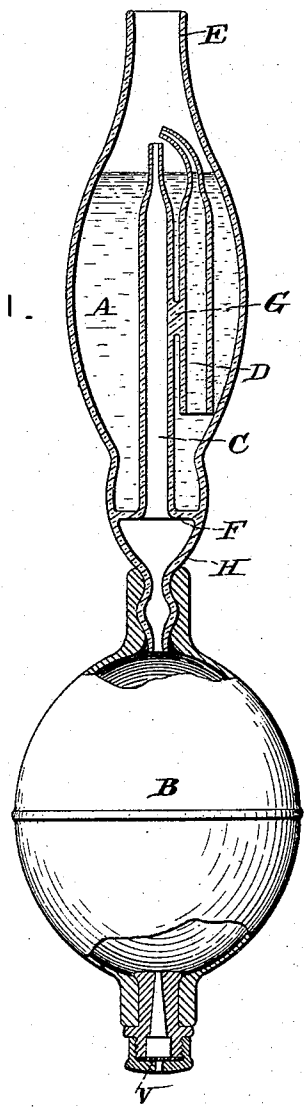
(No Model.)

H. SMITH.

ATOMIZER.

No. 394,888. Patented Dec. 18, 1888.

FIG. 1.



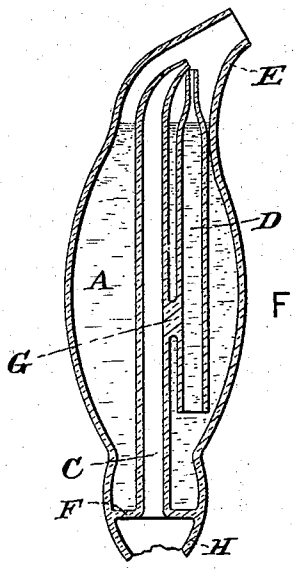


FIG. 2.

Attest:
Geo. T. Smallwood.
Jas. K. McCathran

Inventor:
Howard Smith.
By A. L. Smith & Son,
Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

HOWARD SMITH, OF BOSTON, MASSACHUSETTS.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 394,888, dated December 18, 1888.

Application filed June 28, 1888. Serial No. 278,503. (No model.)

To all whom it may concern:

Be it known that I, HOWARD SMITH, of Boston, (Charlestown,) county of Suffolk, State of Massachusetts, have invented a new and useful Improvement in Atomizers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a new and useful improvement in atomizers of the class usually operated by a hand forcing-bulb or compressed-air or force pump.

My invention consists, principally, in certain features of construction by which the liquid and spray pipes may both be operated within a reservoir which communicates at one end with the incoming stream of air to operate it and at its open end with any of the natural passages of the body into which it is desirable to introduce the spray, all of which will be clearly described, and pointed out in the claims.

In the drawings, Figure 1 represents the device with a straight delivery end of the reservoir, and Fig. 2 with a curved end.

A represents the reservoir; B, the hand rubber force-bulb; C, the air-tube; F, a small diaphragm, to which the base of the tube C is attached or formed integral therewith.

D is the liquid-tube, the point of which is in close juxtaposition to the opening in the air-tube which operates it.

H is the contracted end of the reservoir, around which the end of the rubber bulb is placed.

E is the exit or delivery end of the reservoir. (Shown straight in Fig. 1 and curved in Fig. 2.)

G represents the union of the air and spray tubes.

V is a valve at the outer end of the rubber air-forcing bulb.

The reservoir may be constructed of any proper material, but either glass or metal is preferable, so that ointments, glycerine, or vaseline or similar medicaments may be warmed, and thus easily sprayed. The air-tube is secured within the reservoir by means of a small diaphragm at the end, and the liquid-tube is in turn made fast to the air-tube or made integral therewith at G. The open circular (or it may be flattened, if desired) end of the reservoir serves as a dilator for the nostril or any other natural passage of the body into which medicaments in the form of spray are to be thrown. It also serves as a tampon or stopper, and thus the medicine may be held longer in contact with the diseased parts to be treated. It also serves to thoroughly protect the delicate parts of the two tubes from breakage and to protect the parts of the patient from injury also.

The consolidated end of the reservoir enables me to dispense with any screw-cap corks or like connections between the reservoir and bulb. This consolidated end may have small ridges raised upon it to hold the rubber more securely.

The medicament is poured in at the end E, and if the reservoir is to be used in nearly a vertical position it may be nearly filled.

Having thus described my invention, what I claim is as follows:

1. The combination of an open-mouthed reservoir somewhat elongated and of material which will allow the application of heat, a spray-tube and liquid-tube entirely included within the same, and an air-forcing apparatus connected therewith, all as and for the purpose described.

2. The combination of the elongated open-mouthed reservoir with the diaphragm near one end, to which the air-tube is firmly united, all as and for the purpose described.

3. The combination of the elongated open-mouthed reservoir with the diaphragm, the air-tube united to it, and the liquid-spray tube united firmly to the air-tube, both tubes being wholly within the reservoir, all as and for the purpose described.

HOWARD SMITH.

Witnesses:
T. C. HOWE,
W. J. AHEARN.