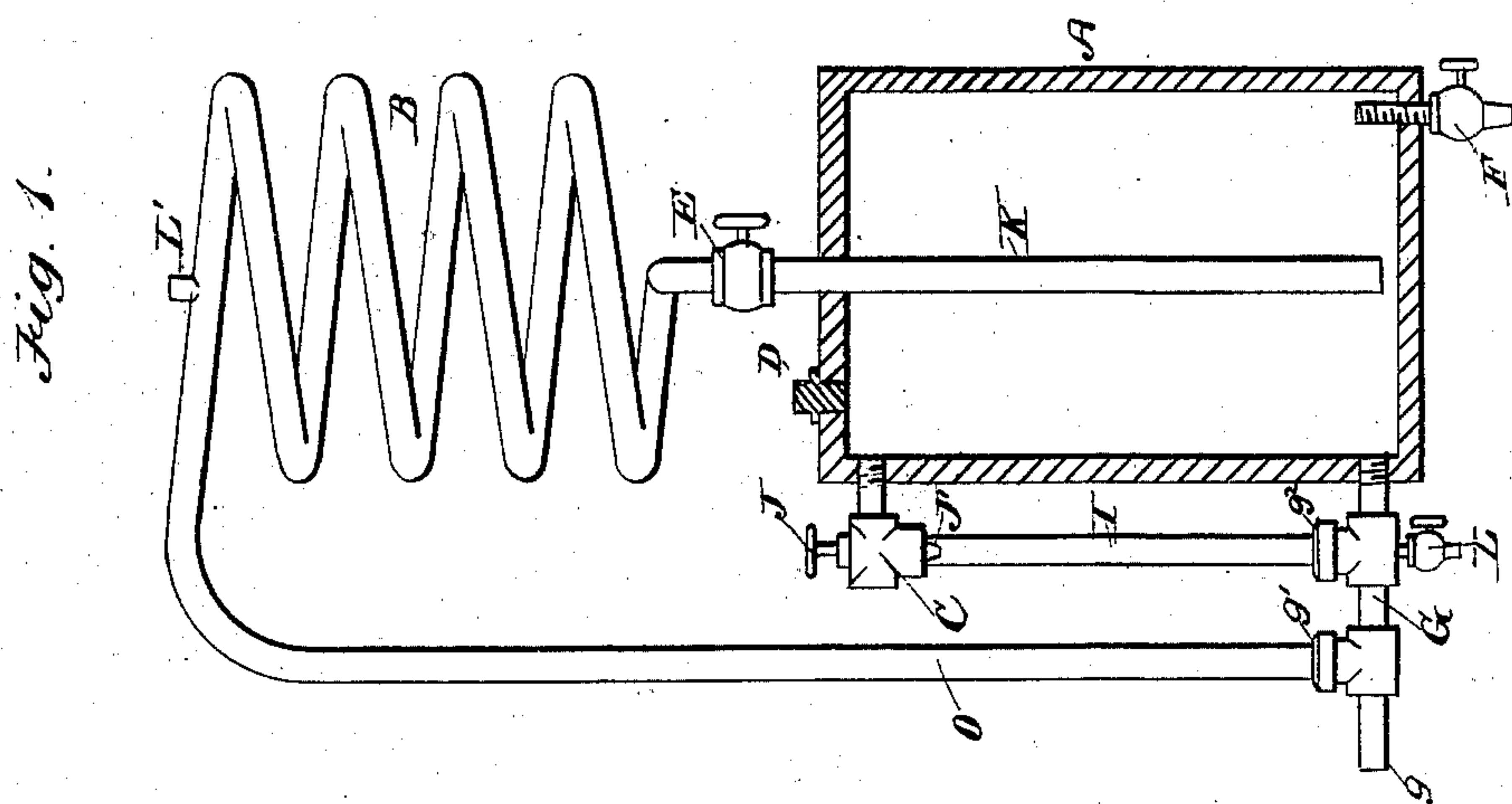
