2 Sheets--Sheet 1.

J. FARNAN.

Lubricator for Steam-Engines.

No. 162,160. Patented April 20, 1875.

Fig. 1.

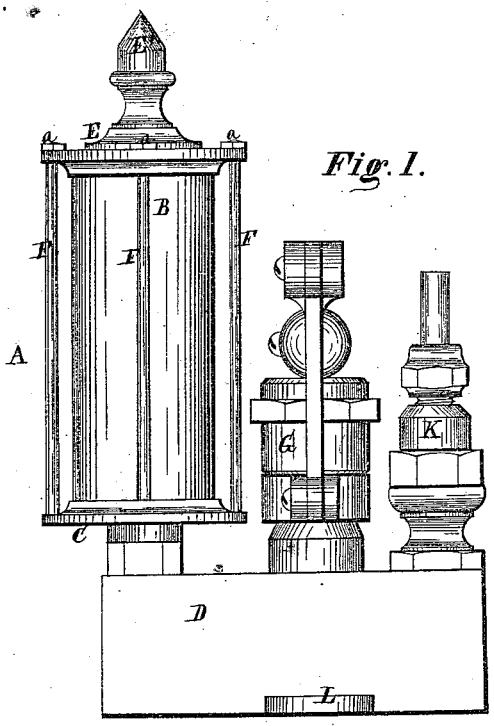
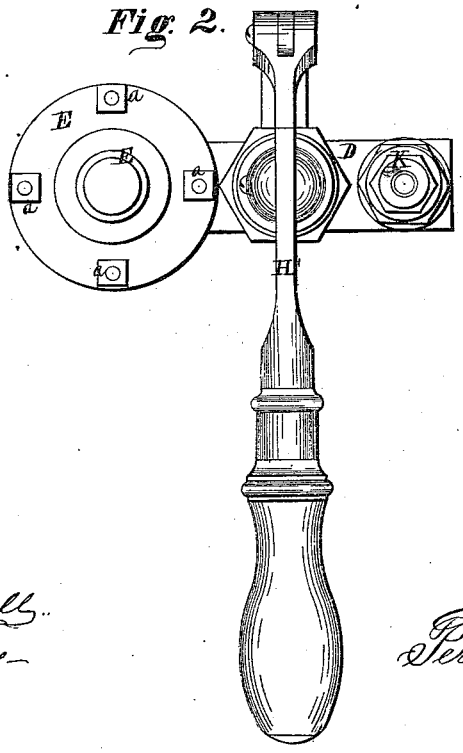


Fig. 2.



Witnesses.

A. F. Cornell

M. C. Crosby

Inventor.

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2 Sheets--Sheet 2.

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Fig. 3.

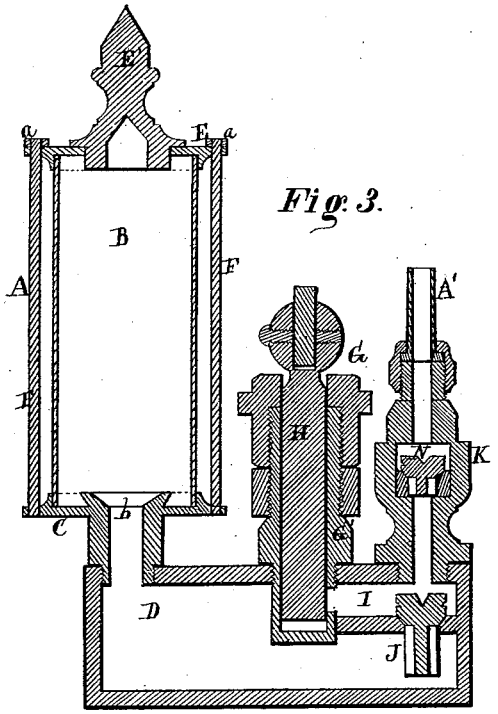
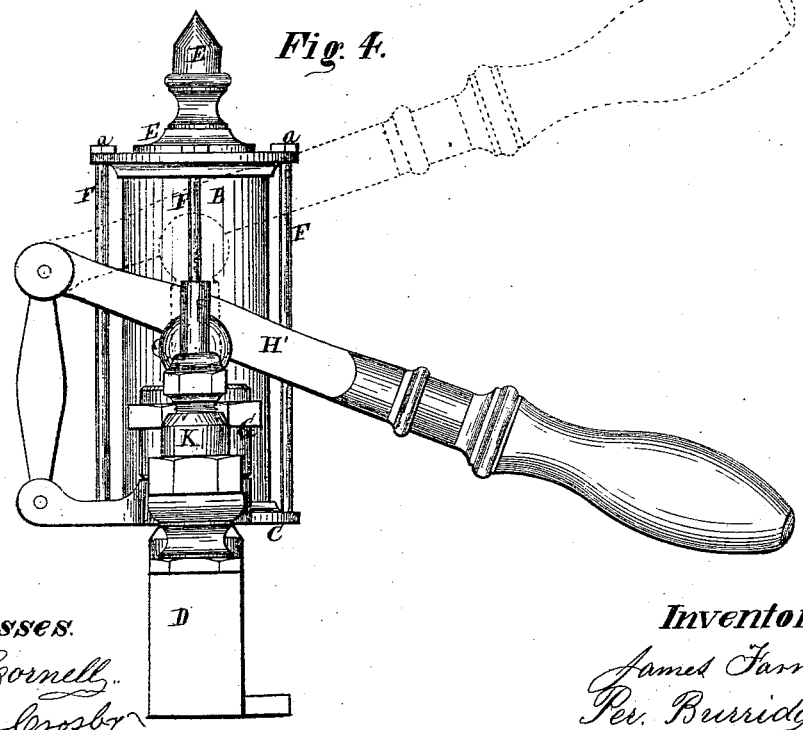


