# L. S. Lapham,

## Lubricator.

No. 27,548. Patented Mar. 20, 1860.

Fig. 1

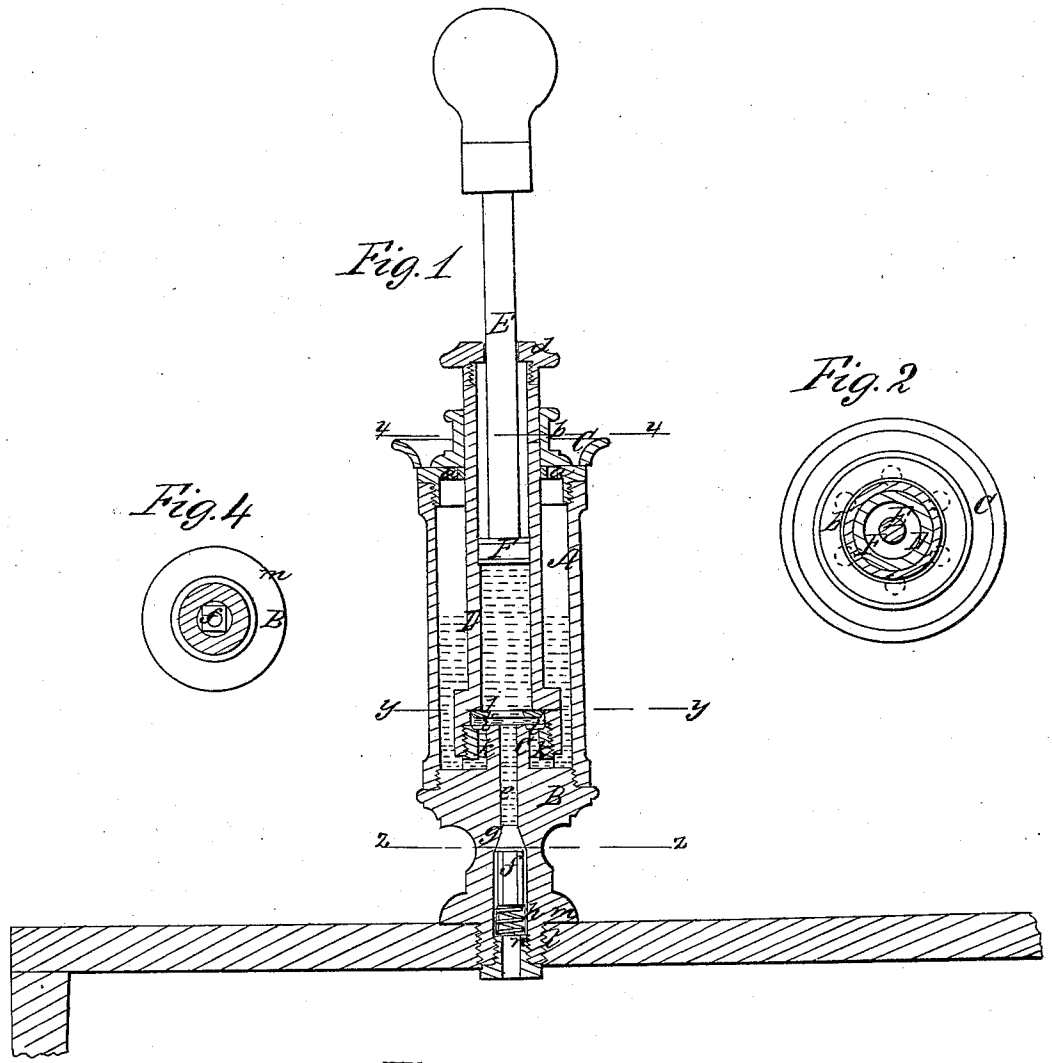


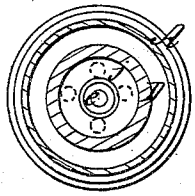

Fig. 2



Fig. 4



Fig. 3



Witnesses;
J. W. Combs,
R. S. Spencer

Inventor;
Levi S. Lapham
per Munn & Co.
attorneys.

