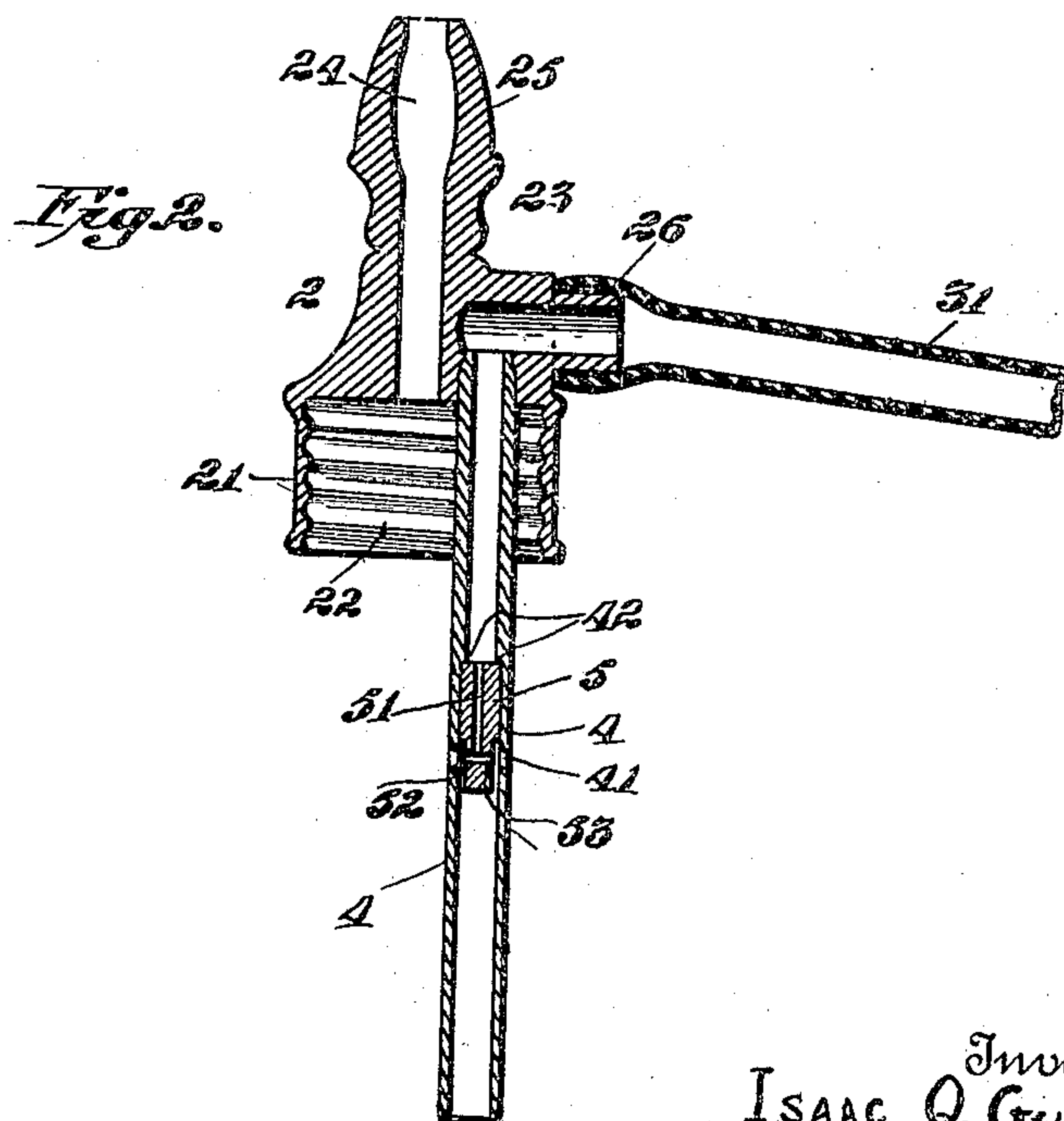
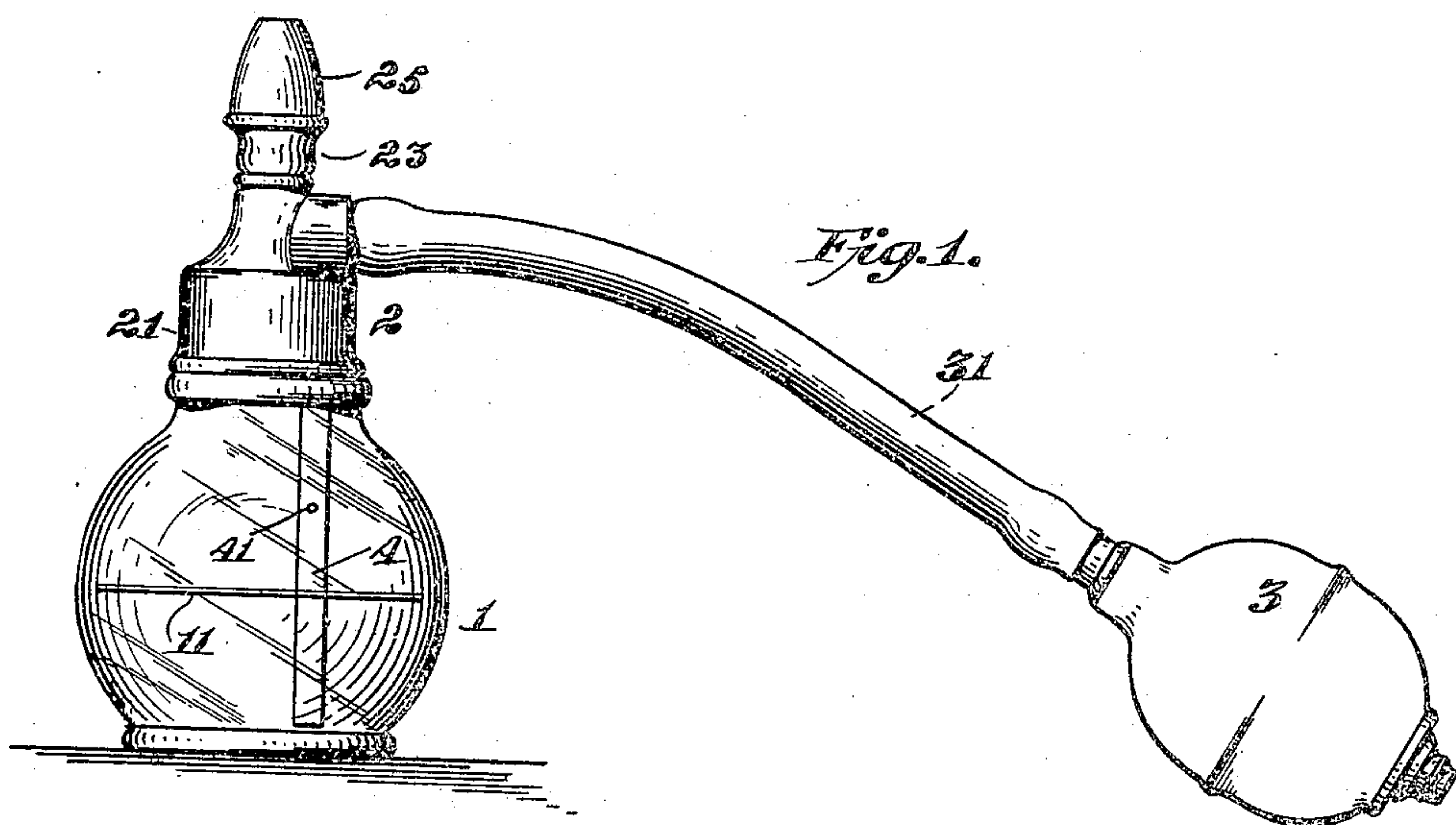


No. 816,656.

PATENTED APR. 3, 1906.

I. Q. GURNEE.
ATOMIZER.

APPLICATION FILED DEC. 23, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

ISAAC Q. GURNEE, OF BUTLER, NEW JERSEY, ASSIGNOR TO THE AMERICAN
HARD RUBBER COMPANY, A CORPORATION OF NEW YORK.

ATOMIZER.

No. 816,656.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed December 23, 1904. Serial No. 238,071.

To all whom it may concern:

Be it known that I, ISAAC Q. GURNEE, a citizen of the United States, residing at Butler, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Atomizers, of which the following is a specification.

My invention relates to atomizers or vaporizers, and particularly to that class of vaporizers in which oil is used as a menstruum for the administration of a medicament and in which the vapor is formed inside of the body of the atomizer and ejected therefrom from a relatively large opening, whereby the body of the atomizer forms a condensing-chamber to prevent the escape of any oil or the like except in the most finely-divided condition possible.

In the accompanying drawings, Figure 1 represents in elevation an atomizer embodying my invention. Fig. 2 is a vertical section through the cap of the atomizer and connected parts.

1 designates the body of the atomizer, which as ordinarily constructed may be of glass. As shown, it is provided with a transverse filling-line 11 to indicate the height to which it should be filled with the oil or other liquid. Mounted on the body or bottle 1 is a cap 2, the lower portion 21 of which may be threaded, as at 22, to engage with a corresponding thread on the neck of the bottle 1. The upper portion 23 of the cap 2 has a vertical bore 24 extending through the nozzle portion 25 of the cap. To a lateral nipple 26 on the cap 2 is secured the usual flexible tube 31, leading to the ordinary spraying-bulb 3. It is of course obvious that any other means of producing air-pressure within the body 1 of the atomizer may be employed.

Connected with the bore of the nipple 26 and extending downwardly nearly to the bottom of the bottle 1 is an air-tube 4, the lower end of which is open and which is also provided with a plurality of lateral apertures 41. The tube 4 may be formed with a shoulder 42 to insure the proper seating of the plug 5 therein. As shown, the plug 5 has an axial bore 51, its lower end 52 being reduced in diameter to leave an annular space between such reduced portion and the interior of the tube 4. Lateral orifices 53

extend from the bore 51 within the reduced portion 52. As is clearly shown in Fig. 2 of the drawings, the lateral apertures 53 in the plug 5 and the apertures 41 in the tube 4 are in alinement, the apertures in the tube being considerably larger than those in the plug.

It is evident that when air under pressure is forced through the tube 31 and downwardly through the tube 4 and plug 5 the air will be forced out through the lateral apertures 53 and 41 into the bottle 1 and that by the well-known injecting action the oil or other liquid will be drawn up through the lower portion of the tube 4 into the annular space between the reduced portion 52 of the plug 5 and the wall of the tube 4 and forced outward as a spray through the apertures 41. It is of course understood that the apertures 41 and 53 are above the level of oil in the body 1. The continued action of the bulb 3 or like pressure-producing means will fill the bottle 1 with mingled vapor and oil particles, the larger of which will strike against the sides of the bottle 1 and be condensed thereon, so that only the very finely-divided particles of oil will be forced outward through the bore 24 of the cap 2, where they may be inhaled or otherwise used, as required.

It is evident that my device is not limited to the form or material shown and described, as certain changes may be made therein without departing from the spirit of my invention. Thus the plug 5 may be part of or rigidly secured within the tube 4 instead of being frictionally retained therein and held in proper position by its abutting against the shoulder 42, as shown. Again it is clear that the angle of the lateral apertures 53 and 41 in the plug 5 and tube 4, respectively, may be altered, as desired.

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

An atomizer comprising a body portion, a cap connected with the body portion and having a vapor-outlet and an air-inlet, a straight unitary air-pipe communicating with said air-inlet and extending downward from the cap to a point below the filling-point of the body portion, said unitary air-pipe having one or more lateral apertures, an internal shoulder and a smooth portion

adjacent to said shoulder, and a plug fitted frictionally into the smooth portion of the air-pipe and having apertures coöperating with the apertures of the air-pipe, said plug
5 being located entirely within the unitary air-pipe intermediate the ends thereof, and the largest diameter of said plug being smaller than the diameter of the air-pipe.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ISAAC Q. GURNEE.

Witnesses:

PAUL WITTECK,
GEORGE J. FRITZ.