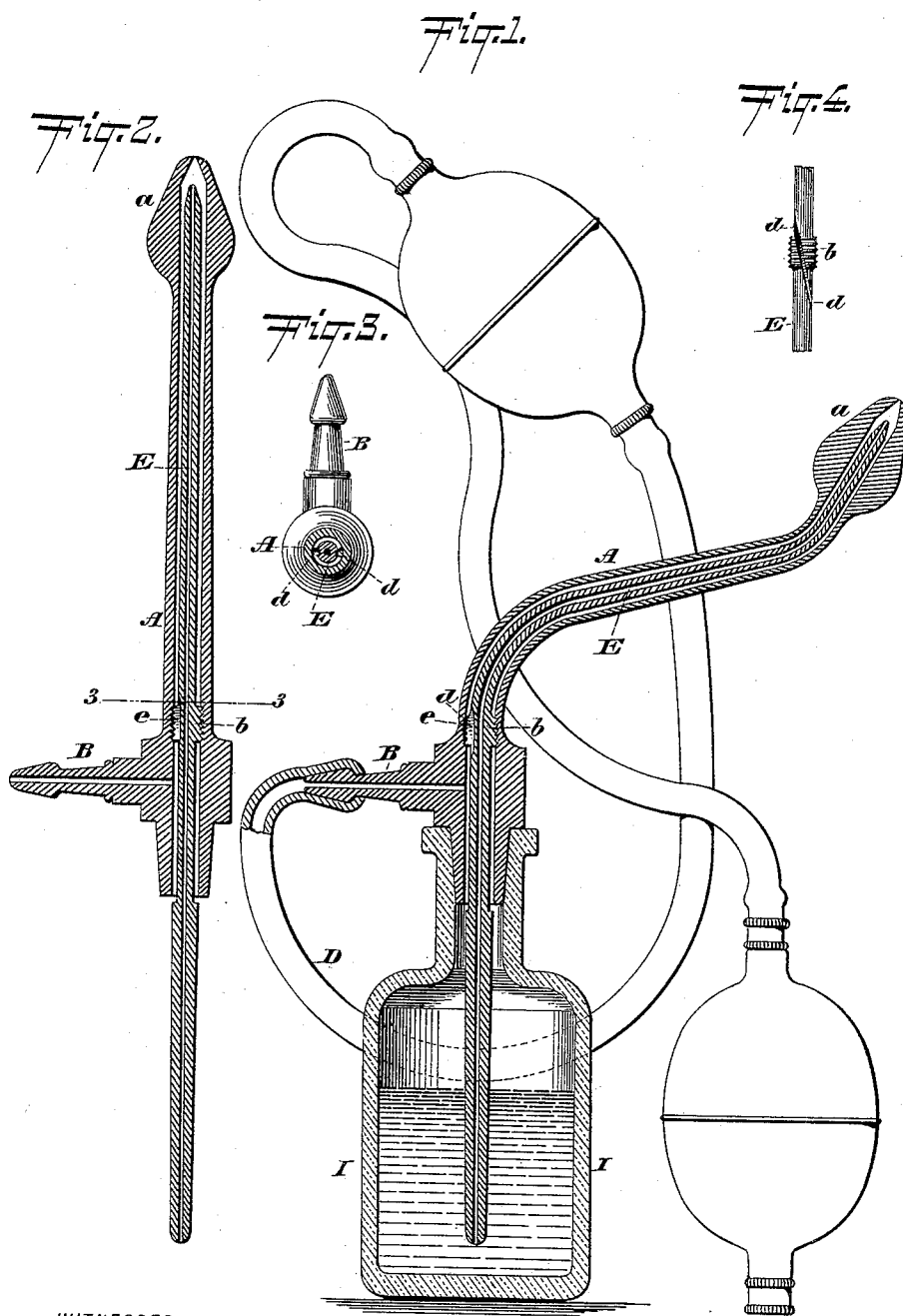


(No Model.)

J. SCHOETTL.
ATOMIZER.

No. 451,643.

Patented May 5, 1891.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOSEF SCHOETTL, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN REYNDERS, OF HOBOKEN, NEW JERSEY, AND CHARLES REYNDERS, OF YONKERS, NEW YORK.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 451,643, dated May 5, 1891.

Application filed March 12, 1891. Serial No. 384,809. (No model.)

To all whom it may concern:

Be it known that I, JOSEF SCHOETTL, a resident of the city of Brooklyn, county of Kings, and State of New York, have invented
5 a new and useful Improvement in Nasal Atomizers, of which the following is a full and clear description.

My invention consists in constructing a nasal atomizer in the improved manner hereinafter clearly shown and described.

The object of this invention is to so construct an atomizer that the inner fluid-supply tube and the outer air-supply tube shall each be a continuous tube, still allowing the
15 air to pass between them and providing for a proper support of the inner tube in the outer.

My invention is illustrated by the accompanying drawings, in which—

20 Figure 1 is a central longitudinal section of an atomizer of my construction, showing the bulb-connection and the liquid-containing bottle. Fig. 2 is a longitudinal sectional view of the atomizer proper. Fig. 3 is a cross-section on the line 3 3, Fig. 2; and Fig. 4 is a detail view of the threaded section of the inner tube, showing the air-passage in the screw enlargement.

A is the exterior tube, having a suitable
30 nozzle *a* at one end, the other end being formed to fit into the neck of a bottle I. The pipe A has a branch B, to which a pipe D is to be coupled, by which air is forced into both the bottle and the nozzle *a*.

35 Within the exterior pipe A is an inner pipe E, which is provided with a threaded enlargement F, the enlarged threaded portion *b* thereof being adapted to be screwed into a corresponding threaded portion *e* of the exterior tube. This pipe E is sufficiently small to allow an air-passage between it and the exterior tube A. The threaded portion *b* of the in-

ner tube E has one or more longitudinal grooves *d* to allow a passage of air through this connection, or this groove may be cut inside of the outer tube at the threaded portion. The lower end of the tube E extends down into the liquid in the bottle, and the upper end extends up into the nozzle *a*. When
45 air is admitted at B, part of the air goes down into the bottle and part goes up through the space between the two tubes toward the nozzle *a*, where it meets a jet of liquid forced by the air-pressure from the bottle I. Within the nozzle the air and the liquid meet and a
50 fine spray is emitted from one or more suitable orifices in the end of the nozzle.

Previously in nasal atomizers the tubes A and E were made in sections, whereby the bore of the inner tube was reduced, rendering cleaning difficult. My tube E is a single piece, and my tube A, with its nozzle, is also a single piece. This renders them inexpensive, strong, and allows for the largest practicable bore. The threaded enlargement *b*, with its groove *d*, serves to support the tube E to form the space between it and A and to conduct the air in the grooves *d*. After the parts have been assembled, as in Fig. 2, the tubes can be bent, as in Fig. 1, whereupon they will be
60 inseparable.

Having thus described my invention, I claim—

The combination of the continuous outer tube A and its nozzle *a* and inner thread *e* with the continuous inner tube E, having the threaded enlargement *b* and the grooves *d* traversing the grooves of the threads, substantially as herein shown and described.

JOSEF SCHOETTL.

Witnesses:

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