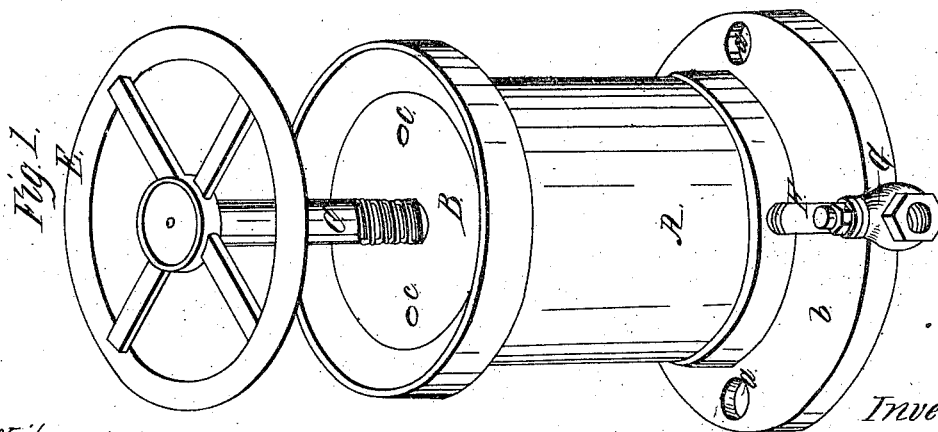
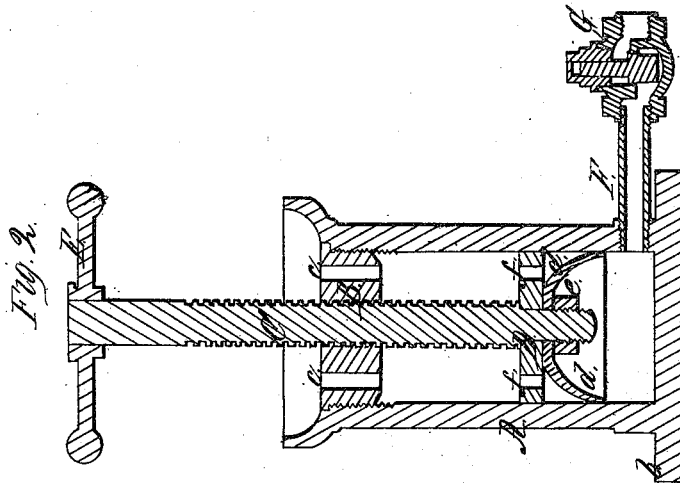


S. E. Foster

Lubricator.

N^o 51,112.

Patented Nov. 21, 1865.



Witnesses;

*Thos. R. Roach.
J. C. Williams.*

Inventor,

*Samuel E. Foster
By his Attorneys
Fischbacher & Stearns*

UNITED STATES PATENT OFFICE.

SAMUEL E. FOSTER, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO THE
PUTNAM MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. 51,112, dated November 21, 1865.

To all whom it may concern:

Be it known that I, SAMUEL E. FOSTER, of Fitchburg, in the county of Worcester, and State of Massachusetts, have invented an Improved Oil-Feed Apparatus for Oiling the Cylinders and Valves of Steam-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved apparatus. Fig. 2 is a central vertical section through the same.

The cylinders and valves of steam-engines have frequently been lubricated by throwing a small stream of oil at intervals into the inlet steam-pipe with a pump, the oil mixing with the steam and being carried by it onto the valves and into the cylinder; but with this arrangement a larger quantity of oil was often thrown in than was required, resulting in a considerable waste.

My invention has for its object to overcome this difficulty; and consists in a neat and convenient apparatus by which the quantity of oil injected into the cylinder can be nicely regulated, as will now be described in such terms that others skilled in the art may understand and use my invention.

In the said drawings, A is a cylinder, which is held in place by screws passing through holes *a* in the base *b*.

The top of the cylinder is closed by a screw-plug, B, which is provided with holes *c* through which the oil is poured into the cylinder.

C is a screw which passes through the plug B, and carries at its lower end a piston, D, and a leather cup or packing, *d*, which are held in place by means of the screw-nut *e*, a hand-wheel, E, being attached to the upper end of the screw C, by which it is operated.

The piston D is provided with holes *f*, through which the oil passes when it is raised by the screw C after the cylinder is filled with oil.

A pipe, F, leads from the bottom of the cyl-

inder A to the inlet steam-pipe, and thus, as the piston D and cup *d* are forced down by the screw C, the oil is injected into the steam-pipe, where it is mixed with the steam and carried onto the valves and into the steam-cylinder, lubricating them as required.

A check-valve, G, is placed in the pipe F, which is opened by the pressure of the oil when it is injected, and is kept closed by the pressure of the steam.

The operation is as follows: The piston D and cup *d* being carried down to the bottom of the cylinder A by the screw C, the cylinder is filled with oil through the holes *c*. The screw C is then turned so as to raise the piston and cup *d* to the top, forming a vacuum beneath the cup, and causing the oil to pass down through the holes *f* and between the flexible edge of the cup *d* and the sides of the cylinder A, beneath the cup. The oil being now beneath the cup, when it is desired to lubricate the engine the wheel E is turned more or less, as may be required, forcing the cup *d* onto the oil, and injecting it through the pipe F and valve G into the steam-pipe, as before explained, the edge of the cup spreading, when forced down, so as to form a packing and prevent the oil from passing up between it and the sides of the cylinder A.

It will thus be seen that the quantity of oil injected into the steam-pipe can be nicely regulated as required, and all waste thereby avoided, while the apparatus is of very simple construction.

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

The within-described oil-feed apparatus, consisting of the cylinder A, with its piston D and packing, operated by the screw C, substantially as set forth.

SAMUEL E. FOSTER.

Witnesses:

JAMES M. WOODBURY,
LOUIS D. BARTLETT.