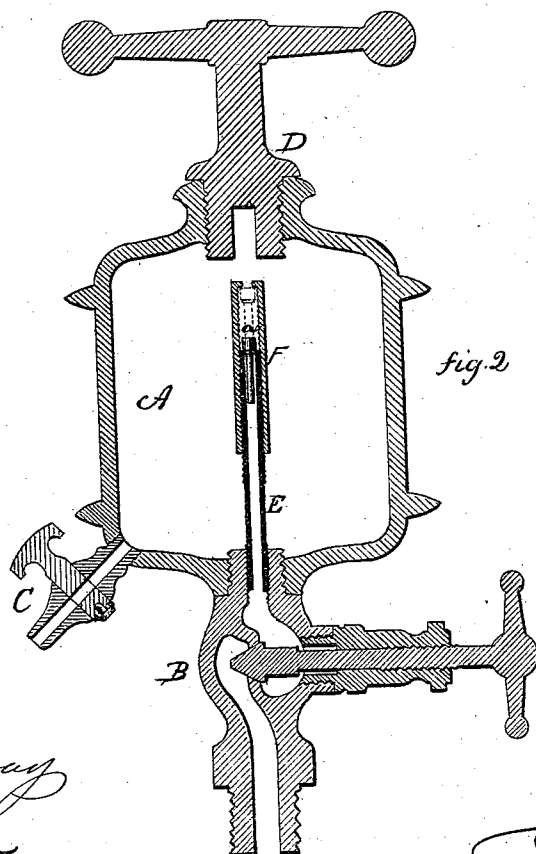
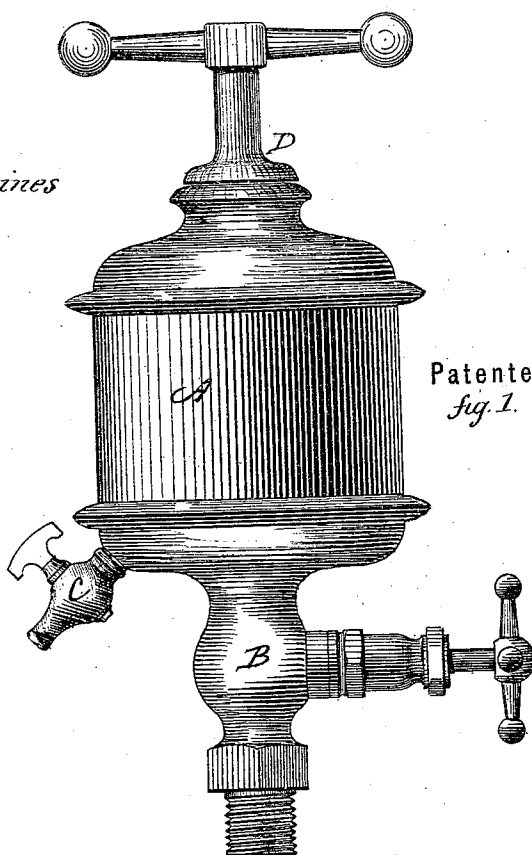


Moses Hawkins'
Inventor
Lubricator for Steam Engines

No. 123,259.

Patented Jan. 30, 1872.
fig. 1.



Witness
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A. J. Tinkler

Moses Hawkins
Inventor
By his Atty.
John G. Paul

UNITED STATES PATENT OFFICE.

MOSES HAWKINS, OF BIRMINGHAM, CONNECTICUT.

IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 123,259, dated January 30, 1872; antedated January 24, 1872.

To all whom it may concern:

Be it known that I, MOSES HAWKINS, of Birmingham, in the county of New Haven and State of Connecticut, have invented a new Improvement in Lubricator for Steam-Engines; and I do hereby declare the following, when taken in connection with the accompanying drawing, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1 a side view, and in Fig. 2 a vertical central section.

This invention relates to an improvement in the "oil-cup for steam-engines" for which Letters Patent were granted to me March 19, 1867.

In that patent the tube through which the oil passes is never closed, but is always open to the cylinder. In consequence of this a difficulty sometimes arises, that instead of injecting steam into the cup, the piston acts as a pump and sucks or draws the oil from the cup.

To avoid this difficulty is the object of my invention; and it consists, first, in the arrangement of a check-valve between the cup or reservoir, operating as more fully hereinafter described. Second, in the arrangement of a sleeve over the tube, whereby its length may be adjusted.

A is the cup or reservoir, provided with a globe or other suitable valve, B, and a draw-off cock, C, substantially the same as in my patent before referred to, and with a plug, D, through which to fill the cup. Within the cup A a vertical tube, E, is arranged, leading to the valve B.

In my original patent this tube was left open into the cup, and also unadjustable as to length; hence, when the valve was open the communication between the cylinder and cup could not be cut off except by closing the valve; thus there was nothing to prevent the "sucking" of the oil directly from the cup to the cylinder. To avoid this I arrange a "puppet" or other suitable valve, *a*, at the upper end of the tube E, which, when on its seat, closes tight the said tube.

At the end of each stroke of the piston or

at the dead-centers there always is a greater or less concussion or reaction produced by the steam which remains in the cylinder between the cylinder-head and the piston at the dead-center. This reaction causes a rush to the cup through the tube sufficiently to throw up the valve for an instant, and this instant is sufficient time for the requisite quantity of oil to pass into the tube at the end of each stroke of the piston, the valve falling back so soon as as the piston commences the return stroke.

This valve I arrange at the upper end of the tube simply because of convenience in so doing, yet it will be readily seen that it may be arranged at any point between the cylinder and the upper end of the tube.

To prevent the valve from being thrown out or off from the tube, the tube should either extend so far up that the valve may strike the top of the cup or plug, or some other equivalent device arranged for the purpose. As here represented, I have arranged a sleeve, F, to screw onto the tube E with an internal flange upon the upper end of the sleeve against which the valve will strike, as denoted in broken lines, Fig. 2. This sleeve may be turned up or down the tube E and adjust its length to any point desired, so that the oil may flow into the tube at any point within its adjustment.

The operation of this lubricator is substantially the same as my original patent. The cup being filled to the top of the tube and the valve B open, the steam from the cylinder, when in operation, passes up into the cup, and there condensing, settles to the bottom of the cup, causing the oil to rise and flow over into the tube, and thence to the cylinder.

I claim as my invention—

1. In a lubricator for steam-engines, the arrangement of the valve *a* between the cylinder and cup, operating to cut off and open the said tube, substantially as described.

2. An oil-cup, A, provided with the tube E, having combined therewith the sleeve or tube F to adjust the length of the said tube, substantially as set forth.

Witnesses: MOSES HAWKINS.

A. J. TIBBITS,
JOHN H. SHUMWAY.