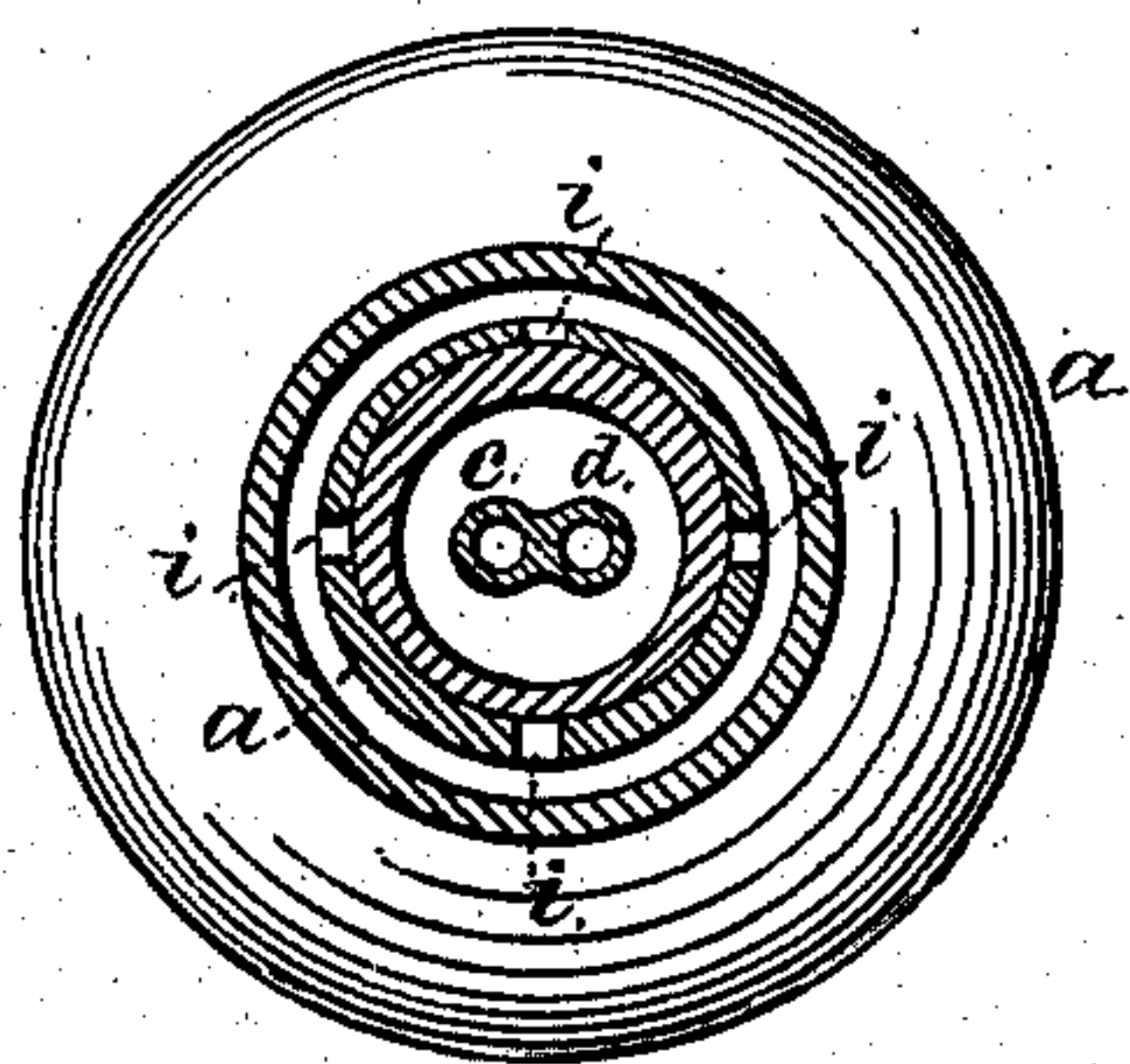
