valve-chamber, with the orifice between the two regulated automatically, the oil-cup, oil-duct, and steam-tube opening into steam-pipe, as described.

4. The oil-cup, formed with boss on its side for connection with shank D, combined with the tube *e* and sight-feed E, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROSS J. HOFFMAN.

Witnesses:

NERI PINE,

LEWIS C. ALDRICH.