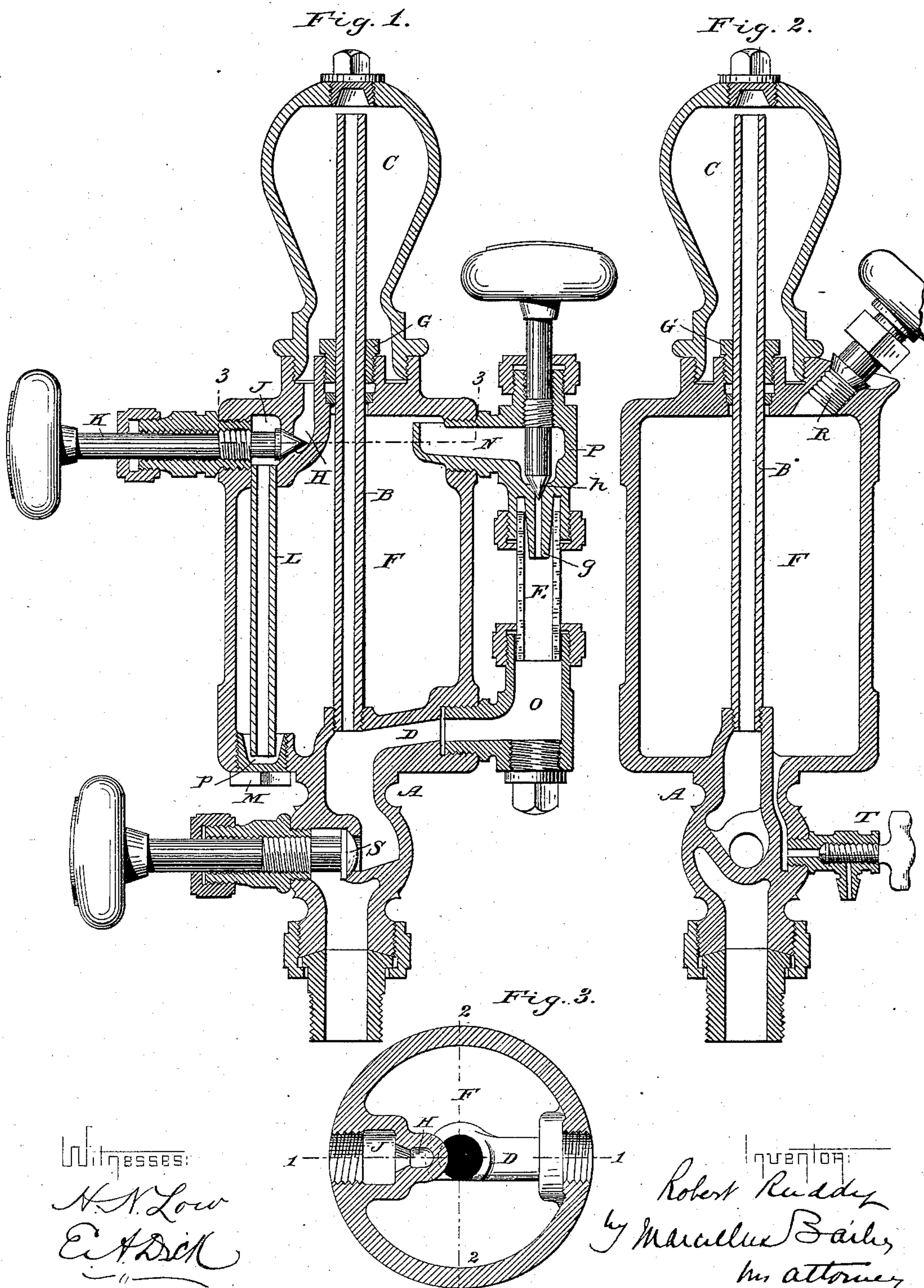


(No Model.)

R. RUDDY
LUBRICATOR.

No. 316,834.

Patented Apr. 28, 1885.



UNITED STATES PATENT OFFICE.

ROBERT RUDDY, OF MOUNT VERNON, NEW YORK, ASSIGNOR TO NATHAN MANUFACTURING COMPANY, OF NEW YORK, N. Y.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 316,834, dated April 28, 1885.

Application filed March 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, ROBERT RUDDY, of Mount Vernon, Westchester county, New York, have invented certain new and useful Improvements in Lubricators, of which the following is a specification.

My invention is directed to lubricators intended more particularly for use with locomotives, and refers to that class of lubricators known as "drop-feed lubricators," in which water resulting from the condensation of steam is used for the purpose of raising the oil to a certain height in the cup, whence said oil will be carried off through a "sight-feed" tube or glass into the steam-conduit, and thence to the parts to be lubricated.

My object is to simplify, as far as possible, the construction and arrangement of the parts, while maintaining the entire efficiency of the lubricator.

