3. Sheets. Sheet. 1.

Tom & Tucker,

Lubricator.

No. 19108. Patented Jan. 12. 1858.

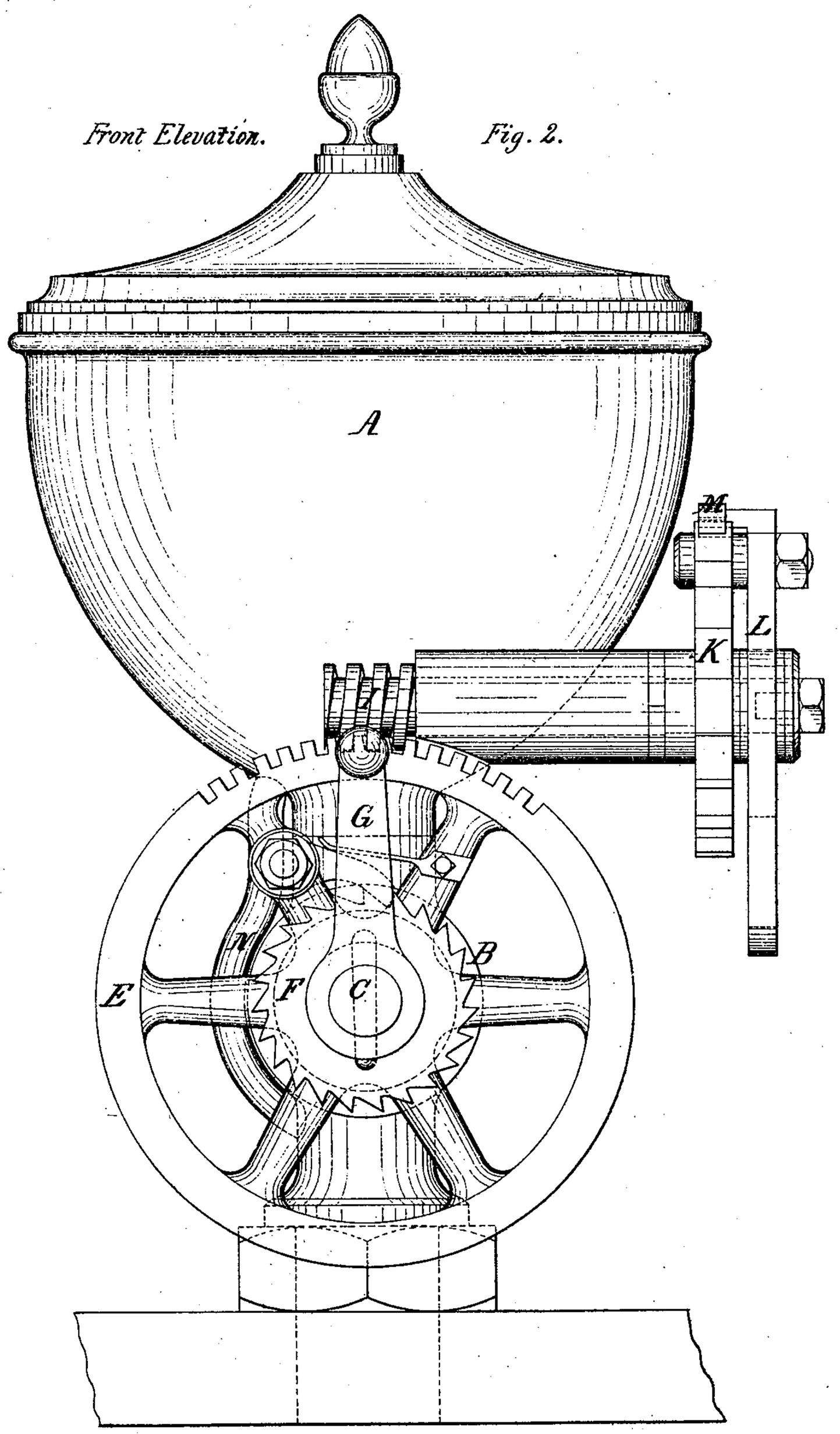
Sectional Elevation. Fig. 1.

