

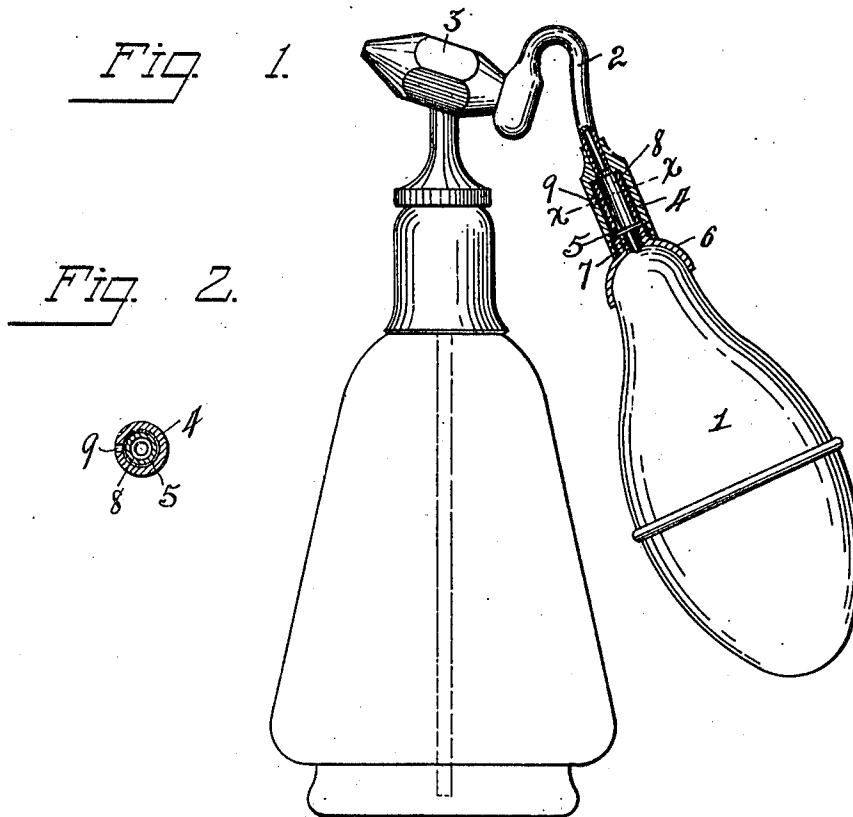
N. M. HANSEN.

VALVE.

APPLICATION FILED MAY 27, 1910.

984,427.

Patented Feb. 14, 1911.



WITNESSES:

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VALVE.

984,427.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NIELS M. HANSEN, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Valve; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to valves of the type particularly adapted for use in connection with air-bulbs for controlling the admission of air thereto, but is not restricted to such use as it can be employed in any connection for which it may be adapted or appropriate.

The object of my invention is the provision of an improved and efficient valve of this character which is simple and inexpensive in its construction, easily repaired and cleaned, and adapted to be disposed within the tube leading from the bulb to the associated part, thus obviating the use of the valve within the bulb end.

The invention is fully described in the following specification, and a preferred embodiment thereof illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of an atomizer with the valve comprising my invention associated therewith, and Fig. 2 is a cross-section on the line *xx* in Fig. 1.

Referring to the drawings, 1 designates an ordinary compression bulb which attaches to an end of an air-tube 2 leading to the spray-head 3 of an atomizer or to any other desired source. The tube 2 is provided with an enlargement 4, or is otherwise suitably formed to provide a valve chamber 5 of substantially cylindrical form, which is shown in the present instance as having the skirt or semi-spherical bulb-guard 6 threaded into its outer end. The bulb 1 is closed except for the opening into its inner end through the nipple 7, which nipple threads into the skirt 6 to open communication between the valve-chamber and the interior of the bulb, as indicated.

The valve-chamber 5 has a cylindrical valve 8 loosely mounted therein and adapt-

ed, upon a compression of the bulb, to close the air-inlet opening 9 in the side of the valve-chamber and, upon an expansion of the bulb, to move to uncover such opening to permit air to be drawn into the bulb. The valve 8 preferably comprises a short length of rubber tubing which is smaller in diameter and also shorter than the valve-chamber to permit air to freely pass around it to enter the bulb upon an expansion of the same.

It is evident with this form of valve that the passage between the bulb and the tube 2 is always open and unobstructed, due to the registering passage through the valve 8, and that upon a compression of the bulb the rapid passage of the air through the valve and its tendency to escape through the opening 9 will force the valve over to close such opening so that all of the air will be required to pass through the tube 2 to find an exit. Upon an expansion of the bulb the valve moves to uncover the opening 9 and admits air to the bulb.

It is apparent that this forms a very simple, inexpensive and efficient air valve for use in connection with atomizers or other instruments for which it may be adapted and that it is capable of being easily removed for the purpose of cleaning, repair or substitution.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. A valve comprising a casing having a cylindrical valve chamber therein and a fluid inlet opening through its side wall, and a tubular valve of smaller diameter than such chamber disposed therein, such valve being laterally moved by the forcing of fluid there-through to close such opening and moved to uncover such opening when fluid is drawn into the chamber through said opening.

2. In combination with a tube, and fluid suction and expelling means connected thereto, said tube having a valve-chamber therein provided with an opening in its side wall, of a tubular valve disposed within such chamber and providing an unobstructed passage through the tube and movable to close said

opening upon a forcing action of such means and to uncover such opening upon a suction action of such means.

3. In the air tube of an atomizer or like instrument, a valve-chamber having an air-inlet opening in its side wall, a tubular valve disposed within such chamber with its passage in register with the tube passage, and means associated with such tube for drawing air in through said opening and forcing it through the valve and tube, the valve moving to uncover the opening during the suction action and moving to close the opening during the forcing action.

4. A tube having an enlargement therein forming a cylindrical valve chamber and

having a fluid inlet opening in its side wall, fluid suction and expelling means attached to the tube, a tubular valve member disposed within such chamber with its passage constantly open, said member being adapted to move under internal fluid pressure to close said opening and under external pressure to uncover such opening.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

NIELS M. HANSEN.

Witnesses:

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