Fig. 4.



Witnesses.

A. F. Cornell.

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UNITED STATES PATENT OFFICE.

JAMES FARNAN, OF CLEVELAND, OHIO.

IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **162,160**, dated April 20, 1875; application filed October 13, 1874.

To all whom it may concern:

Be it known that I, JAMES FARNAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Device for Lubricating Steam-Engine Cylinders; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings, making a part of the same.

Figure 1 is a side view of the pump. Fig. 2 is a plan view. Fig. 3 is a vertical section. Fig. 4 is an end view.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a pump for forcing oil into steam-engine cylinders for lubricating the same. Said pump consists of a glass reservoir for holding the oil, from which it is drawn by the pump, and forced thereby into the cylinder, substantially as hereinafter more fully described. The construction of the pump is as follows:

In the drawing, A represents the reservoir referred to. Said reservoir consists of a glass cylinder, provided with a metallic hose, C, whereby it is secured to the chamber D. The upper end of the cylinder is provided with a metallic cap, E, and stopper E′, connected to the base C by the rods F, having nuts *a* on their upper ends, whereby the cap and base are drawn tightly in contact with the ends of the glass, making oil-tight joints. G is the pump, whereof G′ is the cylinder, of which H, Fig. 3, is the plunger. Said pump-cylinder is screwed into the chamber D, with which it has communication through the sub-chamber I and valve J, opening into the sub-chamber as shown in Fig. 3. K is a conductor, connected to, and opening into the chamber I. In the conductor is a valve, N; by means of the pipe A′ the conductor is put in communication with the steam-chest.

The practical operation of the above-described apparatus is as follows: The apparatus is secured to the steam-chest by the lug L. The reservoir, on being filled with oil, it finds its way into the chamber D through the opening *b*, and also into the sub-chamber I through the valve J. On lifting the plunger H by the handle H′, as indicated by the dotted lines in Fig. 4, the oil, as a consequence, will follow up into the cylinder of the pump. Now, on forcing down the plunger, the oil will be driven through the conductor K and the pipe A′ into the steam-chest or cylinder. The steam and the injected oil are prevented from passing down into the chambers by the valves N and J, which open by the upward pressure of the oil below, and close by the downward pressure of the steam and the pressure of the oil caused by the descent of the plunger. By the use of the above-described oil-pump, more or less oil can be injected into the steam-chest or cylinder, as may be required, and the amount can be seen or known by the decrease of the oil in the reservoir, which can be readily observed through the glass of which it is made.

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

1. The reservoir A, consisting of the glass cylinder B, cap E, base C, rods F, and stopper E′, in combination with the chamber D and pump G, in the manner as described, and for the purpose set forth.

2. The combination of the reservoir A, chamber D, chamber I, valve J, pump G, and conductor K, having a valve N, in the manner substantially as described, and for the purpose set forth.

JAMES FARNAN.

Witnesses:
J. H. BURRIDGE,
M. C. CORWIN.