P. BLOOMSBURG.

AUTOMATIC LUBRICATOR FOR STEAM-CYLINDERS.

No. 192,357. Patented June 26, 1877.

Fig. 1.

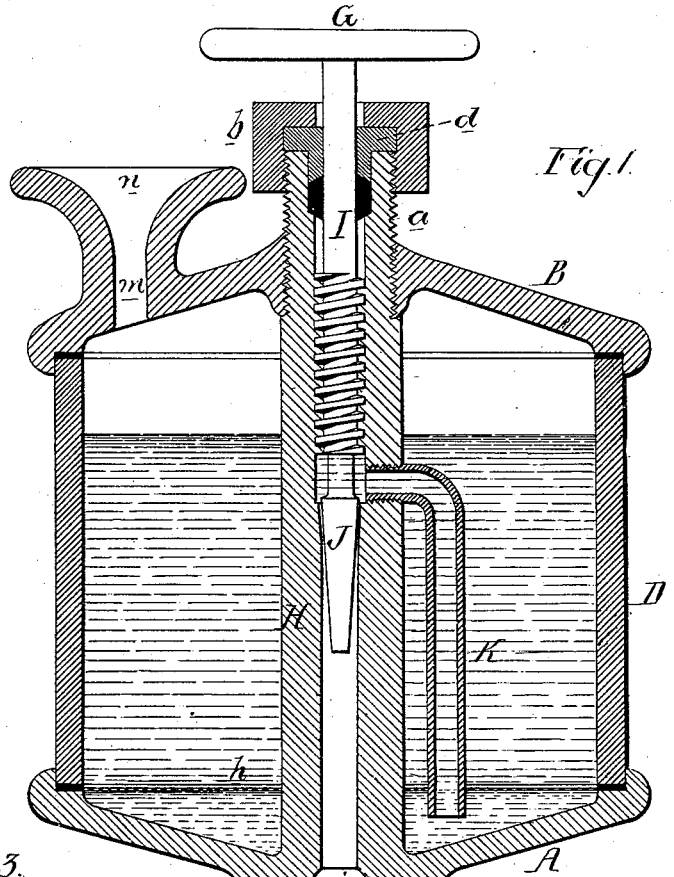


Fig. 3.

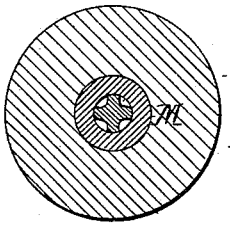
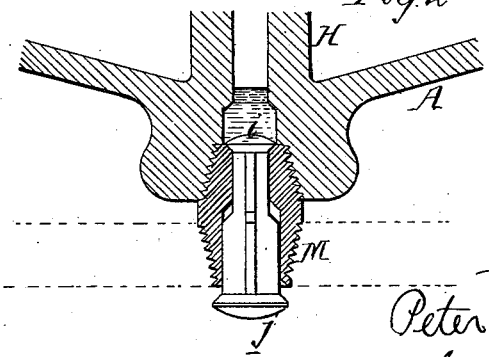


Fig. 4

Fig. 2



Witnesses
Hermann Mossner
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UNITED STATES PATENT OFFICE.

PETER BLOOMSBURG, OF BRISTOL, PENNSYLVANIA, ASSIGNOR TO JONATHAN CONE, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC LUBRICATORS FOR STEAM-CYLINDERS.

Specification forming part of Letters Patent No. **192,357**, dated June 26, 1877; application filed November 28, 1876.

To all whom it may concern:

Be it known that I, PETER BLOOMSBURG, of Bristol, Bucks county, Pennsylvania, have invented an Improved Automatic Lubricator for Steam-Cylinders, of which the following is a specification:

The object of my invention is to effectually lubricate the pistons of steam-cylinders by the automatic device described hereafter, and illustrated by the accompanying drawing, in which—

Figure 1 is a vertical section of my improved automatic lubricating device; Fig. 2, the lower portion of Fig. 1, showing the check-valve closed; Fig. 3, a section on the line 1 2, and Fig. 4 a section on the line 3 4.

The main body of the oil-cup consists of the lower plate A, the upper plate B, and the hollow cylinder D, which is confined between the two plates, and which I prefer to make of glass, so that it can always be ascertained, by inspection, whether or not there is a proper supply of oil in the cup.

On the plate A, and by preference forming a part of the same, is a central tube, H, extending through the cup and above the same, the plate B being screwed onto the threaded portion *a* of the tube, which also receives a screw-cap, *b*, for confining the follower *d* of a stuffing-box to the said tube.

A valve-rod, I, passes through the stuffing-box, above which it is furnished with a hand-wheel, G, or other suitable handle, the threaded portion of the rod being adapted to an internal screw-thread in the tube, and the rod having a tapering termination, J, which serves as a regulating-valve for determining the quantity of lubricating material which shall pass into the tube from the reservoir through a channel, which is, in the present instance, formed by a tube, K, the lower end of the latter passing through a perforated or wire-gauze diaphragm, *h*, which extends across the lower portion of the reservoir, and serves to filter the oil before it can pass into the said tube K.

At the under side of the plate A is a tubular screw-stud, M, which serves the twofold purpose of connecting the oil-cup to the cylinder-cover and of seats for the double valve, which is, in the present instance, made in one piece, the upper valve *i* opening upward simultaneously with the closing of the lower valve *j*, and the latter opening downward simultaneously with the closing of the upper valve.

The reservoir is replenished with oil from time to time through an exposed passage, *m*, in the plate B, the said passage terminating above in a flaring entrance, *n*. The space in the cup above the level of the lubricating material is thus always open to the atmospheric pressure.

When steam is admitted to the cylinder of the engine above the piston (presuming the cylinder to be vertical) the lower valve *j* will be closed, and all communication between the cylinder and the oil-cup cut off. At the same time the upper valve *i* will be open, and the oil can pass freely into the valve-chamber formed within the screw-stud M.

The moment the space above the piston is open to the exhaust communicating with the condenser, and a partial vacuum thus created within the upper portion of the cylinder, the lower valve will be opened and the upper valve closed, owing to this partial vacuum, and the oil received in the valve-chamber will be discharged into the cylinder, the quantity of oil thus admitted to the cylinder depending upon the position of the regulating-valve J.

I claim as my invention—

The combination, in an oil-cup, of a tube, H, communicating with the reservoir, and an adjustable valve, J, with the automatic valves *i* and *j* and intermediate chamber, all substantially as and for the purpose set forth.

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

PETER BLOOMSBURG.

Witnesses:

HERMANN MOESSNER,

HARRY SMITH.