

(No Model.)

W. EGGERS.
ATOMIZER.

No. 519,498.

Patented May 8, 1894.

Fig: 1.

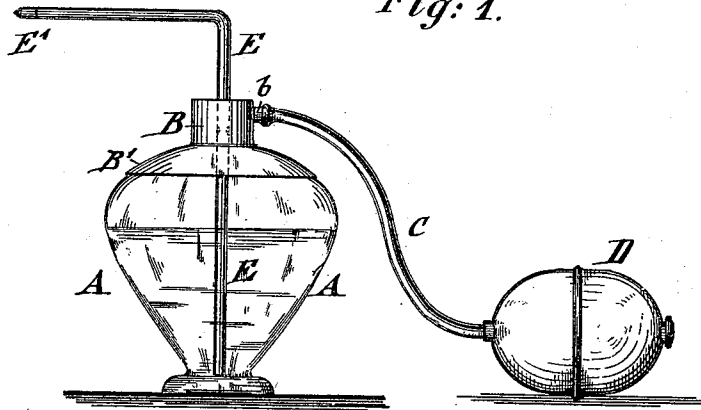


Fig: 4.

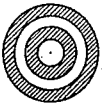


Fig: 2.

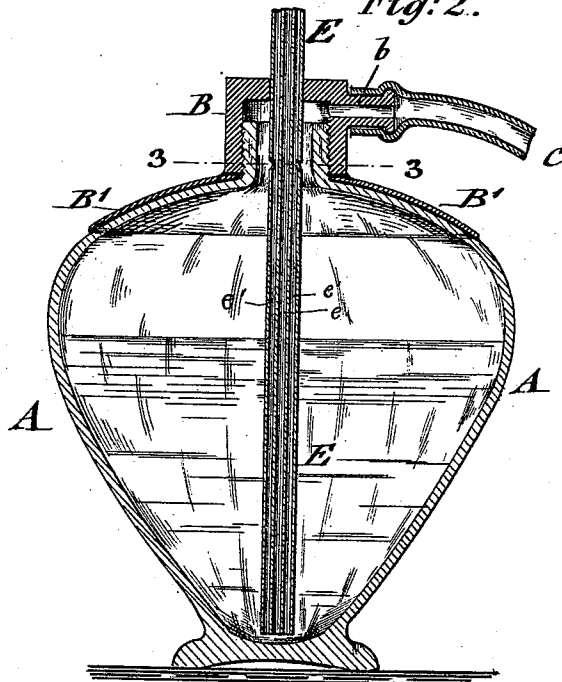


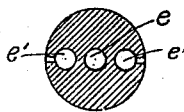
Fig: 5.



WITNESSES:

Charles Schroeder.
William Dühm

Fig: 3.



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WILLIAM EGGERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO ANTON C. EGGERS, OF SAME PLACE.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 519,498, dated May 8, 1894.

Application filed April 21, 1892. Serial No. 430,010. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EGGERS, a citizen of the United States, and a resident of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Atomizers, of which the following is a specification.

This invention has reference to certain improvements in atomizers, whereby the construction of the suction-tube is greatly simplified and an atomizer which is equal in all respects to the ordinary atomizers is furnished at a considerable less expense than the atomizers heretofore in use.

The invention consists in the construction hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a side-elevation of my improved atomizer. Fig. 2 is a vertical transverse-section of the main-portion of the same, drawn on a larger scale. Fig. 3 is a horizontal section through the suction-tube on line 3 3, Fig. 2, drawn on a still larger scale. Fig. 4 represents a horizontal section of the tube in which the air and liquid channels are concentrically disposed. Fig. 5 is a vertical section through the suction-tube, showing a modified construction of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the liquid-vessel of my improved atomizer, to the exteriorly-threaded neck of which is attached the interiorly-threaded screw-cap B, which is made of hard rubber and provided with a short pipe *b* that is connected by an air-supply tube C with a valved bulb D, which acts in the nature of a pump for supplying the required air under pressure to the upper interior part of the liquid-vessel A. A combined suction and air-tube E is tightly fitted into the cap B and extended downward from the same to near the bottom of the liquid-vessel A, said suction-tube being bent at right-angles to the vertical portion and provided at the end of its lateral portion with a detachable nozzle E' of any approved construction.

The combined suction and air-tube E is made of hard rubber or other suitable material and provided with a central suction-channel *e* and with two air-channels *e'*, which ex-

tend longitudinally through the suction-tube, or with an annular air-channel concentric to the suction-channel, as shown respectively in Figs. 3 and 4. The liquid in the vessel A is drawn up in the suction-channel by the suction exerted by the air emitted by the air-channels *e'* to the nozzle D', the air being supplied to the air-channels *e'* by means of lateral orifices *e²*, which are arranged in the suction-tube E in the upper part of the liquid-vessel A, preferably in the neck of the same above the level of the liquid, so that the air that is compressed in the upper interior part of the liquid-vessel A is forced through the air-channels *e'* and into the nozzle E' to the outside, so as to exert a suction-action on the liquid in the vessel A, whereby the liquid in the vessel is drawn up through the suction-channel *e* and supplied to the nozzle D', where it is atomized by the action of the air on the same in the usual well known manner.

It is obvious that the lower portions of the air-channels *e'* that are located in the suction-pipe below the lateral orifices *e²* have no effect on the suction and they might be closed if desired, though this is not necessary, as they do no harm. The suction and air-channels are formed in molding the suction-tube and inserting wires or other suitable cores into the same, which cores are withdrawn after the vulcanization of the tube has taken place. The suction-pipe is made in pieces of considerable length, which is then cut into pieces of the required length, each piece being bent, provided with a nozzle, inserted into the cap of the liquid-vessel and tightly fitted into the same, so that no air can escape at the point of connection of the suction-pipe with the cap.

To the upper part of the liquid-vessel A is applied a hard rubber shell or shield B', on which the cap B is tightly screwed, so that it is firmly retained in position, said shell or shield being embossed with the trade-name of the atomizer, name of manufacturer, &c., and serving also for improving the appearance of the atomizer.

In place of extending the suction-tube to the lower part of the liquid-vessel, it may be cut off in the neck or upper part of the same, and a thinner suction-tube, which forms an

extension of the suction-channel *e* screwed into the lower end of the main suction tube E, as shown in Fig. 5. The air-orifices *e*² are in this case not required, as the lower ends of
5 the air-channels *e*¹ are free to take up the air compressed in the upper part of the atomizer.

The advantage of my improved atomizer consists in the great simplicity of its construction, as the air-channels are arranged directly in the suction-tube, in which the suction-channel is also arranged, so that the separate and detachable air and suction-tubes are dispensed with, whereby the expense of the atomizer is considerably reduced.

15 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a vessel for containing

liquid, a cap attached to the neck of the vessel, an air supply pipe connected with said cap, and a combined suction and air tube extending into the vessel and provided with separate air and liquid channels in the same integral structure, the air channel having an orifice opening into the vessel above the liquid, and an atomizing nozzle at the outer end of the combined suction and air tube, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

WILLIAM EGGERS.

Witnesses:

PAUL GOEPEL,
CHARLES KACHLMEIER.