No. 613,413.

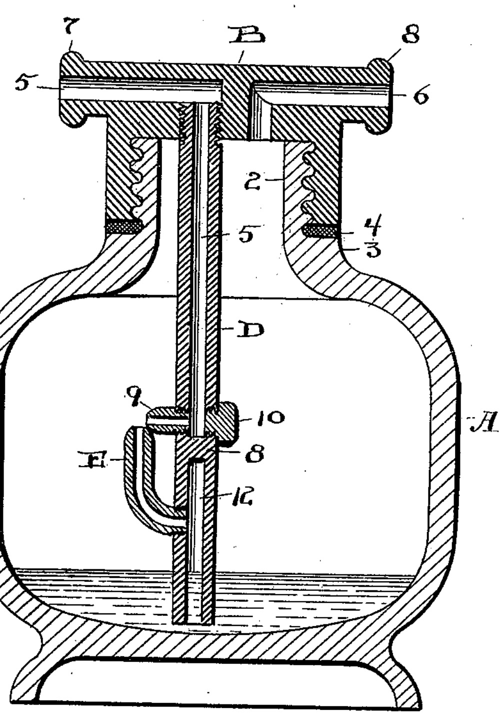
Patented Nov. 1, 1898.

A. M. FOSTER.

ATOMIZER.

(Application filed Feb. 10, 1898.)

(No Model.)



ATTEST.

R. B. Moser

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UNITED STATES PATENT OFFICE.

ARGO M. FOSTER, OF CLEVELAND, OHIO.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 613,413, dated November 1, 1898.

Application filed February 10, 1898. Serial No. 669,788. (No model.)

To all whom it may concern:

Be it known that I, ARGO M. FOSTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Atomizers; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in atomizers, and more particularly to the kind of atomizers in which the spray is developed within the jar in contradistinction to those in which the spray is produced outside of the jar or vessel which contains the liquid.

I am of course aware that air-atomizers of this general variety are well known and that sundry patents have been issued in which one kind and another of internal-atomizing mechanism is disclosed; but I am not aware that in any or all such patents and devices there are shown or described the new and original construction and combination of parts which constitute my invention.

In the accompanying drawing I show a vertical central sectional elevation of my invention.

A represents the vessel, jar, or receptacle for the vaporizing liquid, and it may be of any suitable shape, size, or kind, according to use or preference. Usually it is of glass and so fashioned as not to be easily overturned and with precaution as to strength and durability. In this instance the neck 2 is externally threaded to receive the cap B, and at the bottom of the thread about the throat is formed a shoulder 3, upon which is placed a suitable gasket or packing 4. The cap B presses down on this gasket and seals the joint, so that there can be no possible escape of fluid at this point or between the cap and neck, and the gasket is outside, where there can be no contact with the liquid or contamination of the liquid by the gasket. The cap itself is made of hard rubber or any other suitable material, and has two ports or passages 5 and 6. The passage 5 forms part of the channel through which the compressed air is forced into the vessel, and passage 6 is the exit or discharge channel for the spray. A suitable nipple 7 and 8, respectively, is formed on the cap B at the mouth of each passage 5 and 6, with which a rubber or other tube may be readily connected.

D represents a rigid tube of hard rubber, glass, or other material, which is threaded into a hole tapped into the passage 5 from below, so as to form a continuation of said passage in and through said tube D, substantially as shown.

It will be noticed that the bore or passage through tube D is closed by a diaphragm 8 toward its lower end, and this closure may be formed in the tube at its manufacture, or it may be in the shape of a plug or stopper inserted afterward. At any rate the passage 5 stops at said diaphragm or plug 8, and just above this point I bore the tube D transversely through the passage 5 from side to side of the tube, and on one side I insert a spraying-nipple 9 and on the other side a plug 10. The plug is threaded, so as to be easily removable for the purpose of cleansing the tube. This is found to be very essential for the cleansing and renovation of the tube from accumulating dust and the like. By having the plug 10 directly opposite the nipple 9 and both removable the thorough cleansing of the tube becomes comparatively easy.

It will be seen that the tube D has a bore 12 in its lower end below the diaphragm 8, corresponding to the bore 5 above, and just below said diaphragm an elbow E, of hard rubber or the like, is tapped into the tube and has its discharge-point arranged to come at right angles to the nipple 9 and immediately in front of and beneath the said discharge. This arrangement of the two parts 9 and E causes a siphoning action upon the liquid through the elbow when a volume of compressed air is forced into the jar through the nipple 9, and the two streams meeting each other in this way at the point where the blast of air discharges causes the liquid to be reduced into a very fine spray, and thus more effectually accomplishes the purpose of the invention than by any other construction known to me.

If the nipple 9 were substituted by a plain orifice or opening through the side of the vaporizing-tube D, the arm or elbow E would be constructed to hold relatively the same relation to said orifice as it does to the extremity

of the nipple, the idea in either case being that the arm or elbow comes into such relation to the nipple that the blast through the nipple will at once produce a suction on the liquid in the arm and drawing it up convert it into a spray, and this will occur and continue until the liquid is practically exhausted.

What I claim is—

1. The vaporizing-tube having a removable nipple on one side and a plug opposite said nipple, and a tubular elbow for conveying the liquid to the said nipple fixed into the tube below said nipple, the said tube being closed between nipple and elbow, substantially as described.

2. The vaporizing-tube having a removable nipple on one side and a plug opposite said nipple, and a tubular elbow for conveying the liquid to said nipple fixed into the tube below said nipple, the said tube being closed between nipple and elbow, in combination with the jar and the cap thereon in which said tube is secured and having an air-passage communicating with said tube and a separate outlet-passage, substantially as described.

Witness my hand to the foregoing specification this 27th day of January, 1898.

ARGO M. FOSTER.

Witnesses:

H. T. FISHER,

R. B. MOSER.