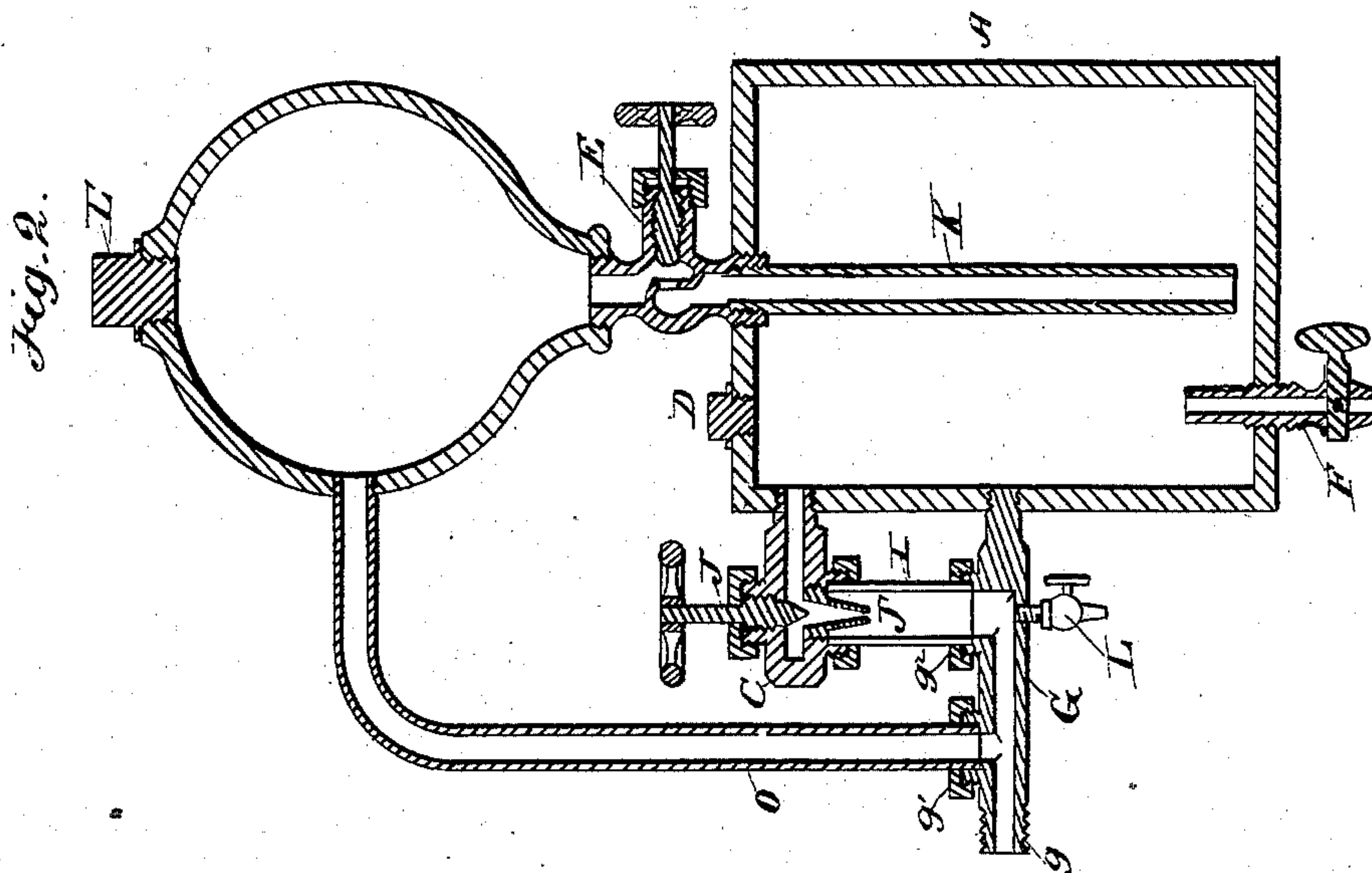