The nature of my improvements can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a vertical central section of the lubricator on line 1 1, Fig. 3. Fig. 2 is a like section on line 2 2, Fig. 3. Fig. 3 is a horizontal section of the oil-cup on line 3 3, Fig. 1, omitting the sight-feed-tube connections and the valve for controlling the escape of the water from the condensing-chamber into the oil-cup.

The oil cup or receptacle is represented at F. It is cast in one with a tubular neck, A, constituting the main steam-conduit, and with a horizontal channel, D, forming a continuation of that conduit, which is cast upon the bottom of the lubricator and leads into the lower connection, O, of the sight-feed tube or glass E. This construction of parts is simple and effective, affording opportunity also for the ready application of the pipe B, which supplies steam from the conduit A to the condensing-chamber C. This chamber is above the oil-cup, and is screwed to a neck on top of the same, as shown, the cup and chamber being separated by a packing-nut, G, through which the steam-pipe B passes. The steam-pipe screws into the bottom of the oil-cup and opens into the steam-conduit at the junction of A and D. It thence extends up through the oil-cup, passes through the packing-nut

G. (with which it makes tight joint,) and terminates in the upper part of condensing-chamber. The packing-nut prevents the water from leaking from the condensing-chamber into the oil-cup, and at the same time is a guide and support for the steam-pipe B. By means of this construction only a single straight connection is required between the main steam-channel A D below the oil-cup and the condensing-chamber above the oil-cup, and this connection is through the cup itself, thus avoiding the usual pipe-connections, which require additional space, couplings, &c.

In the top of the oil-cup is cast the double chamber H J, the former, H, opening into the bottom of the condensing-chamber through the neck to which said chamber is screwed, and the latter, J, having a bottom opening, into which is screwed a pipe, L, which extends down to or nearly to the bottom of the lubricator. Through the parts H J L the water of condensation is fed to the oil-cup from the condensing-chamber.

The rate of feed is governed by a valve on the end of a valve-spindle, K, which extends laterally from the oil-cup. The seat for the valve is formed at the point where the chambers H J join one another, as seen in Fig. 1. I prefer that the lower end of the water-feed pipe L should extend down into a pocket, p, the bottom of which is below the level of the lowest point in the oil-cup. By this arrangement I provide a water-packing at the outlet of pipe L, and consequently the oil, being lighter than water, can never enter the water-pipe L. A convenient way of providing the pocket is to form it in the inner end of a plug, M, which screws into an opening formed for it at an appropriate point in the bottom of the oil-cup.

The sight-feed glass or tube E, which is external to the oil-cup, is held by and between the lower connection, O, hereinbefore referred to, and an upper connection, P, provided with an inlet, N, which opens into the oil-cup at or near the top. This upper connection is provided with a nipple or nozzle, g, for the oil to drop from, and with a valve, h, to control the oil-feed.

Steam from the main steam-conduit passes through pipe B into the condensing-chamber,

and at the same time through channel D directly into the sight-feed glass or tube E. By this construction and arrangement no separate pipe-connections are required to conduct the steam into the sight-feed device.

The lubricator is of course provided, as usual, with a valve, S, to control the steam-supply, with a waste or draw-off cock, T, and with a filling-plug, R.

Having described my improvements, what I claim herein as new and of my own invention is as follows:

1. The combination, with the oil-cup, the sight-feed glass, and its connections, of the main steam-conduit A and the channel D, located within the body of the oil-cup, and extending upon the bottom of the same from the main steam-conduit to the lower sight-feed connection, said parts being cast in one with the cup, as hereinbefore set forth.

2. The oil-cup formed with a neck to receive the condensing chamber or bulb C, said neck having an opening for the passage of the steam-pipe, in combination with the main steam-conduit A, the steam-pipe leading from said conduit up through the opening in the neck of the oil-cup into the condensing-chamber, and the packing nut or gland G, fitted to said opening and around the said steam-

pipe above the outside of the oil-chamber, as hereinbefore set forth.

3. The oil-cup, the sight-feed glass and its connections, and the condensing-chamber, in combination with the steam-conduit A and channel D, cast in one with the cup, the steam-pipe B, extending from the said steam-conduit up into the condensing-chamber through an opening in the top of the oil-cup, and the packing nut or gland G, fitted to said opening above and outside of the oil-chamber, as set forth.

4. The combination, substantially as hereinbefore set forth, of the oil-cup cast in one with the double chamber H J, the main steam-conduit A, and channel D, the sight-feed glass and its connections, the condensing-chamber above the oil-cup, the steam-tube B, the packing-nut G, external to the oil-chamber, and the water-tube L, these parts being constructed and arranged together substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand.

ROBERT RUDDY.

Witnesses:

JACOB W. MACK,
ADOLPH BARGEBUHR.