Tom & Tucker, 3. Sheets. Sheet. 2.

Lubricator.

No. 19108. Patented Jan. 12. 1858.

Front Elevation. Fig. 2.



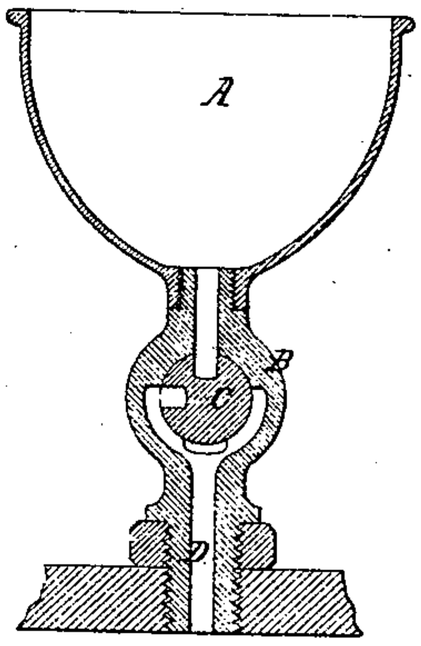
Tom & Tucker, 3. Sheets. Sheet. 3.

Lubricator.

No. 19,108. Patented Jan. 12, 1858

Modification.

Fig. 5.



Pendulum as applied to Oscillating Cylinders.

Fig. 3.

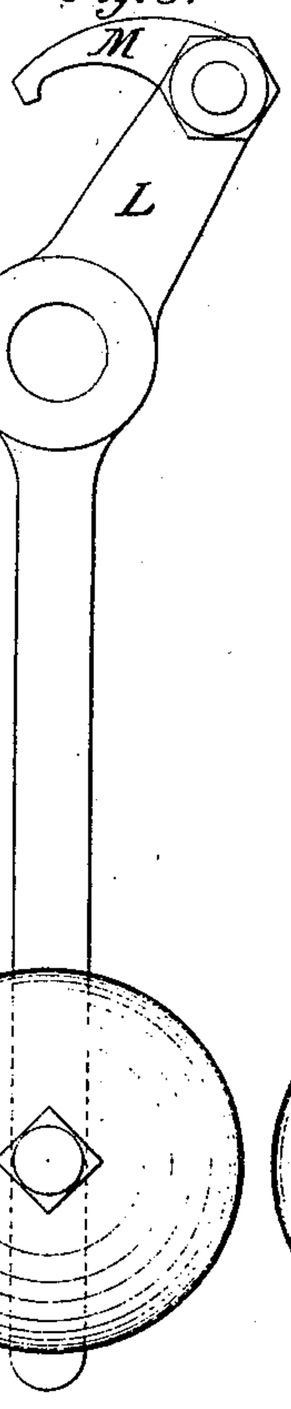


Fig. 4.

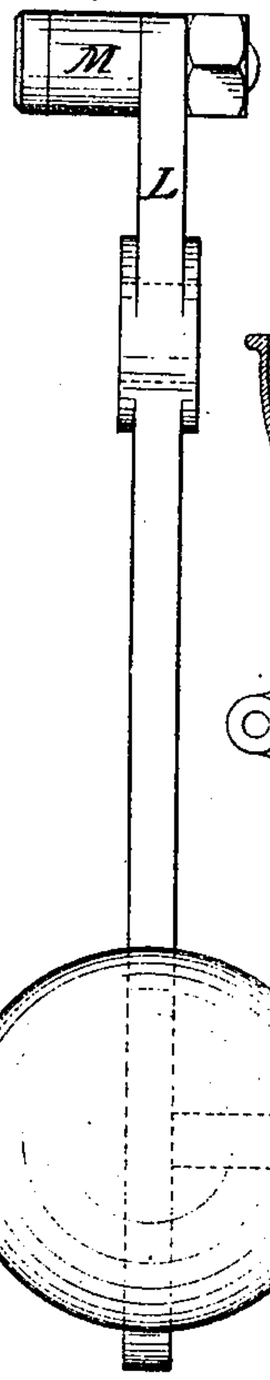


Fig. 6.

