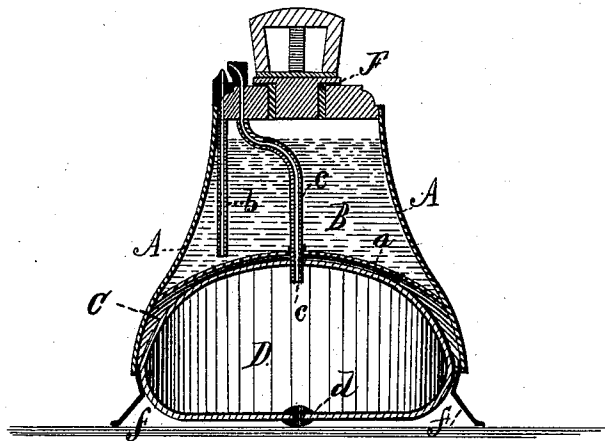


D. J. TAPLEY.

ATOMIZERS.

No. 179,079.

Patented June 20, 1876.



Witnesses;
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UNITED STATES PATENT OFFICE.

DANIEL J. TAPLEY, OF BROOKLYN, NEW YORK, ASSIGNOR TO THEO. RICKSECKER, OF NEW YORK CITY.

IMPROVEMENT IN ATOMIZERS.

Specification forming part of Letters Patent No. **179,079**, dated June 20, 1876; application filed May 5, 1876.

To all whom it may concern:

Be it known that I, DANIEL J. TAPLEY, of the city of Brooklyn, in the county of Kings, State of New York, have invented certain new and useful Improvements in Atomizers or Vaporizers, of which the following is a specification:

This invention relates to that class of apparatus known as "atomizers" or "vaporizers," and arranged for the purpose of converting liquids into a jet of spray or vapor by means of the application of a jet of air, under pressure, over a tube connecting with the liquid, forming a cross-jet, in the manner well known.

The present invention consists in an improved form of construction, and in the novel arrangement and adaptation of the collapsible bulb and various operating parts, all of which will herein be fully pointed out and described.

The drawing, which forms an essential part of this specification, represents a sectional elevation of an atomizer or vaporizer in which is fully embodied my invention.

In applying and carrying out my invention, I make an entire change from the usual and well-known methods of construction, and dispense with the use of a bottle for containing the fluid to be atomized; but I retain the common method of a jet of air crossing a tube connecting with the fluid-vessel, drawing it therefrom by suction and dispersing it in a column of spray or vapor, and adapt it to my improved and peculiar form of constructing the other parts of the apparatus. This method seems preferable, although any one of the various systems of atomizing may be used instead, all being equally applicable.

The object of my invention is not only to dispense with the common bottles, with rubber bulbs and pipes or tubes attached thereto, or bottles with the rubber bulbs attached to and over their stopples or necks, but to provide an apparatus very attractive in its exterior appearance, and with all its operating parts concealed from the sight, yet readily accessible for operation, when desired. For this purpose I have preferably adopted the bell shape, as shown in the drawing, the rub-

ber bulb being so shaped that it is concealed in the base of the vessel.

A represents the exterior sheet of the vessel, which is made from metal, and may be spun or cast into shape. As shown, its interior is divided into two parts—a chamber, B, containing the liquid to be atomized or vaporized, and a recess, C, in the base, the two being separated by the curved diaphragm *a*, which is inserted and securely soldered into place, forming the base of the liquid-chamber. The vessel is provided with an ejecting-tube, *b*, which reaches from the bottom of the liquid-chamber B, passing through the top of the vessel, and terminating in a small orifice, as shown in the drawing. *c* is an air-tube, which passes through the center of the base-plate *a*, projecting below it a short distance, for the purposes as will presently be more fully described. It is conducted by a bend, as shown, through the top of the vessel, and terminates in a small nozzle at right angles to the top of the ejecting-tube *b*. These tubes may be made from hard or soft metal, as may be preferred. D is a rubber collapsible bulb, formed in shape so as to fit the recess C in the base of the vessel. It has, centrally in its apex, an opening, into which the base of the tube *c* enters; or it may be provided with a screw plug or socket, into which the base of the tube *c* may be screwed, though, usually, the rubber itself will cling to the tube sufficiently to prevent any leakage of air. In its base it is provided with an air inlet or valve, *d*. The base of the vessel is provided with a set of angular legs, *f*, which are so shaped that they assist in retaining the bulb D in position, as well as a rest for the vessel. The top of the vessel is provided with a suitable stopper, F, the top of which, in the present case, is formed in the shape of a bell-yoke.

The operation of the apparatus is as follows: The chamber B being filled with fluid, the apparatus is then taken in the hand, the thumb resting upon the open air-inlet *d* in the center of the bulb D. The quick pressure thereon at once expels the air through the tube *c* and across the top of the tube *b*, drawing a portion of the liquid from the chamber, and dissipat-

ing it in the shape of vapor or spray. On withdrawing the thumb, the bulb at once fills with air, and the previous operation is repeated.

Atomizers being extensively used for toilet purposes, the beauty of form is important, that it may be an attractive ornament to the toilet-table. Hence I prefer the form of vessel the exterior of which represents a bell; yet any other form of vessel capable of having a recess formed in its base to receive the rubber bulb would fully answer the purpose.

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

The combination, in an atomizer or vaporizer, of a liquid-vessel provided with liquid-tube *b*, air-tube *c*, and curved recess *C* in its base, and the collapsible air-bulb *D*, inserted in said recess, arranged, applied, and operating substantially as and for the purposes as herein shown and set forth.

DANIEL J. TAPLEY.

In presence of—

A. L. MUNSON,
LEWIS WILKINSON.