De Witt C. Smiley,

Oil Can,

No. 10,836, Patented Apr. 25, 1854.

Fig. 1.

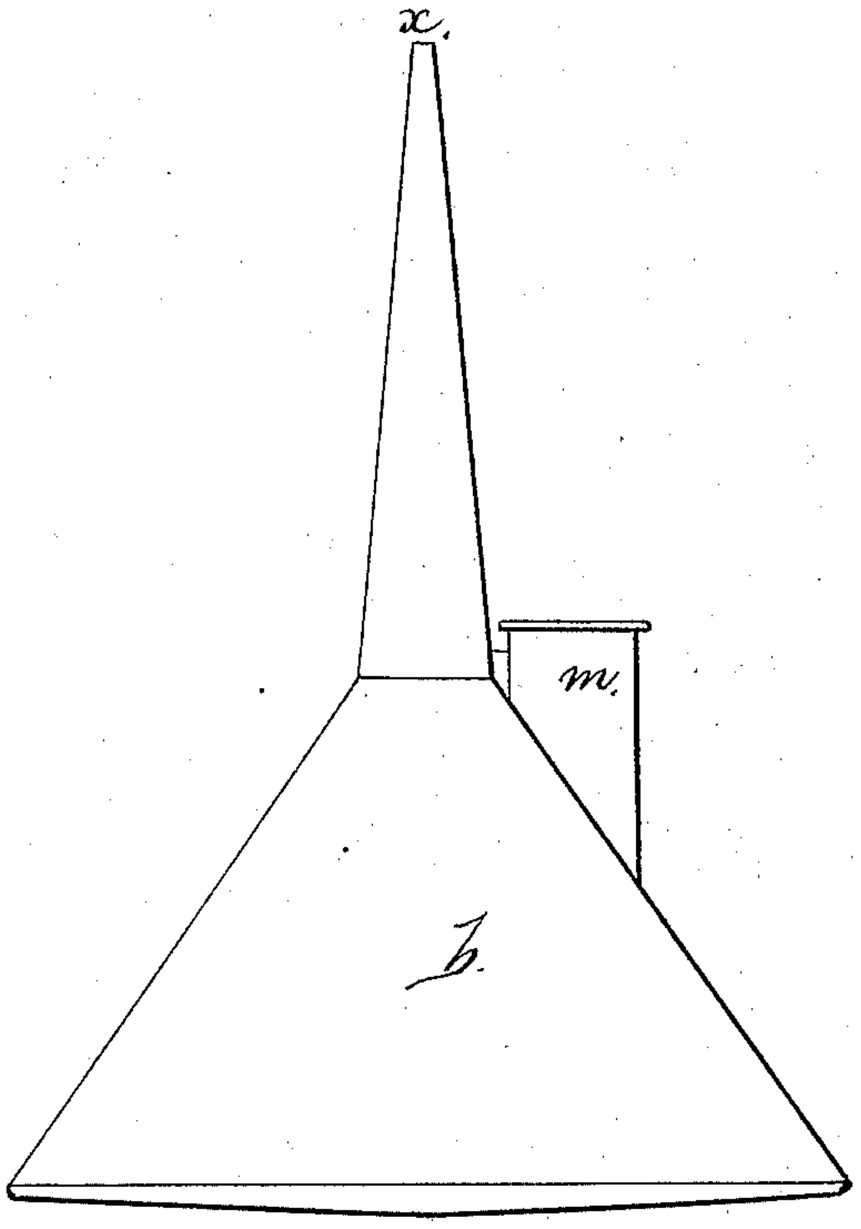
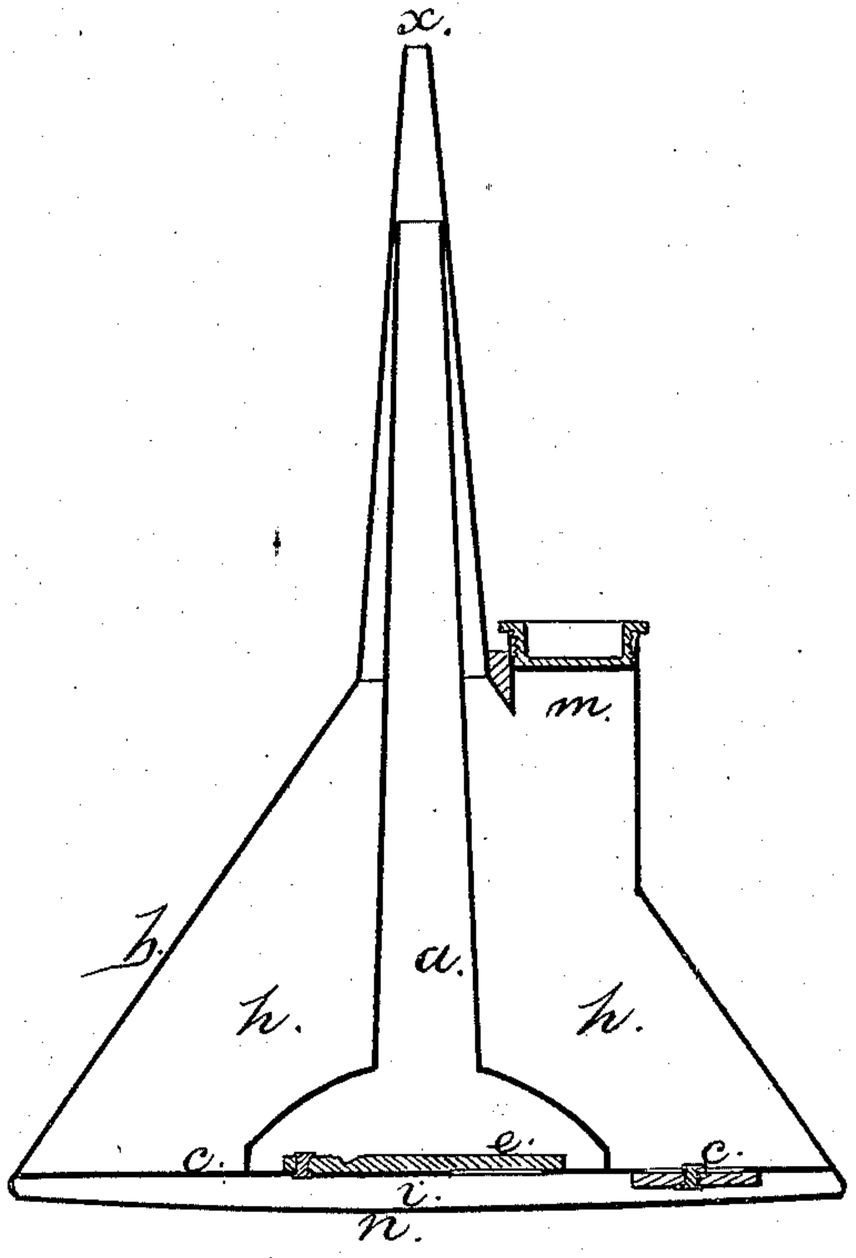


