2 Sheets—Sheet 1.

W. MOSES.
Lubricator.

No. 198,952. **Patented Jan. 8, 1878.**

Fig. 1.

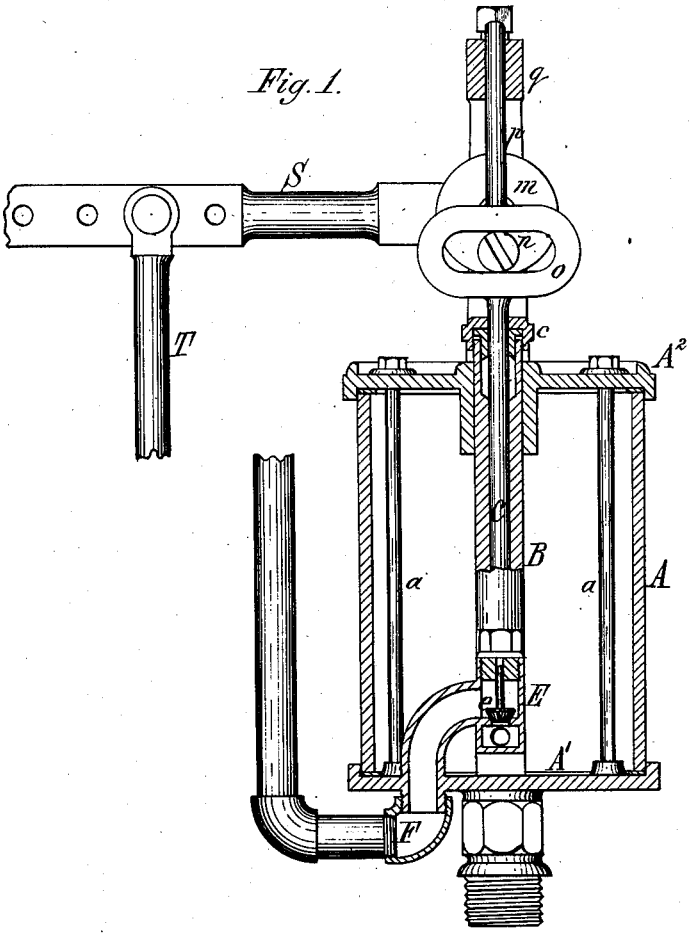
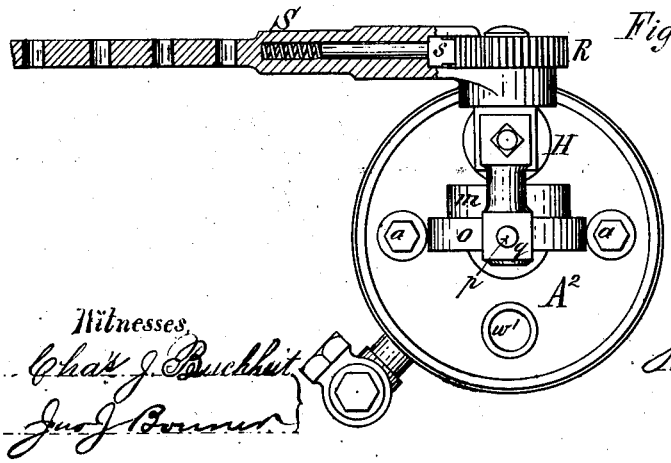


Fig. 2.



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2 Sheets

2 Sheets—Sheet 2.

W. MOSES.
Lubricator.

No. 198,952. **Patented Jan. 8, 1878.**

Fig. 3.