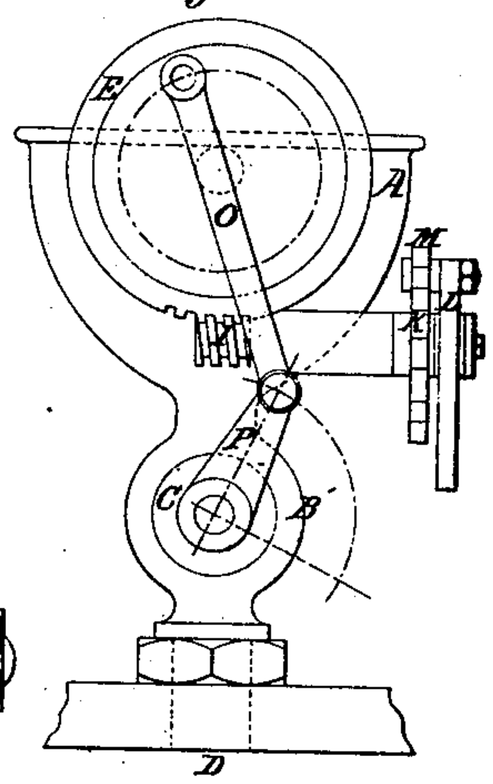


Fig. 7.

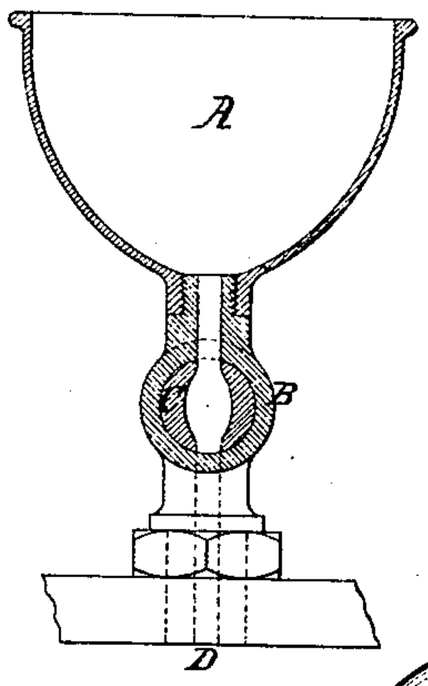
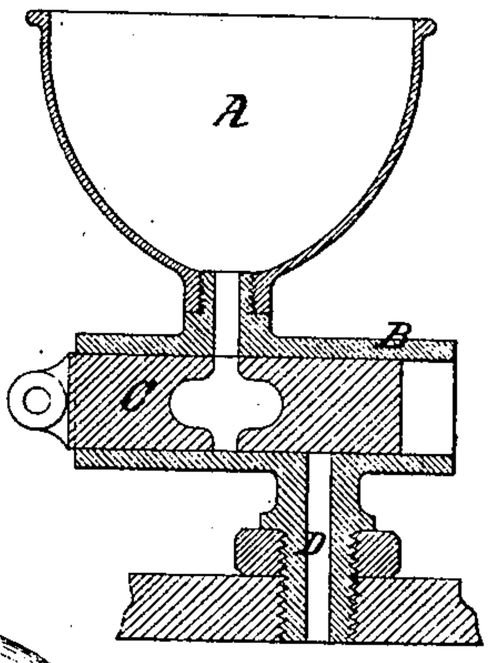


Fig. 8.



UNITED STATES PATENT OFFICE.

JOHN B. TOM AND STEPHEN D. TUCKER, OF NEW YORK, N. Y.

METHOD OF LUBRICATING JOURNALS, &c., BY A PENDULUM-VALVE ARRANGEMENT.

Specification of Letters Patent No. 19,108, dated January 12, 1858.

