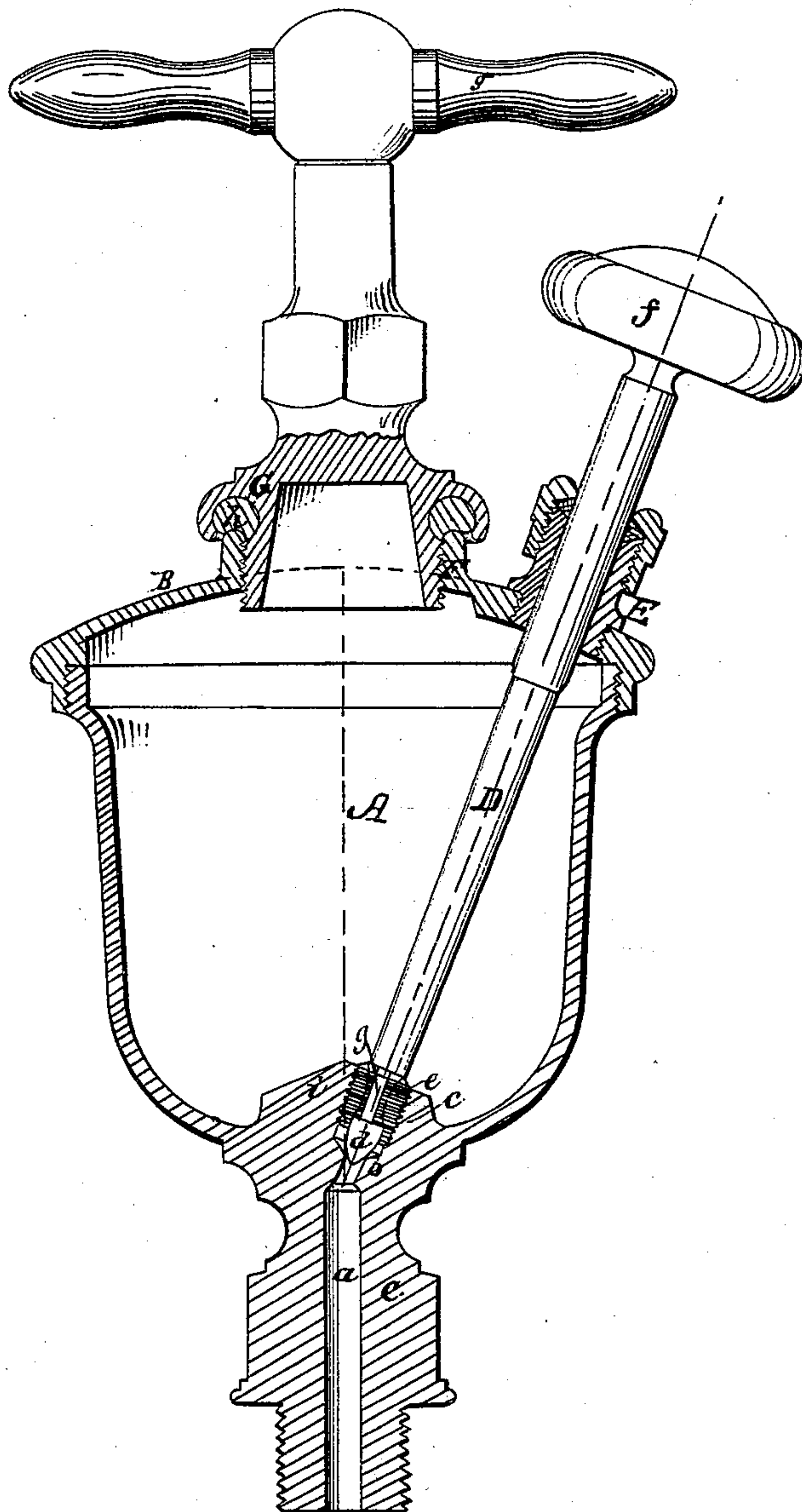


*J. Broughton*

*Lubricator.*

N<sup>o</sup> 96,389.

*Patented Nov. 2, 1869.*



*Witnesses:*

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# United States Patent Office.

JOHN BROUGHTON, OF NEW YORK, N. Y.

Letters Patent No. 96,389, dated November 2, 1869.

## IMPROVEMENT IN LUBRICATORS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, JOHN BROUGHTON, of the city, county, and State of New York, have invented a new and useful Improvement in Lubricators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and which represents a vertical section of a lubricator, constructed in accordance with my improvement.

This invention, while having some features in common with the lubricator described in Letters Patent of the United States, issued to me on the 16th day of October, 1866, essentially differs from the same in several important respects. Thus, said patented lubricator, while performing all that could be desired when oil is the lubricant, or tallow in a melted state supplied to it, is defective when tallow in bulk or in an unmelted state is required to be put into the reservoir, by reason of the vertical and central position of the valve-stem, which does not admit of the oblique nipple on one side of the top, through which the lubricant is supplied, being made sufficiently large to introduce lump-tallow, excepting in the case of very large lubricators, or by making the top of the lubricator to exceed in diameter the proportions necessary or practicable for small or moderate-sized lubricators.