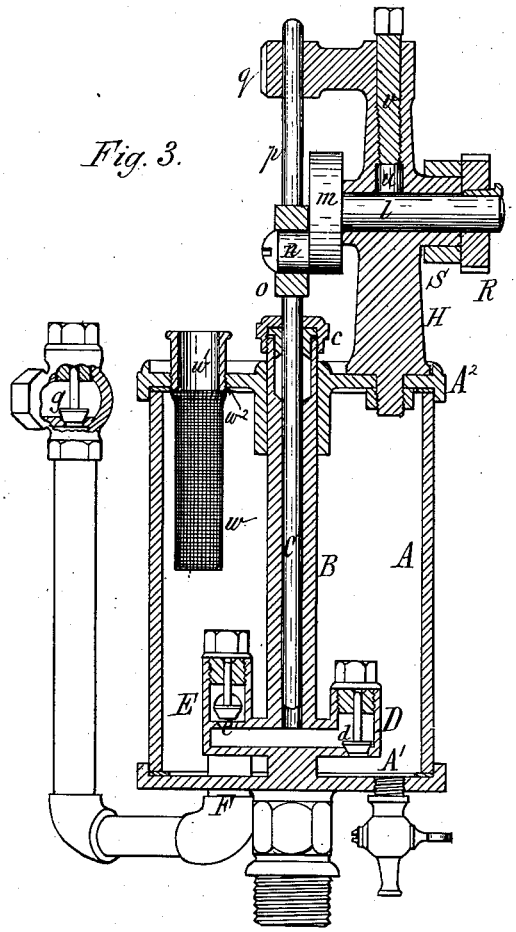
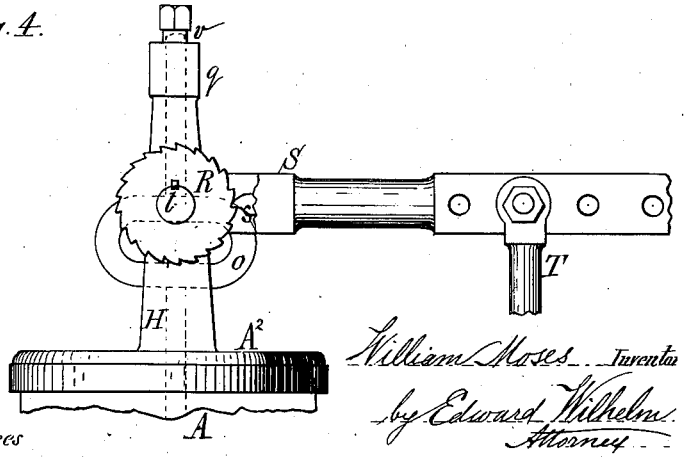


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM MOSES, OF BUFFALO, NEW YORK.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **198,952**, dated January 8, 1878; application filed October 11, 1877.

To all whom it may concern:

Be it known that I, WILLIAM MOSES, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Lubricating Devices for Steam-Engines, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to a device designed for supplying the lubricating material to the cylinder or other parts of a steam-engine, pump, or similar mechanism, in a regular and uniform manner, while permitting the quantity of lubricating material so supplied to be regulated as circumstances may require.

My invention consists, principally, of the particular construction of the mechanism by which the plunger of the lubricating-pump is actuated.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional elevation of my improved lubricating device. Fig. 2 is a top-plan view thereof. Fig. 3 is a sectional elevation at right angles to Fig. 1. Fig 4 is a side elevation of the mechanism by which the plunger of the lubricating-pump is actuated.

Like letters of reference refer to like parts in each of the figures.

A represents the cylindrical oil-receptacle, preferably made of glass, and provided with a metallic bottom, A^1, adapted to be secured to any suitable support, and a metallic top or cover, A^2, both the top and bottom being provided with suitable grooves or flanges for receiving the glass receptacle A, and secured together by bolts *a*, so as to clamp the cylinder A between them. B represents the pump cylinder or barrel, arranged vertically in the oil-receptacle A, and projecting through a central opening in the cover A^2, in which it fits closely. C is the plunger or piston working in the barrel B, which latter is provided at its top with a stuffing-box, *c*. *d* is the suction-valve, arranged in a chamber, D, opening into the receptacle A, and communicating with the foot of the pump-barrel B. *e* is the pressure-valve, arranged in a chamber, E, communicating with the foot of the pump-barrel, and opening into a discharge-pipe, F, which dives and penetrates the bottom A^1 of the oil-receptacle.

