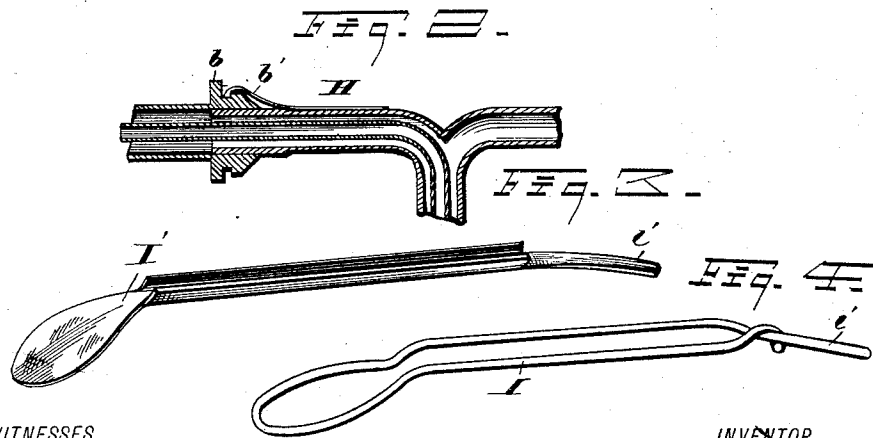
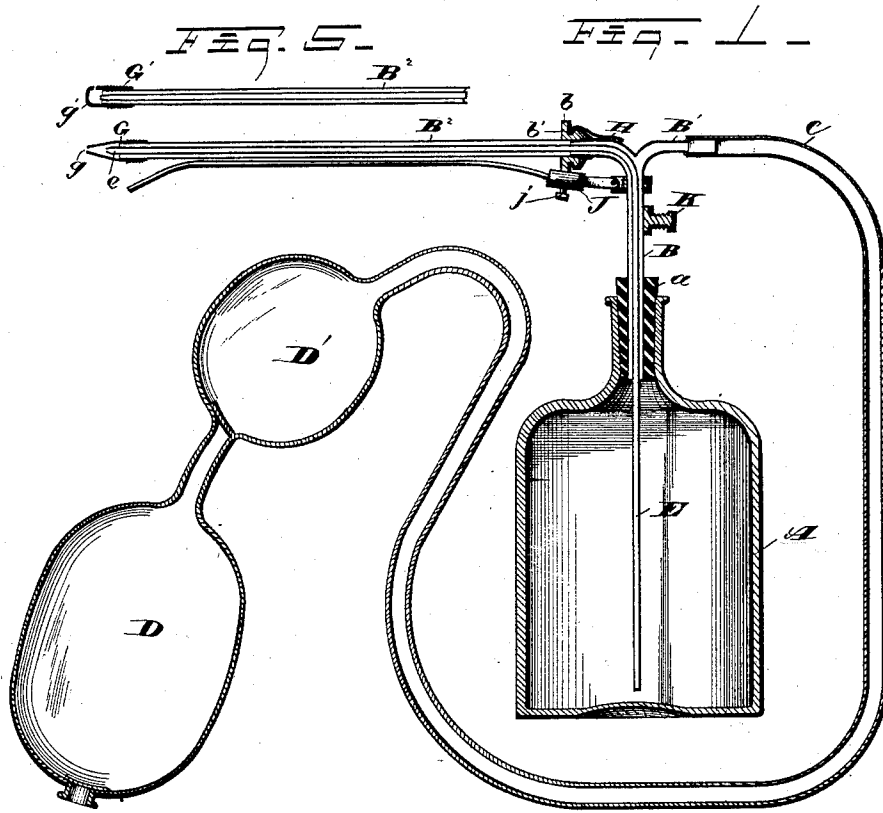


(No Model.)

F. H. CLARK.  
ATOMIZER.

No. 327,237.

Patented Sept. 29, 1885.



WITNESSES

*Wm. M. Hoarsoe.*  
*Geo. W. King*

INVENTOR

*Franklin H. Clark*  
by  
*Leggett & Leggett*  
Attorneys.

# UNITED STATES PATENT OFFICE.

FRANKLIN H. CLARK, OF CLEVELAND, OHIO.

## ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 327,237, dated September 29, 1885.

Application filed January 30, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN H. CLARK, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Atomizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in atomizers, the object being to provide a liquid-ejecting tube inclosed in an air-tube, the discharge of the inner tube, together with an air-blast, passing out through a jet-orifice in the outer tube, and the latter provided with interchangeable nozzles, with respectively end and lateral jet-orifices, by means of which the spray may be projected in line with the tubes, or in a lateral direction, as may be required, and the outer tube provided with a suitable joint and thumb-piece, by means of which the tube may be revolved to give the desired direction to the said lateral discharge.

A further object is to provide spatulas of such form and construction as may be required, and each spatula provided with a shank adapted to engage a socket secured to the tubes, to the end that the tongue of the patient may be held or shielded while the atomizer is being operated.

With these objects in view my invention consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation in section of an atomizer embodying my invention. Fig. 2 is an enlarged elevation in section, showing a joint and thumb-piece for revolving the outer portion of the air-tube. Figs. 3 and 4 are views in perspective of interchangeable spatulas. Fig. 5 is an elevation in section of one form of discharging-nozzle having a lateral jet-orifice.

A represents a container, in which the liquid medicinal preparation is placed, and is provided with the stopper *a*, through which passes the air-tube B, terminating at or near the lower end of the stopper. This tube has a branch, B', connected with the flexible tube C, that is connected with any suitable mechanism for forcing air into the container, pref-

erably the well-known elastic hollow bulb D. One or more similar bulbs, D', may be connected with the tube C to act as reservoirs to equalize the pressure in the container.

Inclosed in the tube B is the tube E, extending to near the bottom of the container, and with the outer or discharging end at *e*. The tube B has nozzles G and G', made interchangeable and screwed on the end of the part B<sup>2</sup> of the tube B. The nozzle G has a jet-orifice, *g*, at the end that, when the parts are in position, is in line with the orifice *e*. The nozzle G' is closed at the outer end, but has a lateral orifice, *g'*. The tube B<sup>2</sup> slips over the end of the tube B, and the parts are ground together, forming a tight joint. The tube B<sup>2</sup> is provided with a thumb-knob, *b*, and a slight annular groove, *b'*, on the thumb-piece is engaged by the hook end of the spring H, that is secured to the tube B and holds the joint in place. By means of this thumb-piece the end portion of the tube B<sup>2</sup>, with its nozzle, may be revolved. This upper portion of the device will only be required when the nozzle G is used, when by revolving the part B the spray may be directed as required.

K is a laterally-projecting pin, on which one of the nozzles may be placed when not in use.

In operating the atomizer in treating diseases of the throat it is frequently necessary to press down the tongue and hold it out of the way, and it is sometimes desirable to shield the tongue from the action of the spray. For this purpose I provide spatulas of such shape and construction as may be required—such, for instance, as I and I', the former consisting of a wire bent in suitable form, and the latter consisting of a thin plate of any suitable material. These spatulas have each a shank, *i*, that fit a socket, J, that is secured to the tube B and provided with a small thumb-screw, *j*, to tighten the shank *i*. The spatulas extend along the under side of the part B<sup>2</sup>, and are supported thereby as the spatula is pressed down upon the tongue.

In operating the apparatus a portion of the air from the tube B' passes direct to the container A, and another portion passes out through the orifice of the nozzle of the tube B<sup>2</sup>. This orifice is so small that a considerable pressure is maintained without difficulty in the

container, and consequently the air-blast passing out through the nozzle is sufficient to atomize the liquid discharged from the tube C and project the spray a considerable distance.

5 The apparatus is simple, compact, and easily operated.

The operator with one hand may work the air-pump, and with the other hand manipulate the tubes, turning the tube B<sup>2</sup>, if necessary, and at the same time holding down the tongue and covering it, if necessary.

10 The tube E may have a joint at *e*, so that the outer end may be removed for cleaning; but as the bore of this tube, although small, is much larger than the orifice *e*, the tube is not likely to clog except at this opening, and this may be readily opened by a pin, needle, or any small instrument at hand.

15 What I claim is—

1. In an atomizer provided with a liquid-tube inclosed in an air-tube, a joint in the latter and thumb-piece arranged to revolve the outer end of the air-tube to give the desired direction to the lateral discharge, substantially as set forth.

2. In an atomizer, the combination, with a liquid-tube and an air-tube surrounding the same, of the socket secured to the air-tube and a spatula removably secured to said socket, substantially as set forth.

30 In testimony whereof I sign this specification, in the presence of two witnesses, this 19th day of January, 1885.

FRANKLIN H. CLARK.

Witnesses:

CHAS. H. DORER,  
ALBERT E. LYNCH.