Furthermore, supposing it possible to make such oblique nipple or feed-opening sufficiently large, the vertical central valve-stem would still be an obstacle to the use of tallow in the lump, as in dropping the lumps into the reservoir they would jam between the valve-stem and the interior surface of the reservoir, immediately below the nipple, and the reservoir could not be properly and entirely filled, except by the slow and tedious operation of dropping in a few lumps, and then by applying a rod or stick to force them around, and to the opposite side of the valve-stem.

Hence, while such a lubricator answers for liquid lubricants, it is defective for lubricants required to be supplied to the reservoir in bulk or lumps.

The special object, therefore, of this invention, is to obviate such defect, and to produce a lubricator, retaining certain prominent features of the former invention, which shall be applicable to using tallow in the lump; and

The invention consists in a combination, with a central filling-orifice, of an obliquely-arranged valve and valve-stem, constructed to offer the same facilities, as regards centring and steadying the valve, and of removing it when required, without taking off the stuffing-box gland or displacing the packing, which my former invention possessed. I, however, dispense with a tubular cap to the feeding-orifice or special arrangement of an air-chamber, as described in my patent hereinbefore referred to, and, by arranging the

filling-orifice at the centre and valve-stem, in oblique relationship to the axial line of the reservoir, produce a lubricator that may be made either of small or large size, without a top of inconvenient proportions, capable of using lubricants in a solid form or bulk, and which is extremely simple, not liable to derangement or leakage, is cheap to manufacture, and offers every facility for filling and operating.

Referring to the accompanying drawing—

A is the reservoir of the lubricator.

B, its cap or top, and

C, its shank, provided with a central discharge-passage, *a*, which is made to assume an angular shape at its upper end, and is enlarged to form a valve-seat, *b*; also is further provided above the valve-seat with an internal screw-thread, *c*.

D is the valve-stem, constructed at its lower end to form a valve, *d*, which works on or over the valve-seat *b*, and is raised or lowered by means of a screw, *e*, arranged around said stem, and fitting the internal screw-thread *c*, to open or close or regulate the discharge through the passage *a*, and to permit of steam passing upward from the steam-chest, (to which the lubricator may be supposed to be applied,) for the purpose of melting the tallow and equalizing the pressure, so as to insure its flow, which takes place down grooves *g* made in the screw *e*.

This valve-stem D is set obliquely, as represented, and passes through an obliquely-disposed guiding-nipple or tube, and stuffing-box E, arranged on the cap B, to one side of the filling-orifice F, which is made to occupy a central position in the cap. Said valve-stem is operated by a knob or handle, *f*.

The filling-orifice F should be made sufficiently large to admit of the tallow being introduced in good-sized lumps, and said orifice be closed by a screw-plug, G, in connection with suitable soft-metal seat *h*, and operated by a handle, *g*.

The obliquely-disposed nipple and stuffing-box E should be arranged a sufficient distance to one side of the filling-orifice F, to allow of its flange or shoulder screwing down on the convex surface of the cap B, to clear the annular projection of the filling-orifice, and direct the axis of the valve-stem at its upper end, so that the operator may turn or rotate the knob *f* of said stem without jamming his knuckles or fingers against the vertical stem of the central screw-cap or plug G, and the obliquity of the valve-stem preferably be such as that a conical projection, *i*, on the bottom of the reservoir, serves to receive the valve and operating-screw *e* of the stem, and so that the convex surface of the cap B is an arc of a circle, the centre of which is at the point of intersection of the axial line of the valve-stem and central vertical line of the discharge-passage *a*, at or near where it commences



its vertical run ; but such precise disposition is not imperative, and the body of the lubricator may be in the form of a hollow vertical cylinder, of any suitable exterior configuration, and have cast on it an obliquely-projecting side-pipe or tube for the valve-stem to pass through said tube, as in the case of the oblique nipple E, answering to steady and guide the valve in the direct line of its seat when it is pushed down from the top in the act of inserting it.

From this description it will be seen that the oblique and side-like disposition of the valve-stem, and central arrangement of the filling-orifice, present no such impediments to the filling of the reservoir with tallow in the lump or other solid lubricant, and self-adjustment of the same to supply opposite sides

of the valve, that a central valve-stem and lateral filling-opening do.

What is here claimed, and desired to be secured by Letters Patent, is—

The arrangement, relatively to the central filling-orifice F, of the oblique valve-stem D, guided above by an obliquely-disposed tube or nipple, and constructed to form a valve, *d*, at its base, under the control and steadying action of a screw-thread, *e*, arranged to fit an internal screw-thread, *c*, substantially as specified.

JOHN BROUGHTON.

Witnesses:

FRED. HAYNES,  
HENRY PALMER.