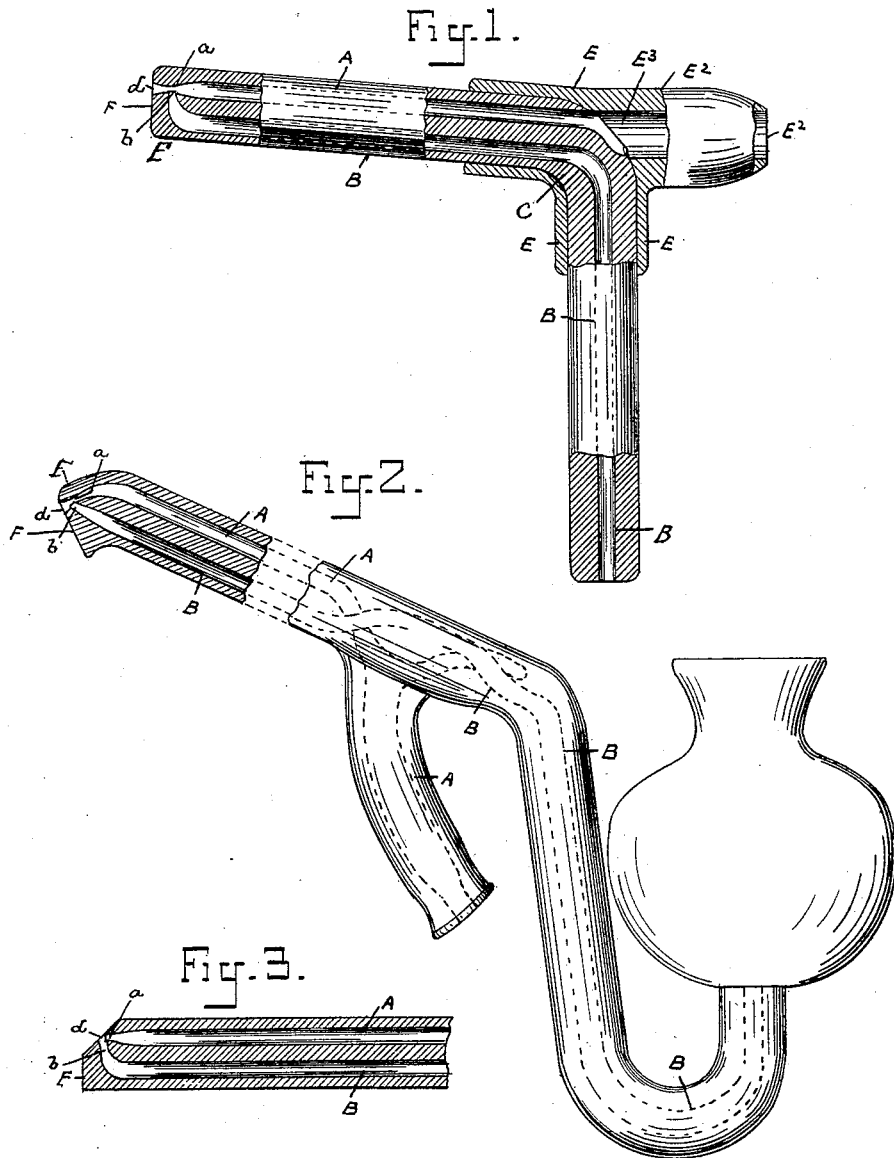


(No Model.)

P. J. McELROY.
ATOMIZER.

No. 493,512.

Patented Mar. 14, 1893.



Witnesses.
Marion E. Brown.
Frances M. Brown.

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UNITED STATES PATENT OFFICE.

PATRICK J. MCELROY, OF CAMBRIDGE, MASSACHUSETTS.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 493,512, dated March 14, 1893.

Application filed April 5, 1892. Serial No. 427,937. (No model.)

To all whom it may concern:

Be it known that I, PATRICK J. MCELROY, a citizen of the United States of America, and a resident of the city of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Atomizers, of which the following is a full, clear, and exact description.

This invention is more particularly applicable to and intended for atomizer-tubes made of glass or of hard vulcanized india rubber or of other material of a fragile nature.

The invention consists in the combination in an atomizer-tube, of an air-passage having its discharge in one end or head of the tube and a liquid passage having its discharge within the tube and opening to the air-passage at an intermediate point of its length, all as hereinafter described.

Further than the above, the invention consists of improvements as will hereinafter appear, and are pointed out in the claims.

In the drawings, forming part of this specification, Figures 1, 2 and 3 are enlarged and in part central vertical longitudinal sections and in part side views of atomizers having an atomizer-tube and other features of this invention. These views differ only from each other in slight changes of position of some portions of the air and liquid passages of the atomizer, all as hereinafter fully appear.

In the drawings, A and B are two passages, the one A for air and the other B for liquid. These two passages at corresponding portions of their length are along side of each other and in a common tube that has an angular extension through which the liquid passage B is continued, and a T-thimble or sleeve E, which is entered on and covers a portion of the length of said tube and its said continuation at the junction C thereof, and has an extension E² with a passage E³ through it in communication with said air-passage A. The tube with the air and liquid passages A, B and its angular extension with the continuation of said liquid passage, is preferably made of glass but it may be made of other suitable material, and the thimble E preferably is made of india rubber or of other elastic, or of leather, or of other flexible material.

The air-passage A at its end opposite to that continued by the passage E³ of the thimble

sleeve E² has a discharge opening *d* that is in line with it and through a solid head F of the tube which extends over and beyond said air-passage and the liquid passage B that within said head is joined to said air-passage by an opening *b* and all such, and as plainly shown in the drawings, as to secure in using the atomizer described in the well known manner, the discharge at *d* of atomized and sprayed liquid.

By combining in an atomizer tube, air and liquid-passages A, B and a solid head F, with the openings *d*, *b* of the head, no projections are presented to interfere with or to be broken off by the insertion of the tube into a person's mouth, or throat, or nose or ear, the advantages of which are obvious without particular mention.

The part E² of the thimble E and in extension of the air passage A, serves as a mouth piece for either direct or indirect connection of any suitable means for forcing air through said passage, as for instance, an india rubber bulb as well known in atomizers.

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

1. An atomizer tube, having air and liquid passages A and B, a solid head F over and beyond said passages, an opening *b* within said head and joining said passages and a discharge opening *d*, in line with said air-passage and through said head, substantially as described, for the purpose specified.

2. The combination with an atomizer-tube having in one portion an air passage A and a liquid passage B and in another and angular extending portion a continuation of said liquid passage, of a T-thimble or sleeve E, entered upon said tube portions at their junction C, and having a side tubular extension E² in communication with said air-passage, substantially as described, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PATRICK J. MCELROY.

Witnesses:

ALBERT W. BROWN,
MARY W. STORER.