

(No Model.)

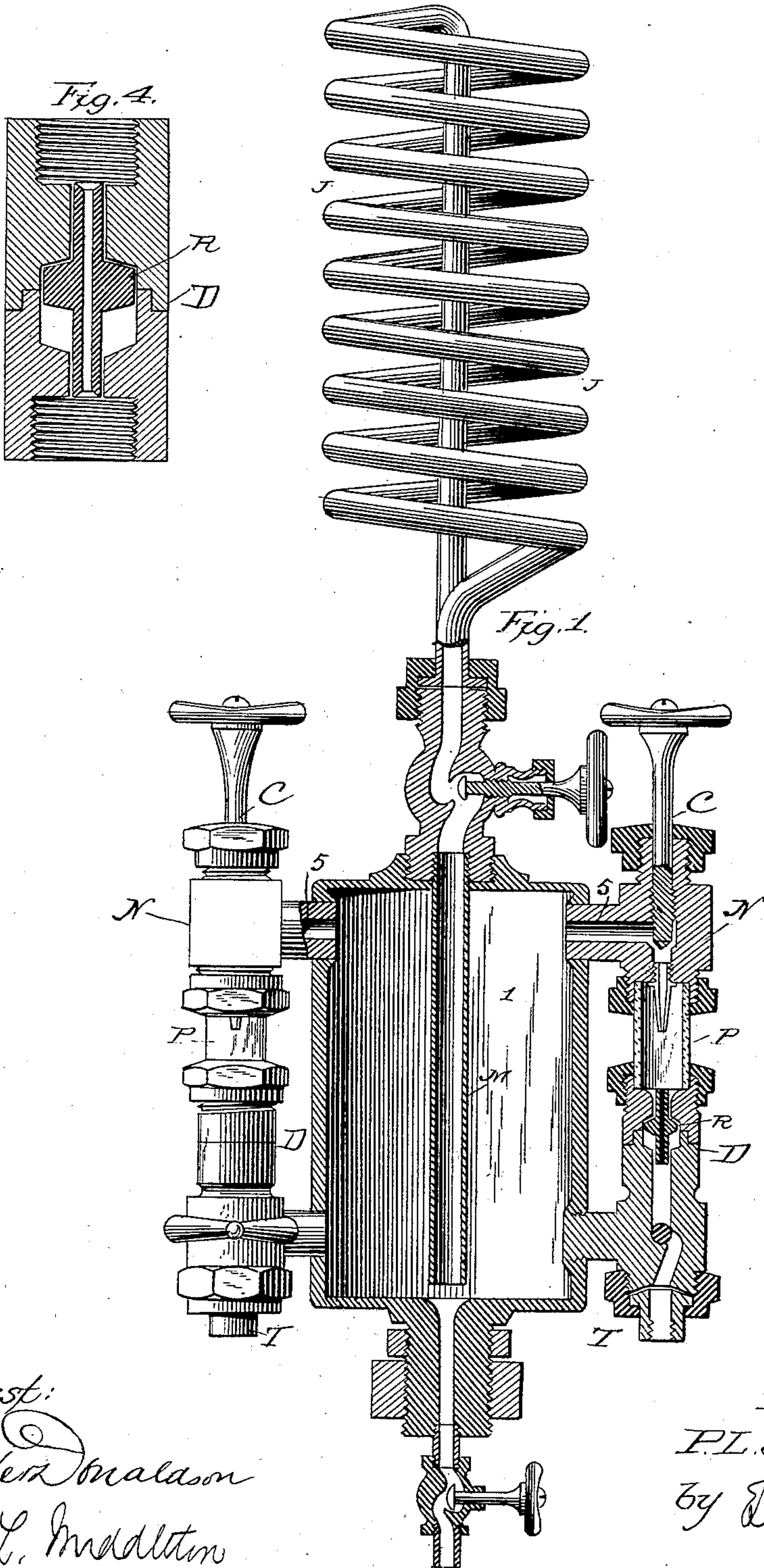
2 Sheets—Sheet 1.

P. L. SCHMITT.

LUBRICATOR.

No. 354,353.

Patented Dec. 14, 1886.



Attest:
Walter Malason
J. L. Middleton

Inventor
P. L. Schmitt
by *Ellis Spear*
Atty.