To all whom it may concern:

Be it known that we, JOHN B. TOM and STEPHEN D. TUCKER, of the city and county of New York, State of New York, have invented a new and useful improvement in lubricators for lubricating steam-cylinders, bearings of shafts, and machinery in general while in operation; also, for introducing oil, tallow, &c., into steam-boilers while under a pressure to prevent "foaming;" and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a front elevation, Fig. 2 is a sectional elevation taken at right angles to Fig. 1. Figs. 3 and 4 are an arrangement of a pendulum as applied to the lubricator when used on oscillating cylinders, connecting rods, &c. Figs. 5 and 6 are a modification of the lubricator, as also are Figs. 7 and 8, and the same letters refer to similar parts in all the drawings.

A, is a reservoir into which the lubricating material is put. (See Figs. 1 and 2.)

B, is a cock having a chambered plug or cylinder C. This plug or cylinder has one or more chambers, which, as the plug revolves, connect alternately with the reservoir A, and the outlet passage D. On the stem of the plug C are the worm wheel E running loose, the ratchet wheel F, made fast, and the cranked handle G, also made fast. To the worm wheel E, is attached the pawl H, which drops into and carries forward the ratchet wheel F, and of course the chambered plug or cylinder C. This arrangement allows the chambered plug to be turned forward at pleasure (by means of the cranked handle G) without disconnecting it.

J is a worm working into the worm wheel E, and carries on its shaft the ratchet wheel K, made fast, and the vibrating lever L, swinging loose. One end of this lever carries a pawl M, which, as the lever vibrates, drives forward the ratchet wheel K, and worm J. The other end of this lever has a slot, into which is attached a connecting rod to cause said lever to vibrate. The pawls H and M are provided with springs to keep them in contact with their respective ratchets. When tallow or any other hard lubricating material is used, it is kept melted by means of a coil of small pipe N, in the reservoir A, the upper end of which pipe is closed and the lower end is connected to a steam boiler or steam pipe, but when the lubricator is used on a steam cylinder or steam boiler, then the lower end of the coil N, may be connected to the outlet passage D, so that the steam can enter and heat the tallow and the condensed steam falls back through the passage D.

For lubricating stationary steam cylinders, bearings of shafts and machinery in general while in operation, also for introducing oil, tallow, &c., into steam boilers while under a pressure the operation is as follows: Motion is given by some one of the moving parts of the machinery to the vibrating lever L, which through the pawl M pushes forward the ratchet wheel K, the worm J, and the worm wheel E. This latter by means of the ratchet F, causes the chambered plug or cylinder C to revolve and the chamber or chambers, as they pass under the reservoir A, are filled from it, and as they pass over the outlet passage D, discharge their contents into it and pass on to receive another supply.

For lubricating oscillating cylinders, connecting rods, &c., the operation is the same except that the vibrating lever L, is converted into a pendulum by having a weight attached to its lower end, (see Figs. 3 and 4,) and the chambered plug or cylinder C is caused to revolve by the oscillations of the pendulum instead of being driven by the machinery.

Figs. 5 and 6 are a modification in which, by means of the connecting rod O, and crank P, the chambered plug or cylinder C, makes only part of a revolution, and has two chambers which are alternately filled as they pass under the reservoir A, and discharge their contents into the outlet passage D, on opposite sides; or the plug may have but one chamber and discharge its contents on one or both sides.

Figs. 7 and 8 are another modification in which the chambered plug or cylinder C, instead of revolving, slides endwise by a reciprocating movement; so that the chamber slides alternately under the reservoir A, and is filled and over the outlet passage D, into which it discharges its contents.

We do not claim any peculiar mechanism for moving the chambered plug or cylinder, as that may be done in various ways, but

What we claim as novel and useful and desire to secure by Letters Patent of the United States, is,

The chambered plug or cylinder moved by mechanism for rendering it automatic or self-operating, or any and all modifications of the same, or their equivalents, for the purposes already set forth, substantially as above described.

JOHN B. TOM.
STEPHEN D. TUCKER.

Witnesses:
HENRY O. BATTERMAN,
H. SKIDMORE.