(No Model.)

C. VERNIAUD & M. S. CABELL.  
Oil Ejector for Steam Machinery.

No. 238,996.

**Patented March 15, 1881.**



Attest,  
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Their Atty.



# UNITED STATES PATENT OFFICE.

CLAUDIUS VERNIAUD AND MILTON S. CABELL, OF QUINCY, ILLINOIS.

## OIL-EJECTOR FOR STEAM MACHINERY.

SPECIFICATION forming part of Letters Patent No. 238,996, dated March 15, 1881.

Application filed January 25, 1881. (No model.)

*To all whom it may concern:*

Be it known that we, CLAUDIUS VERNIAUD and MILTON S. CABELL, both of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Oil-Ejectors for Lubricating Steam Machinery; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional view of our invention, and Fig. 2 a similar view of a modification of the same.

Our invention relates to that class of oil-ejectors for steam machinery in which the pressure of a column of water formed by the condensation of steam is caused to force the oil from a reservoir into the steam-chest, steam-pipe, or other part of the engine; and it consists in certain improvements in the construction of such devices, whereby they are rendered more efficient and reliable in their operation and capable of more accurate adjustment than those heretofore made.

In the drawings, A represents an oil-reservoir; B, a condensing-coil; K, a pipe communicating with the condensing-coil through a valve, E, and leading down nearly to the bottom of the oil-reservoir; G, a joint-pipe connected at *g* to the steam-pipe, steam-chest, or other part of the engine; O, a pipe connected to the joint-pipe G at *g'*, and leading thence to the condensing-coil B; I, a glass gage, connected at its lower end to the joint-pipe G at *g<sup>2</sup>*, and at its upper end to another joint-pipe, C, which has communication with the upper part of the oil-reservoir, and is provided with a valve, J, having a conical or tapering seat, J', as shown. D is a removable plug or stopper located in the top of the oil-reservoir; F, a drain-cock inserted in the bottom of the oil-reservoir, with the inner end of its stem projecting a short distance above the discharge end of the pipe K; and L, a cock in the fitting G, below the glass gage, for the purpose of blowing out sediment and clearing said gage.

The operation of the device is as follows: A valve (not shown) connecting the end *g* of joint-pipe G to the steam-pipe or steam-chest being closed, and the valves E and J being

also closed, drain-cock F is opened and water is filled into the oil-reservoir until it begins to run out of the drain-cock, when the latter is closed. The condensing-coil B is then also filled with water through an opening in its top, provided with a removable plug, L', after which oil is filled into the oil-reservoir until the latter is full, whereupon the plug D is again inserted. The device being thus primed, steam is admitted into the joint-pipe G, and fills the upper part of the condensing-coil B through the pipe O, and also fills the glass gage I. Valve E is then opened so as to let the water from the condensing-coil B pass down by gravity through pipe K into the lower part of the oil-reservoir A, and the valve J is then also slightly opened, the effect of which is that the water gradually displaces the oil in the oil-reservoir and causes the oil to escape, drop by drop, from the conical valve-seat J' through the glass gage I and into the lower joint-pipe, G, from whence it passes to the steam-pipe or steam-chest, as the case may be. As condensation of steam is all the time taking place in the condensing-coil B, the supply of water delivered to the oil-reservoir continues constant, and the discharge of oil from said reservoir continues until all the oil is exhausted. When this latter result takes place the valves E and J are closed, the plug D removed, and the water drained off from the reservoir through the cock F. All the water will not drain off through said cock, however, by reason of the inner end of its stem being so far projected above the bottom of the reservoir; but a sufficient quantity will be left to fully cover the lower end of the pipe K, so that when the reservoir is refilled with oil the oil will not rise in said pipe K, as it would if no water remained in the reservoir.

In other oil-ejectors of this class the oil, in its passage from the oil-reservoir to the part to be lubricated, is floated up through the water of condensation, and the aperture through which it passes oftentimes becomes clogged from the coagulation or congelation of the oil by the water. In our invention, however, the aperture through which the oil drops opens directly into the glass gage, which is filled with steam, and the oil is kept hot and caused to flow or drop freely. The amount of oil being

fed is readily observable through the glass gage, and can be regulated by proper adjustments of the valve J.

5 The modification shown in Fig. 2 differs from the apparatus shown in Fig. 1 only in that it employs a condensing-chamber instead of a condensing-coil. The coil arrangement is, however, preferred.

10 Having thus described our invention, we claim as new—

The herein-described oil ejector or lubricator, consisting of the oil-reservoir A, the valved

pipe K, for introducing water of condensation into the oil-reservoir, the upper joint-pipe, C, having the valve with conical valve-seat, the 15 steam-filled glass gage, the lower joint-pipe, G, the pipe O, condenser B, and drain-cock F, all arranged to operate substantially as described.

CLAUDIUS VERNIAUD.  
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Witnesses:

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