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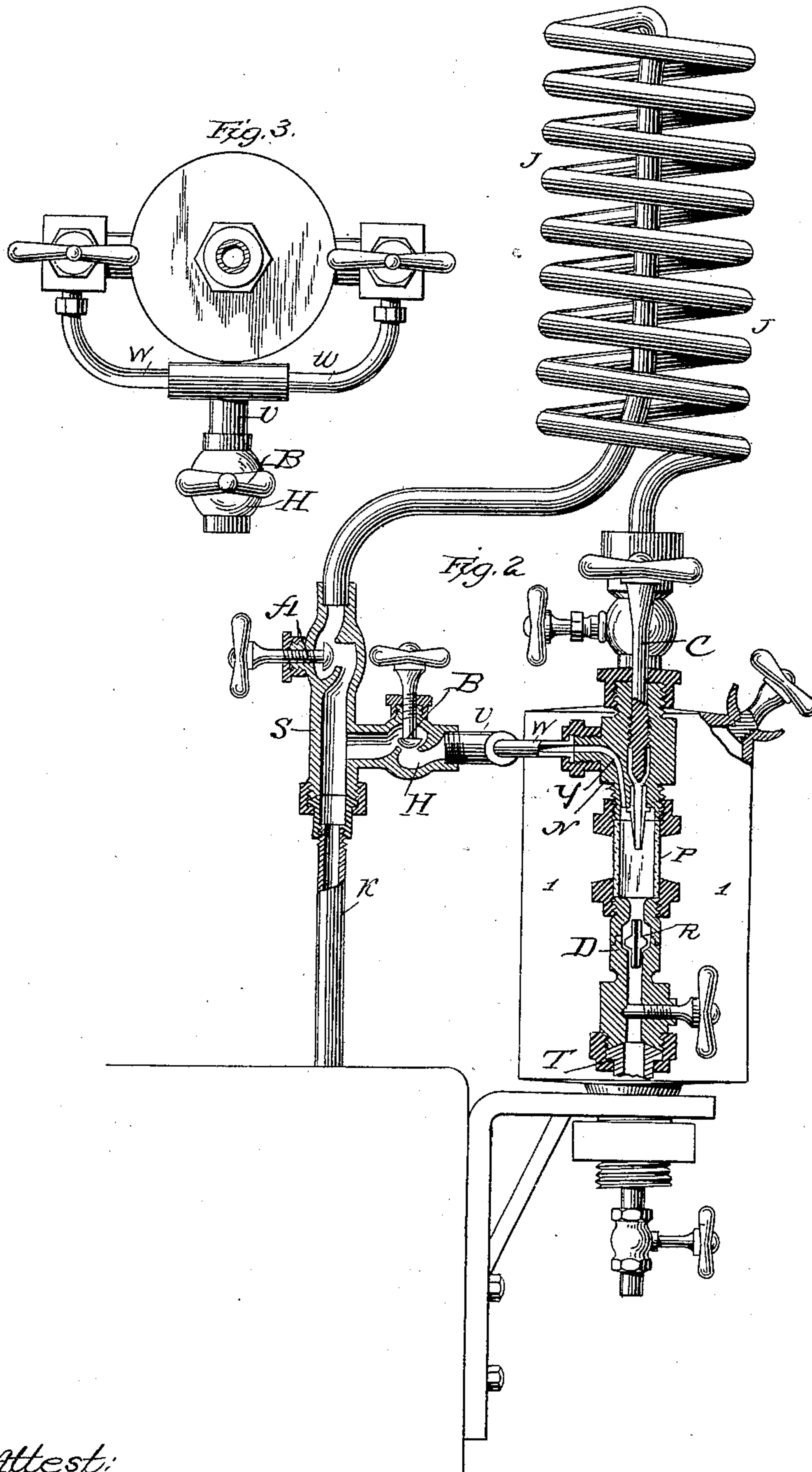
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UNITED STATES PATENT OFFICE.

PHILLIP L. SCHMITT, OF QUINCY, ILLINOIS, ASSIGNOR TO THE PEERLESS OIL EJECTOR COMPANY, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 354,353, dated December 14, 1886.

Application filed August 23, 1886. Serial No. 211,651. (No model.)

To all whom it may concern:

Be it known that I, PHILLIP L. SCHMITT, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful
5 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 lubricator cups for locomotive engines, and is an improvement
10 upon Letters Patent No. 320,703, dated June 23, 1885.

The invention consists in certain special details of construction, some of which are not only adapted to the particular cups described,
15 but to others of the same general class.

In the drawings, Figure 1 represents the cup in section, with one of the sight-feed tubes in side elevation, and with the condensing-coil also in elevation. Fig. 2 is a side elevation
20 of the cup, showing it attached to the locomotive-boiler, with the sight-feed tube upon one side in section, and with the pipe and valve leading to the cup and to the condensing coil also in section. Fig. 3 is a plan view of the
25 cup with the coil removed. Fig. 4 is a detailed sectional view of the double check-valve.

