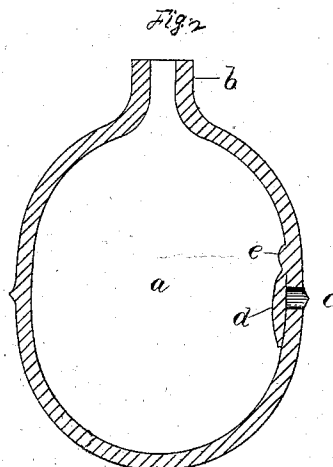
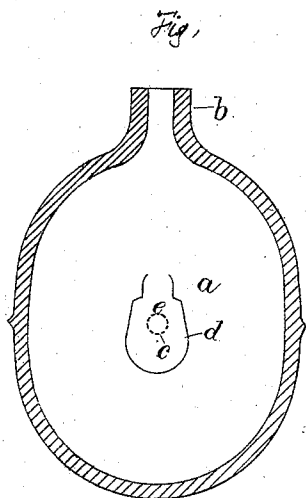


H. D. LOCKWOOD.
Atomizer Bulbs.

No. 138 416..

Patented April 29, 1873.



WITNESSES.

Mr. W. Frothingham,
L. H. Crutcher.

INVENTOR.

Hamilton D. Lockwood,
By his Atty.
Crosby & Gould

UNITED STATES PATENT OFFICE.

HAMILTON D. LOCKWOOD, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN ATOMIZER-BULBS.

Specification forming part of Letters Patent No. **138,416**, dated April 29, 1873; application filed March 5, 1873.

To all whom it may concern:

Be it known that I, HAMILTON D. LOCKWOOD, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Flexible Bulbs for Atomizers, &c.; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms a part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In the construction of atomizer-bulbs it is customary to employ a valve or valves placed in a metal box, within the walls of which the valve plays. By reason of the entrance of foreign matter, and the tendency of such valves to become misplaced, such valve mechanism is often ineffective in controlling the proper supply of air to the bulb, and its proper expulsion through, and only through, the atomizer-tube.

The object of my invention is to simplify the application of the air entering and controlling devices, and for this purpose I punch a small hole in the side of the bulb for the air-inlet, and place over such hole, within the bulb, a small flap-valve, formed of similar material to the bulb, vulcanized or cemented at one end to the inner surface of the bulb. Such a valve always opens when the bulb expands, and closes as the bulb is compressed, and is not liable to become clogged, as its own flexibility and the flexibility of the bulb material prevent any accretions upon the valve-face or its seat. The invention consists in an atomizer-bulb, in which the air-valve is a flex-

ible appendage to the inner surface of the bulb, said valve covering an air-inlet aperture punched through the bulb.

The drawing represents a section of an atomizer-bulb embodying the invention.

a denotes the bulb; *b*, the bulb-neck, through which the atomizer air-tube passes, the tube being fastened to such neck. *c* denotes the air-inlet hole; *d*, the flexible valve covering said hole, said valve being preferably formed of rubber compound and attached by extension, *e*, to the inner surface of the bulb on one side of the hole.

It will be obvious that this valve arrangement costs but a trifle compared to the metal box and valve ordinarily used, and that the efficiency of the valve is never impaired by misplacement or collection of foreign matter.

The construction is applicable to elastic bulbs wherever used for receiving and expelling air.

Instead of applying the flap *d*, as shown, it may be formed by molding the bulb with an inward projection, into which the hole *c* extends, this projection being split open so that the parts spread to let the air in, and close by compression of the bulb.

I claim—

A flexible bulb, having, in combination with the air-outlet orifice, an air-inlet controlled by the valve *d*, substantially as shown and described.

H. D. LOCKWOOD.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.