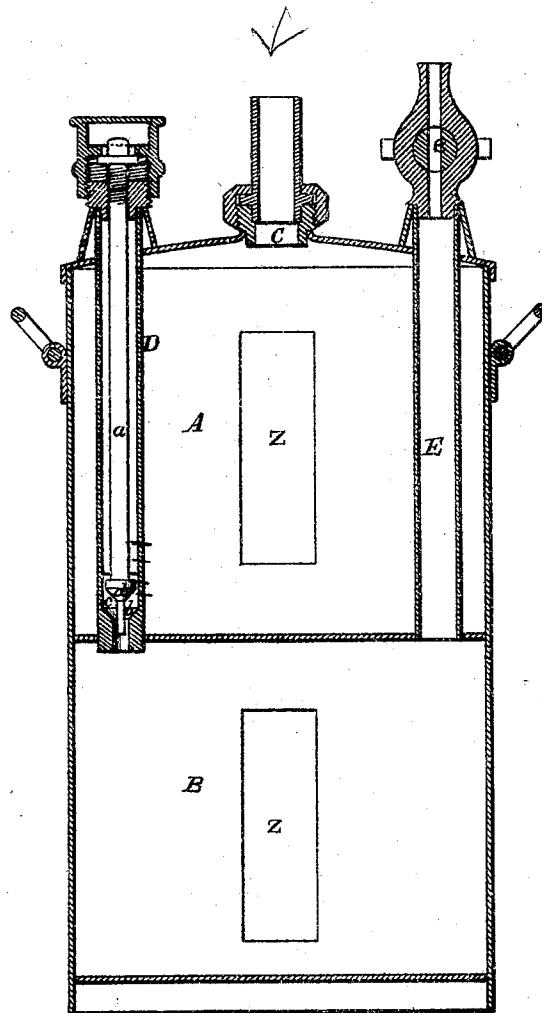


D. BIRDSALL.

Improvement in Apparatus for Filling and Emptying Oil Tanks.

No. 123,859.

Patented Feb. 20, 1872.



Witnesses

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN APPARATUS FOR FILLING AND EMPTYING OIL-TANKS.

Specification forming part of Letters Patent No. 123,859, dated February 20, 1872.

To all whom it may concern:

Be it known that I, DAVID BIRDSALL, of Brooklyn, in the county of Kings and State of New York, have invented a new and valuable Improvement in Suction-Pump, &c.; 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 drawing making a part of this specification and to the letters and figures of reference marked thereon.

This invention has relation to an improved suction-pump for discharging oil-chambers, gas-reservoirs, and other purposes, where a smooth and even flow is required; and it consists in the construction and novel arrangement of the water and air-chambers and tubes of communication hereinafter described. It is also intended to serve as a means for evening or equalizing the action of an ordinary air or suction-pump, and is designed for use chiefly in connection with gas apparatus where an even flow is of great importance.

In the accompanying drawing, the letter A designates an air-tight-chamber placed above a similar air-tight chamber, B. C represents the inlet-pipe, inserted through the wall of A, and adapted, by means of an ordinary coupling or otherwise, to be connected with the pipe from the reservoir or vessel to be discharged. D represents a tube passing through the chamber A into the chamber B. This tube is provided with a plug or packing-box at its upper end, through which passes a rod, *a*. An opening, *c*, is made in the tube D at a point near the bottom of the chamber A, and below this opening a valve-seat, *b*, is formed to suit the valve *d* constructed at the end of the rod *a*. At some point between the opening *c* and the top of this tube a female screw-thread is designed to be formed in the tube to operate in connection with a thread upon the rod *a*. The top of this rod is fitted for the application of a key, or otherwise adapted to be turned from its upper end, for the purpose of raising

or lowering the valve. E represents a tube passing from the lower chamber B upward through the chamber A. This tube is provided with a regulating-cock, *e*, at its upper end.

The operation of this pump is as follows: The chamber A having been filled with water, the pipe from the carbureting-tank or other reservoir which it is desired to empty is connected at the coupling of the pipe C. The valve-rod *a* is now raised to open communication between the water-chamber A and the air-chamber B. Finally the cock *e* is opened for the escape of the air from the lower chamber B. The water will now flow from the tank A into the chamber B, and its place in the upper or vacuum-chamber will be supplied by the oil or gas from the reservoir being discharged.

For ordinary purposes the power of the water-pump above described will be sufficient; but its force may be increased by the application of an air or suction pump to the tube E; and in this connection it serves an important purpose in preventing the strokes of the piston of the air-pump from interfering with the steady and even flow from the oil-reservoir.

The advantages of this invention are chiefly discernible in its application to carbureters and other reservoirs connected with the pipes by which illuminating gas is supplied for consumption.

Claim.

What I claim as my invention is—

The equalizing-pump for discharging oil-reservoirs, consisting of the air-tight chambers A and B, placed one over the other, and separated by a horizontal partition, the inlet-tube C, valve-tube D, valve-rod *a*, and the air-escape E with its cock, substantially as specified.

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Witnesses:

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