# UNITED STATES PATENT OFFICE.

LEVI S. LAPHAM, OF PROVIDENCE, RHODE ISLAND.

## LUBRICATOR.

Specification of Letters Patent No. 27,548, dated March 20, 1860.

*To all whom it may concern:*

Be it known that I, LEVI S. LAPHAM, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Oil-Pump for Lubricating Steam-Cylinders; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a sectional elevation of my invention. Fig. 2 a transverse section of the same, taken in the line *x*, *x* Fig. 1. Fig. 3 a transverse section of the same, taken in the line *y*, *y*, Fig. 1. Fig. 4 a transverse section of the same, taken in the line *z*, *z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a hollow cylinder, the lower end of which is screwed on a stem or support B. The upper end of cylinder A, has a cap C screwed into it of cup-form, the bottom of the cup being perforated as shown at *a*, said perforations being covered by a flask *b*.

The upper end of the stem or support B has an upright projection *c*, which extends upward within the cylinder A, and has a screw thread formed on it. On this projection *c*, the lower end of a pump cylinder D is screwed, said cylinder extending up through the cap C, and having a cap *d*, screwed into its upper end. The flask *b*, is allowed to rise and fall freely on the cylinder D.

E is a plunger rod, which passes through the cap *d*, and F is the plunger attached to its lower end. The stem or support B, has an opening *e*, made longitudinally through it and in this opening a check valve *f*, is placed, as shown clearly in Fig. 1. This valve *f*, is a simple polygonal rod having a conical end which fits in a corresponding shaped seat *g*, in the stem, a spring *h*, at the opposite end of the valve causing the conical end to fit snugly in its seat. The opening *e*, communicates with the interior of the steam cylinder, or steam chest, to which the device is applied.

The extremity of support B, is provided with a hollow recess plug *n*, upon which the spring *h* rests, and the valve *f* is thus confined in place. The plug *n*, is perforated and thus forms a continuation of the passage *e*.

In the upper end of the projection *c*, an annular groove *i*, is made, to receive a corresponding shaped valve *j*. This valve *j* works over the orifices of passages *k*, which are made in the projection *c*, and form, when the valve *j*, is raised, a communication between the pump cylinder D, and cylinder A, as shown clearly in Fig. 1.

The lower end of the stem B, is provided with a screw *l*, and a shoulder *m*, for the purpose of forming a close connection or attachment to the steam cylinder or steam chest.

The operation is as follows: The cylinder A is supplied with oil, by pouring it in the cap C, the flask *b*, being raised to allow the oil to pass through the perforations *a*, into the cylinder A. The flask *b*, prevents dust from entering cylinder A, which is an oil reservoir or chamber. When the cylinder is to be lubricated, the operator draws outward the plunger F, and thereby opens valve *j*, and causes the oil to pass from chamber A, through the passages *k*, into the cylinder D. The plunger is then shoved inward, the valve *j*, closes and the oil is forced through the opening *e*, opening valve *f*, and passing into the steam chest or cylinder. Thus it will be seen that all that is required in order to force oil from the oil chamber A, into the the steam chest or cylinder is to operate the plunger F, no cocks require to be opened, nor any manipulation whatever, except the operating of the plunger as described.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

The combination with the cylinder A, pump cylinder D, and piston F, of the annular oil passage *k*, and annular valve *j*, perforated in the center as shown so that when the piston is withdrawn the valve *j*, will rise and the oil will enter the cylinder D; and when the piston is pushed down the valve *j*, will close the passage *k*, and the oil will pass through the center of the valve *j*, to the machine to be lubricated, all as set forth.

LEVI S. LAPHAM.

Witnesses:

A. H. MANCHESTER,

A. H. MANCHESTER, Jr.