Fig. 2.



UNITED STATES PATENT OFFICE.

DE WITT C. SMILEY, OF NEW YORK, N. Y.

IMPROVEMENT IN OILERS FOR MACHINERY.

Specification forming part of Letters Patent No. **10,836**, dated April 25, 1854.

To all whom it may concern:

Be it known that I, DE WITT C. SMILEY, of the city, county, and State of New York, have invented a new and useful Improvement in Oilers for Machinery; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the oiler. Fig. 2 is a longitudinal section of the same through the axes of can and feeding-tube.

Similar letters of reference in the several figures denote the same part of the apparatus.

The nature of my invention consists in connecting with an ordinary oiler an interior chamber having its bottom extended so as to fill the interior diameter of the can, and form a diaphragm dividing the can into an upper and lower chamber, and furnished with two valves, one opening upward and the other downward, so that by the alternate application of pressure on the bottom of the can and removal of the same the oil is drawn from the upper to the lower chamber and forced through the interior chamber and out of the orifice at the extremity of the can-tube.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, *a* is the interior chamber, its bottom *c* extended, filling the interior diameter of the can *b*, so as to form a diaphragm dividing the can into two chambers, *h* and *i*. In the diaphragm *c* are the valves *e* and *f*, the former opening inward into the interior chamber from chamber *i*, and the latter opening downward and forming a communication between the chambers *h* and *i*.

The operation of my improved oiler is as follows: The can is supplied with oil through the feed-channel *m*, communicating with the chamber *h*, which oil will percolate through the valve *f* and fill the chamber *i*. By application of pressure to the bottom *n* of the can (which is elastic) the valve *f* will be closed and the oil forced through the valve *e* into the interior chamber, *a*. On removal of the pressure from the bottom its elasticity will cause it to assume its original position, creating a partial vacuum in the chamber *i*, which causes the opening of the valve *f* and closing of the valve *e*, thus holding the charge in the interior chamber, *a*, and introducing a fresh supply into the lower chamber, *i*. The succeeding pressure on the bottom of the can produces the above-described result of raising the oil into the interior chamber and exhausting the lower chamber, *i*, while the removal of the pressure produces the effect above described of replenishing the chamber *i*. In this manner the alternate pressure on the bottom of the can and removal of the same will continue to force the oil through the interior chamber and out of the orifice *x*, and draw the supply from the upper chamber, *h*, so long as a drop of oil remains in the can. By the application of a tube over the orifice *x* the oil can be discharged at the most inaccessible points in machinery with most accurate results.

I do not claim cans having flexible bottoms, as such are well known; but

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

The combination of the interior chamber, *a*, with the can *b*, having a flexible bottom, when said interior chamber has its bottom extended to fill the interior diameter of the can, and form a diaphragm dividing the can into an upper and lower chamber, said diaphragm provided with valves *e* and *f*, one opening upward and the other downward, arranged and operating in the manner before described, for the purpose set forth.

DE WITT C. SMILEY.

Witnesses:

A. E. BEACH,

A. BRUEN.