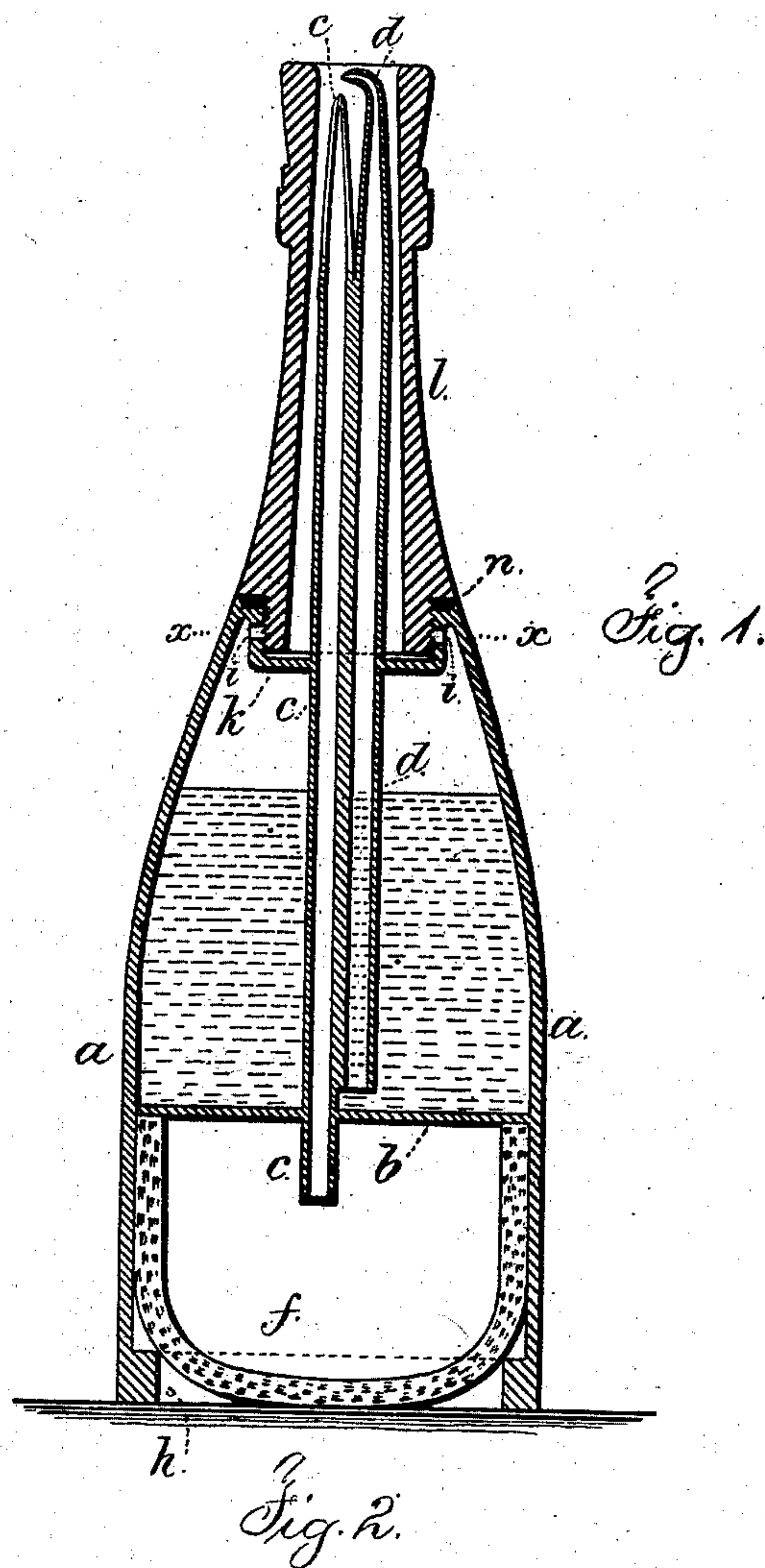