The pump-barrel B and chambers D and E are preferably cast in one piece with the bottom A^1 of the oil-receptacle.

The main portion of the discharge-pipe F, which screws into the bottom of the oil-receptacle, is made of any suitable length, as circumstances may require; and it is provided, near the steam-cylinder or other part to which the lubricating material is supplied, with a check-valve, *g*, of any suitable construction.

H represents a vertical standard secured to the cover A^2, and supporting a horizontal shaft, *l*, turning in a bearing in the standard. *m* is a crank-wheel secured to the inner end of the shaft *l*, and provided with a wrist-pin, *n*, which engages in a slotted yoke, *o*, secured to, or formed with, an upward extension, *p*, of the plunger C, so as to impart a reciprocating motion to the latter.

The upper end of the extension *p* is guided in a bearing, *q*, formed with the standard H.

R is a ratchet-wheel secured on the outer end of the shaft *l*, and S an oscillating arm mounted loosely on the bearing of the shaft *l*, in close proximity to the ratchet-wheel R, and provided with a spring-pawl, *s*, engaging with the teeth of the ratchet-wheel R, so as to turn the latter and the shaft *l* during the movement of the arm S in one direction, while the ratchet-wheel and shaft remain stationary during the reverse movement of the arm. T represents a rod connecting the arm S with any suitable moving part of the engine, pump, or other apparatus to which the lubricator is applied, so that an oscillating motion is imparted to the arm S when the engine, pump, or other apparatus is in motion.

The rod T is connected with the arm S, so as to be adjustable toward and from the fulcrum of the latter, whereby the throw of the arm S can be regulated.

The upper portion of the standard H is made hollow, and provided with a pressure-block, *u*, bearing upon the shaft *l*, and a set-screw, *v*, bearing upon the block *u*.

The set-screw *v* is tightened or applied to such a degree that the friction created between the block *u* and shaft *l* will be sufficient to prevent any retrograde movement of the latter when the pawl *s* rides over the ratchets of the wheel R during the backward stroke of the

arm S, while this friction is not sufficient to arrest the forward movement of the shaft *l*. *w* is a cylindrical strainer, provided at its upper end with a threaded collar, w^1, by which the strainer is removably secured in the threaded feed-opening w^2 of the cover A^2, so that when it becomes necessary to clean the strainer the latter is readily detached from the cover by simply unscrewing it.

My improved lubricating device being connected with a steam-engine or other apparatus, as hereinbefore described, an intermittent motion is imparted to the plunger C, whereby the lubricating material is injected into the cylinder, or other part with which the discharge-pipe F connects, in small uniform quantities, at regular intervals, irrespective of the steam or other pressure to which the part to be lubricated is subjected.

By increasing or lessening the throw of the arm S the quantity of oil discharged by the pump at each stroke of the arm S can be increased or lessened.

If the speed of the engine or other apparatus to be lubricated is so high as to operate the plunger faster than is necessary to supply the proper quantity of lubricating material, the speed of the plunger may be reduced by securing the crank-wheel *m* to a secondary shaft, instead of mounting it on the same shaft with the ratchet-wheel, and connecting both shafts by a pair of gear-wheels, so proportioned as to reduce the motion of the plunger to the desired speed.

What I claim as my invention is—

1. In a lubricating device, the combination, with the plunger C, provided with slotted yoke *o*, of the driving-shaft *l*, crank-wheel *m*, ratchet-wheel R, and rock-arm S, provided with pawl *s*, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the shaft *l* and ratchet-wheel R, of the hollow standard H, friction-block *u*, and set-screw *v*, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the cover A^2, provided with a threaded feed-opening, w^2, of the cylindrical strainer *w*, secured with its upper end to a threaded collar, w^1, substantially as and for the purpose hereinbefore set forth.

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