The general form and operation of the oil-cup, the sight-feed tubes, and the condensing-coil are substantially the same as in my patent
30 aforesaid, and need not therefore be particularly described herein.

The cup is shown at 1, and is provided with sight-feed tubes PP—one upon each side—with passages
35 between the same and the cup, through which the oil passes. A condensing-coil, J, surmounts the cup, being connected to the pipe M, so as to deliver the water of condensation into the cup to cause the oil to feed out through the sight-feed tubes and their
40 pipe-connections to the parts to be lubricated. The other end of this coil J is connected through an intermediate coupling, S, with a pipe, K, in connection with the locomotive-boiler at any convenient point, and the live
45 steam passes through the pipe-coupling and coil and is condensed, as described in my said patent.

A valve, A, is arranged in the coupling S, at the point shown, so that the amount of
50 steam fed to the coil may be regulated. The

connection between the coupling S and pipe K is by a union-joint, so that the whole lubricator may be disconnected from the locomotive at this point without difficulty. A branch, H, extends from the coupling S below the valve-seat therein, and is provided likewise with a
55 valve, B, and seat similar to the one in the coupling S. This branch pipe H is provided with a T-connection, V, on its inner end, from each end of which extends a pipe, W, leading
60 to the sight-feed tube upon either side of the cup. The connection between the pipe and the space within the glass tube is formed by a passage, Y, through the castings N. It will thus be seen that live steam is admitted to the
65 sight-feed tube through the connections described, thus tending to overcome the pressure through the pipes T T, which would otherwise tend to retard the flow of oil.

The valve B is not entirely closed, but is
70 left open sufficiently to allow enough steam through to the sight-feed tube to force the oil and carry it to the parts to be lubricated.

In the lower fittings, D, of the sight-feed tube I form a chamber with inclined seats at
75 either end, and place within this chamber a double-seated valve, R, with a small-sized aperture extending through the same, through which the oil and steam pass from the sight-feed tube to the pipes T T. The central por-
80 tion of this valve R is of greater diameter than the ends, and is provided with an inclined face upon each side, adapted to the inclined seats in the fittings D. When the valve is acted upon by the steam coming through the
85 pipes T T, it is forced upward against the upper seat, and only a small portion of the steam can enter to the space within the sight-feed tube, in consequence of the small aperture through the said valve, thus preventing any
90 interference with the perfect working of the cup, and when the steam is cut off from the pipes T T the effect of the vacuum thus formed is diminished to such an extent as to cause no appreciable difference in the flow of the oil.
95 It will be understood that it is not essential that this valve should be placed in the position shown in Fig. 2, as its action will be the same if placed at any point within the tallow-pipe.

In the patent referred to, valves G are pro-
100

vided at the junction of the pipes T with the lower fitting of the sight-feed tube, so that the steam from the pipe T may be shut off in case the sight-feed tubes become broken, and to permit of their being replaced. The castings N N at the upper end of the sight-feed tube have valves C C, by which the flow of oil through the tubes may be regulated. A valve, E, is used to shut off condensed water when it becomes necessary to refill the cup with oil.

It will be understood that while I have shown two sight-feed tubes upon one cup, two cups might be used instead with one sight-feed tube upon each.

I claim—

1. In combination, a reservoir, a steam-supply pipe connected with a condensing-coil in communication with the reservoir, sight-feed tubes on each side of the reservoir, a branch pipe extending from the live-steam pipe, a valve in said branch connecting pipes leading to the caps of the sight-feed tubes, and distributing-pipes between the sight-feed tubes and the parts to be lubricated, substantially as described.

2. The combination, with the reservoir of a lubricator, of a pipe connected therewith lead-

ing to the steam-supply and adapted to feed water of condensation to said reservoir, of sight-feed tubes, and check-valves having a seat upon each side thereof, and a central aperture, said valves being located between the sight-feed-tubes and the parts to be lubricated, substantially as described.

3. In combination, an oil-reservoir, a condensing-coil connected with the steam-supply, a valve, A, arranged in the pipe leading thereto, a branch, V, pipes leading from said branch to sight-feed tubes, whereby the oil is forced through the connecting-pipes to the parts to be lubricated, a valve, B, in said branch to govern the supply of steam necessary for this purpose, and a double-seated check-valve, R, with an aperture through the same, arranged in the lower fitting of the sight-feed tube, substantially as described.

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

PHILLIP L. SCHMITT.

Witnesses:

NORMAN L. HAYDEN,
WM. A. SCHMITT.