W. L. HUBBELL.
Atomizer.

No. 205,389.

Patented June 25, 1878.



Witnesses

Chas. H. Smith
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Inventor

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att'y.

UNITED STATES PATENT OFFICE.

WILLIAM L. HUBBELL, OF NEW YORK, ASSIGNOR TO RAYMOND JENKINS,
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IMPROVEMENT IN ATOMIZERS.

Specification forming part of Letters Patent No. **205,389**, dated June 25, 1878; application filed
April 19, 1878.

To all whom it may concern:

Be it known that I, WILLIAM L. HUBBELL, of the city and State of New York, have invented an Improvement in Atomizers, of which the following is a specification:

Atomizers and oilers have been made with bulbs, by means of which motion is given to the air, and the liquid is ejected in a fine spray or stream. In these cases the bulb of india-rubber, that serves as the air-forcing device, has been variously located, sometimes being above the liquid-holder, at other times in the base, or else at the side.

My improvement relates to an air-forcing cup within a case, by means of which the air is ejected, and which cup serves the twofold purpose of ejector and air-valve. I also place the ejector-tubes within a peculiarly-constructed removable neck, which serves to form part of an imitation bottle, and also to prevent the leakage or evaporation of the liquid contained in the bottle.

These atomizers are usually employed for perfume, but the same may be used for any purpose wherever available.

In the drawings I have shown the atomizer by a vertical section, Figure 1, in enlarged size, and Fig. 2 is a section at the line *x x*.

The body of the atomizer is made as a case, *a*, within which is a diaphragm or bottom, *b*, through which passes the ejector air-tube *c*; and *d* is the liquid-tube, terminating as a nozzle at right angles to the tube *c*, in the usual manner, so that the air blowing past the nozzle will produce a suction and scatter the liquid.

There is a flexible force-cup, *f*, within the lower part of the case *a*, said cup having parallel, or nearly parallel, sides, that set closely against the inside of the case. When the force-cup is operated by pressing upon the bottom, the sides are expanded and air-tight against the interior surface of the case *a*, and in so doing the air is expelled through the tube *c*, and a spray produced. When the pressure is relieved the force-cup expands, and draws air back through the tube *c*, and air will generally also pass between the sides of

the force-cup and the interior surface of the case *a*, thus allowing the force-cup to refill with air rapidly.

A rim or ring at *h* serves to retain the force-cup in position.

The screw-socket *k* is soldered to the case *a*, inside the upper end. The tubes *c* and *d* pass through this socket, and are supported by it. There are holes, *i*, through the screw portion of this socket *k*, to allow the perfume or other liquid to be poured into the socket and run into the holder or case *a b*.

The neck *l* is removable. It forms a protection to and cover for the tubes *c d*, and the screw portion closes the holes *i i* to retain the liquid.

I also find it advantageous to use an elastic washer, *n*, that surrounds the screw of the neck, and is received into a recess at the top of the socket *k*. This maintains a tight joint between the case *a* and neck *l*.

The removable neck is ornamental in its character, and the whole atomizer is in the shape of a bottle.

I claim as my invention—

1. The combination, with the atomizer-tubes and the liquid-holder, of a flexible force-cup, *f*, that is open at one end and provided with parallel, or nearly parallel, sides, and a case, *a*, within which such force-cup is received and supported, substantially as set forth.

2. The removable screw-neck *l*, in combination with the screw-socket *k*, having openings *i* through the screw thereof, and the atomizer-tubes, substantially as set forth.

3. An atomizer made in the form of a bottle, with an inwardly-projecting rim at *h* and diaphragm *b*, in combination with the air-forcing device that is entirely within the lower part of the bottle-shaped case, and the air and liquid tubes that pass up through the neck *l*, substantially as set forth.

Signed by me this 13th day of April, A. D. 1878.

WM. L. HUBBELL.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH,