

No. 750,521.

PATENTED JAN. 26, 1904.

F. V. BRAYMER.
ATOMIZER.

APPLICATION FILED JUNE 10, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

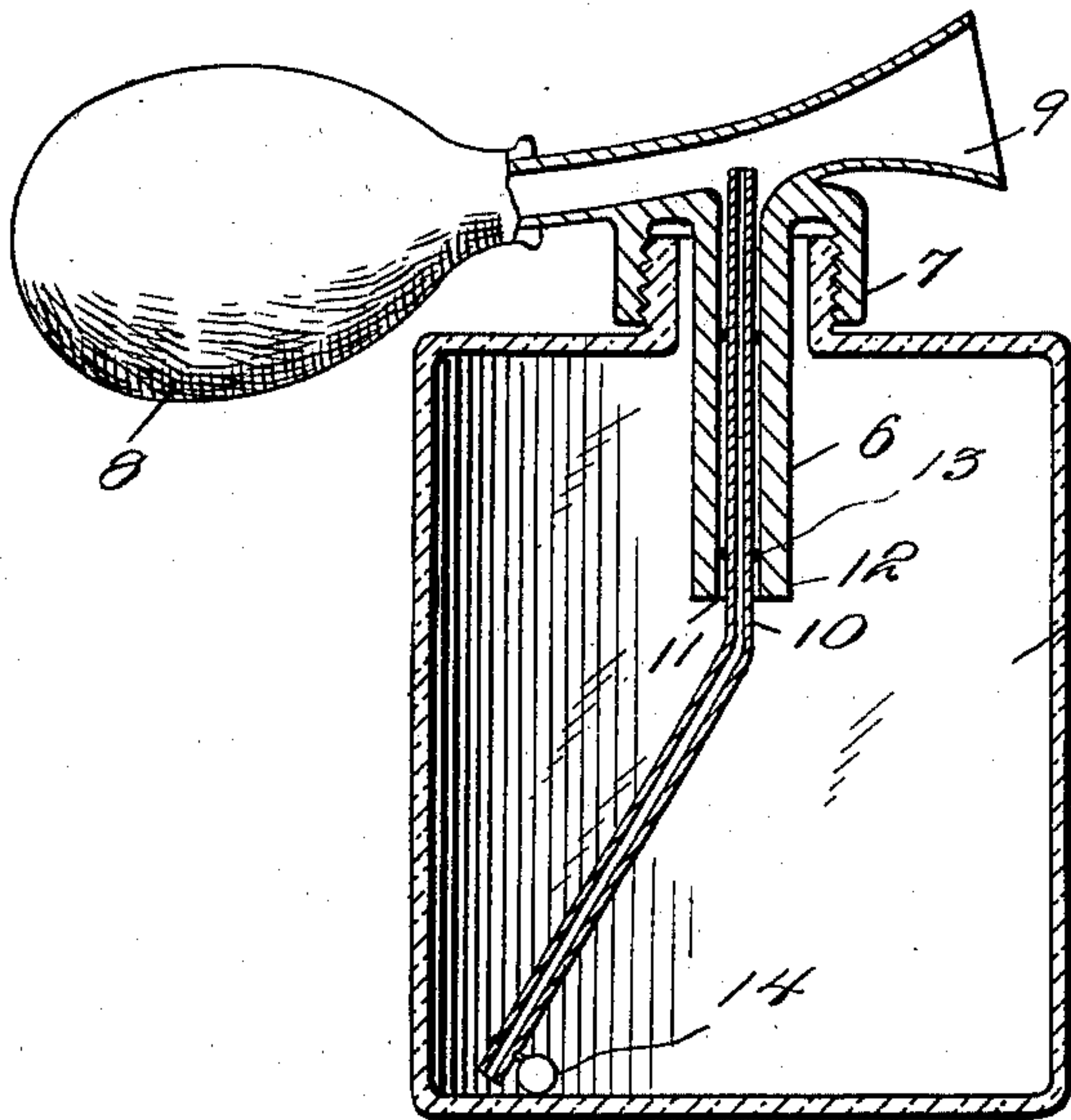


Fig. 1.

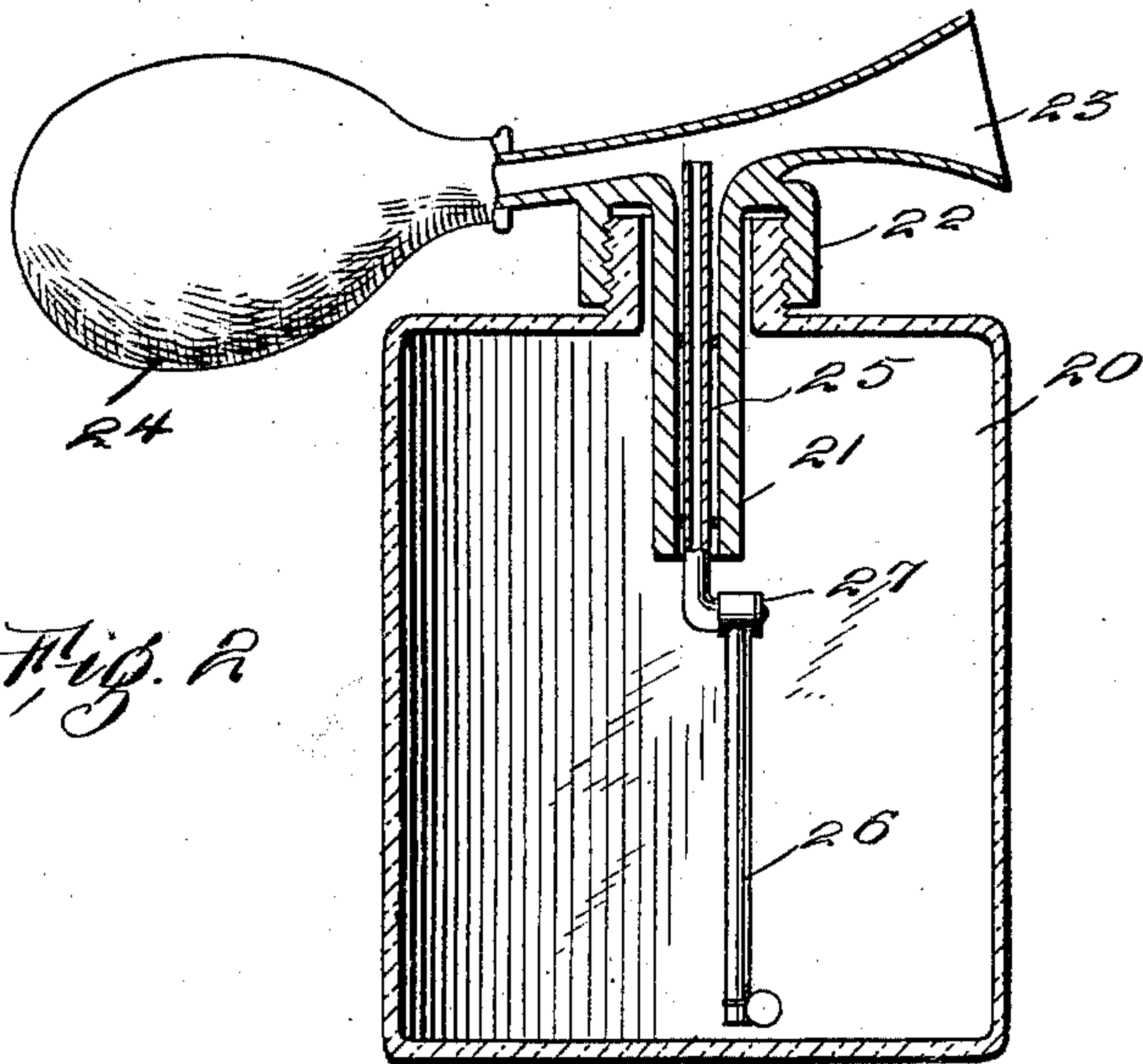


Fig. 2.

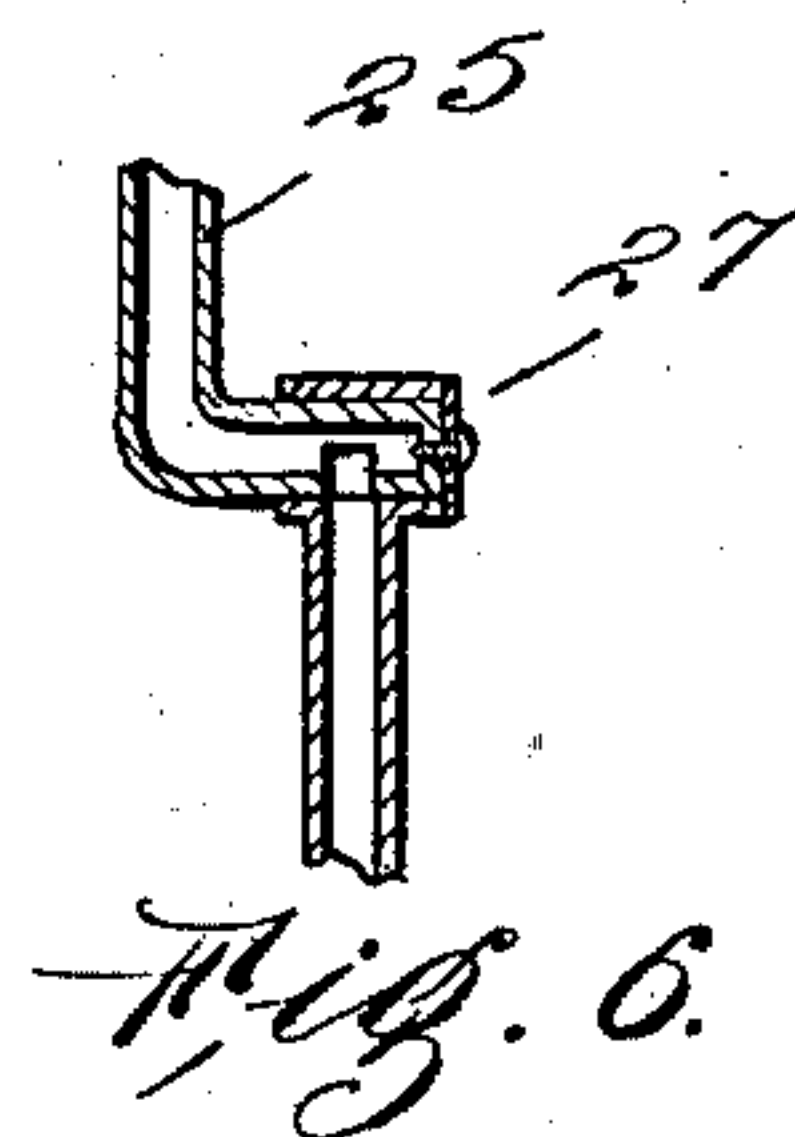


Fig. 6.

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2 SHEETS—SHEET 2.

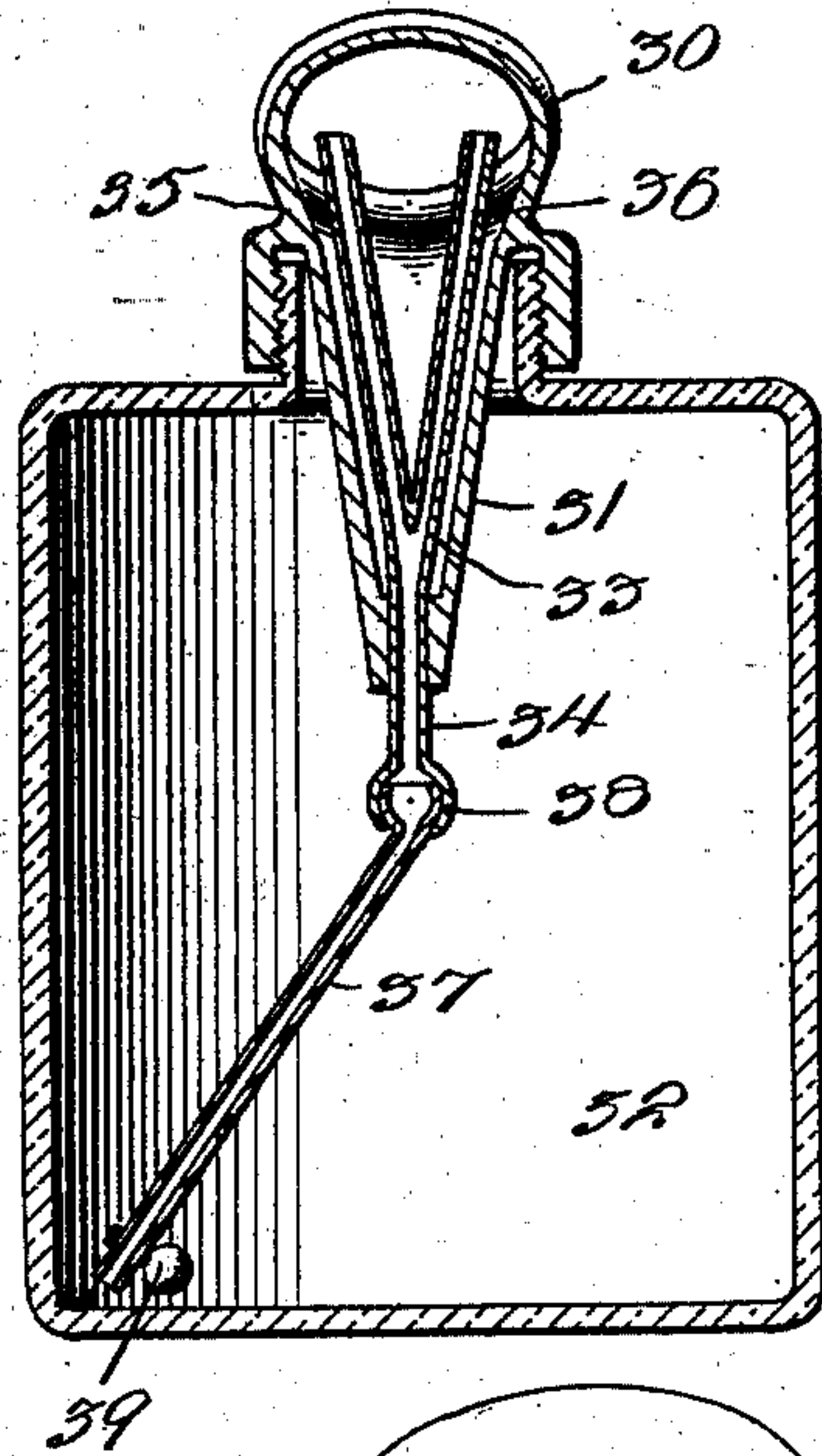


Fig. 3.

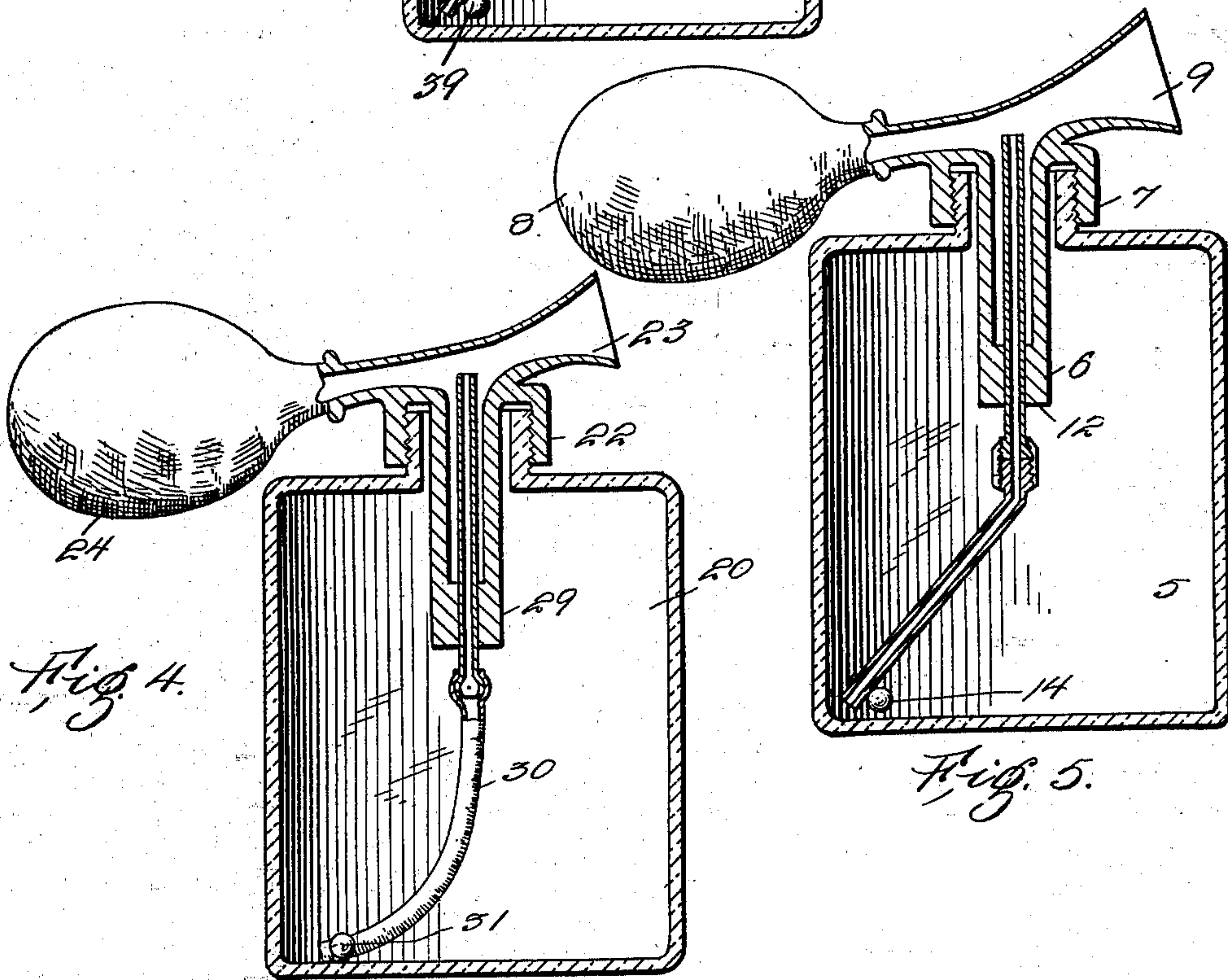


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

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ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 750,521, dated January 26, 1904.

Application filed June 10, 1903. Serial No. 160,802. (No model.)

To all whom it may concern:

Be it known that I, FORREST VICTOR BRAYMER, a citizen of the United States, residing at Blooming Valley, in the county of Crawford, State of Pennsylvania, have invented certain new and useful Improvements in Atomizers; 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.

This invention relates to atomizers, and more particularly to the class of portable atomizers such as are employed in spraying liquids for medicinal purposes, although it will be understood that the invention may be embodied in an atomizer for any specific purpose.

The object of the invention is to provide a construction wherein the suction-tube will be caused to dip into the liquid in the reservoir even when the quantity of the liquid has been greatly reduced and irrespective of the angle to which the reservoir may be tilted.

A further object of the invention is to provide a construction wherein proper and quick operation of the mechanism will be insured.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a vertical section through an atomizer embodying the present invention, the bellows thereof being in elevation. Fig. 2 is a view similar to Fig. 1, showing a different arrangement of suction-tube. Fig. 3 is a sectional view showing a third embodiment of the invention. Fig. 4 is a view showing a fourth embodiment of the invention. Fig. 5 is a sectional view showing a fifth embodiment of the invention. Fig. 6 is a detail sectional view of the pivotal connection between the suction-pipes in Fig. 2.

Referring now to the drawings, and more particularly to Fig. 1, there is shown an atomizer comprising a cylindrical reservoir 5, from the top of which leads a tube 6, provided with a transverse head 7. At one end of the head 7 is connected a bellows 8, which may be a cylinder having a piston therein or

which may be in the form of the usual rubber bulb, this bellows being designed to force air through the head 7 and out of the bell-shaped opposite end 9 thereof. Within the tube 6 is disposed the upper end of a suction-tube 10, the upper extremity of which extends into the head 7. The tube 10 extends downwardly through the tube 6 and out through the lower end thereof, the tube 10 below the tube 6 being bent laterally at an obtuse angle, so that its lower extremity lies in the corner at the bottom of the reservoir 5. The tube 10 is snugly fitted in a perforation 11 in the bottom 12 of the tube 7, and fixed to the tube 10 below its upper extremity is a disk-shaped packing 13, which fits snugly in the tube 6, this arrangement permitting of rotation of the tube 10, so that its upper end portion will turn within the tube 6, while its lower end will describe a circle close to the bottom of the reservoir and close to the side thereof. At the lower end of the tube 11 is attached a weight 14, which serves to insure rotation of the tube when the reservoir is tilted. With this arrangement it will be understood that when the atomizer is tilted so that the upper part of the tube 10 is inclined the weight 14 will cause the lower end of the tube to swing around to the lowermost point of the bottom corner of the reservoir and that this change in position of the lower end of the suction-tube will occur as rapidly as the inclination of the reservoir is changed. The result will be that the inlet end of the suction-pipe will follow the liquid contents of the reservoir as it flows to the lowermost part of the reservoir.

Referring now to Fig. 2 of the drawings, there is shown a form of the atomizer wherein 20 is the reservoir from which leads a tube 21, corresponding to the tube 6 in Fig. 1, the tube 21 having a transverse head 22, having a bell-shaped discharge end 23 and at its opposite end a bellows 24. In the tube 21 is disposed the upper section 25 of a suction-tube, which extends upwardly into the head 22 and the lower end of which depends from the lower end of the tube 21. The section 25 of the suc-

tion-tube is rotatably mounted in the same manner as the tube 10 in Fig. 1, and to the lower end thereof is connected the lower section 26 of the suction-tube by the pivot-joint 5 27. It will be noted that the reservoir 20 is spherical and that by reason of the rotatably mounting of the upper section 25 of the suction-tube and the pivotal connection of the lower section thereto the inlet end of the lower 10 section 26 may be swung in all directions, so as to draw from the lowest point of the reservoir in whatever position the latter may be.

In Fig. 3 of the drawings there is shown a construction wherein the head 30 is broadened 15 and the tube 31, which extends down into the reservoir 32, is tapered downwardly and has a corresponding interior diameter 33. In the lower end of the tubular extension 31 is fitted the upper section 34 of a suction-tube, which 20 is forked within the chamber 33 to form the branches 35 and 36, the upper ends of which terminate in the head 30. A lower suction-tube section 37 is connected with the upper section 34 through the medium of a ball-and- 25 socket joint, (shown at 38,) which permits of rotation of the lower end of the section 37, so that in whatever position the lever may be tilted the inlet end of said tube-section will be at the lowermost point of the bottom cor- 30 ner of the lever. A weight 39 is provided to insure this movement of the section 37.

In Fig. 4 of the drawings the suction-tube comprises an upper rigid section which is mounted in the supporting-tube 29 and on the 35 lower projecting end of which is secured a flexible tube-section 30, having a weight 31, which serves to insure bending and twisting of the flexible section, so that its lower end will be always at the lowermost part of the 40 reservoir.

In Fig. 5 there is shown a construction which

is the same as that shown in Fig. 1, with the exception that the suction-tube is in two sections. The upper section is fixed in the sup- 45 porting-tube, and the lower section of the tube is connected thereto by an axial joint, and the said suction-tube is bent laterally at an obtuse angle below said joint, so that its lowermost end lies in the corner at the bottom of the 50 reservoir. This arrangement permits of rotation of the tube at the joint, while its lower end will describe a circle close to the bottom of the reservoir and close to the sides thereof.

What is claimed is—

1. An atomizer comprising a reservoir, a 55 suction-tube and means for producing suction in the tube, the suction-tube comprising an upper member and a lower member pivoted thereto.

2. An atomizer comprising a reservoir, a 60 supporting-tube having a head provided with a discharge-nozzle, a suction-tube comprising an upper member rotatably mounted in the supporting-tube and a lower member pivoted to the upper member, and means connected 65 with the head of the support-tube for producing suction in the suction-tube.

3. An atomizer comprising a reservoir, a supporting-tube having a head provided with a discharge-nozzle, a suction-tube comprising 70 an upper portion rotatably mounted in the supporting-tube and projecting into the head and a lower portion lying at an angle to the upper portion, and means connected with the head of the supporting-tube for producing 75 suction in the suction-tube.

In testimony whereof I affix my signature in presence of two witnesses.

FORREST VICTOR BRAYMER.

Witnesses:

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