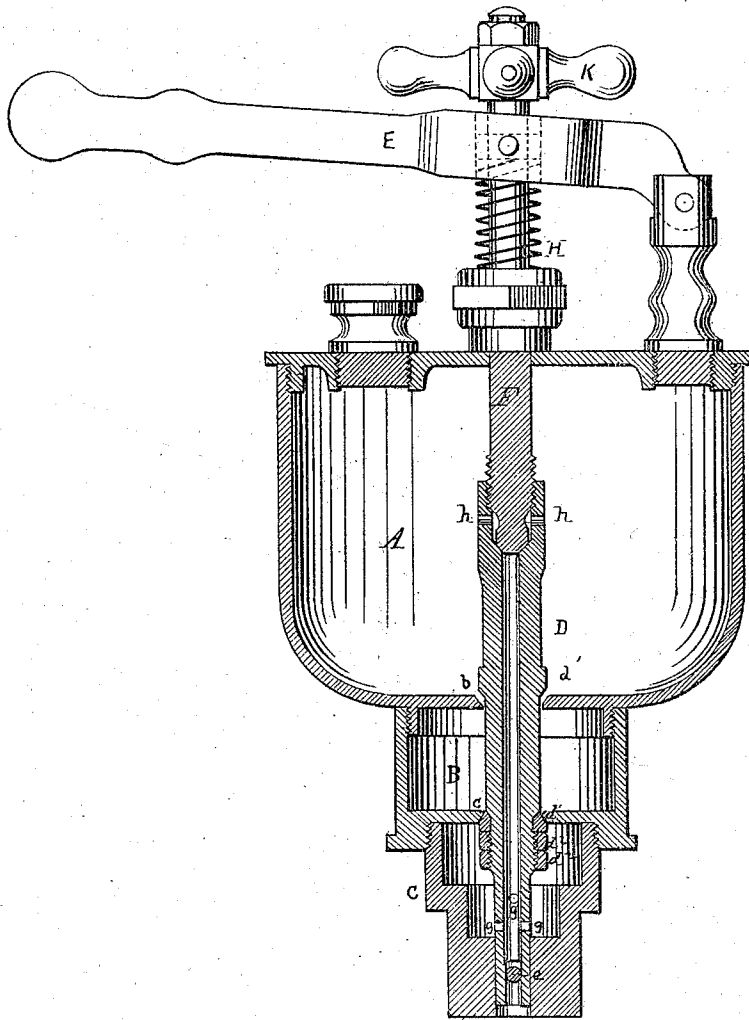


P. W. BREWSTER.

Lubricators for Steam-Engines.

No. 133,297.

Patented Nov. 26, 1872.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

PARMALA W. BREWSTER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR  
TO HOWARD M. DU BOIS AND SAMUEL H. DAVIS, JR., OF SAME PLACE.

## IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **133,297**, dated November 26, 1872; antedated November 21, 1872.

*To all whom it may concern:*

Be it known that I, PARMALA W. BREWSTER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same; reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical section of my invention.

My invention has relation to lubricators for the steam-chests of steam-engines; and it consists in the construction and novel arrangement of oil-chambers, valves, steam-tube, and valve-working devices, as hereinafter described; the object being to improve the means whereby a lubricator is adapted to be operated either by steam action or hand manipulation.

Referring to the accompanying drawing, A represents the oil-cup of my improved lubricator. B is an auxiliary oil-receptacle, attached to the bottom of the cup A. *b* is an opening in the bottom of the cup A, communicating with receptacle B. C is a hollow casing, secured to the bottom of cup B. *c* is an opening in the bottom of cup B. The openings *b c* have their edges beveled in opposite directions, as shown, to adapt them to the reception of the conical valves *d d'*. D designates a tube passing through cup B, casing C, and into cup A. This tube passes through openings *b c*, and is provided with the valves *d d'*. The valve *d'* is made adjustable to enable the tube D to be arranged. The jam-nuts *d<sup>2</sup>* secure said valves in position. The casing C screws into the top of the steam-chest, and the tube D is prevented from turning by means of a transverse pin, *e*, passing through slots in the lower end of the tube, and secured to the casing C. Near the lower end of the tube D holes *g g'* are made to admit steam to the casing C, whence it passes to the oil or tallow, and in winter time keeps it in a fluid state. The holes *g* also allow the oil to pass into the tube, and thence to the valves. The object of the cham-

ber in the casing C is to provide for the passage of steam to keep the valve *d'* in its seat by pressing upward against it.

The tube D may be raised and lowered by means of a lever, E, pivoted to a stem, F, which is screwed into the upper end of the tube D.

Now, if the engineer wishes to oil the valves, say once an hour, at the appointed time he lowers the tube D by means of the lever. By this action the valve *d'* is opened and the valve *d* closed. The oil, which is in cup B, is thus allowed to escape and to pass to the steam-valves. As soon as the lever is released a spiral spring, H, carries the tube back to its original position, or the pressure of steam on the lower valve accomplishes the same result. The spring is designed for use when the steam is cut off, and has just sufficient force to overcome the weight of the oil and the parts bearing on it. The lower end of the stem F fits the enlarged mouth of the tube D, from which proceed apertures *h*. Communication to said openings from the tube is regulated by adjusting the stem F by means of a hand-wheel, K, at the top. When the steam is allowed to enter the cup A from the tube D it condenses, and, sinking, displaces its bulk of oil, which flows into the openings *h*, and thence through the tube D to the valves.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with an oil-cup and chambers B C, of the sliding tube D, carrying the opposed valves *d d'*, having a female screw in its upper end, and perforations *h g g'* of the screw-stem valve or cut-off F, working in the upper end of the tube D, substantially as specified.

2. The combination, with the oil-chambers A B C and tube D, having the opposed valves *d d'*, of the screw-stem valve or cut-off F, spring H, wheel K, and lever E, arranged substantially in the manner specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

P. W. BREWSTER.

Witnesses:

D. D. KANE,  
GEO. E. UPHAM.