

No. 876,260.

PATENTED JAN. 7, 1908.

M. A. BROWN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED APR. 11, 1907.

Fig. 1.

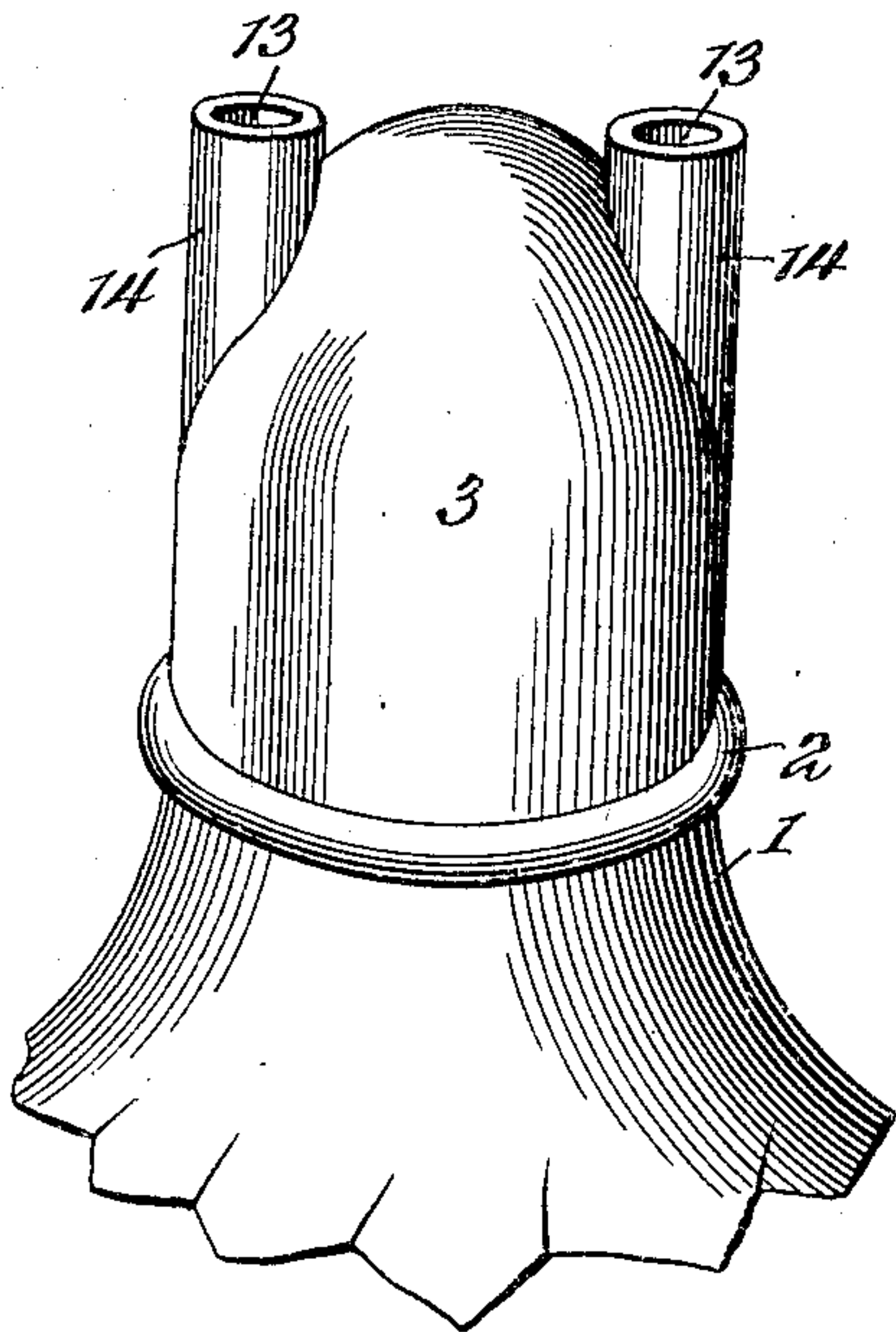


Fig. 2.

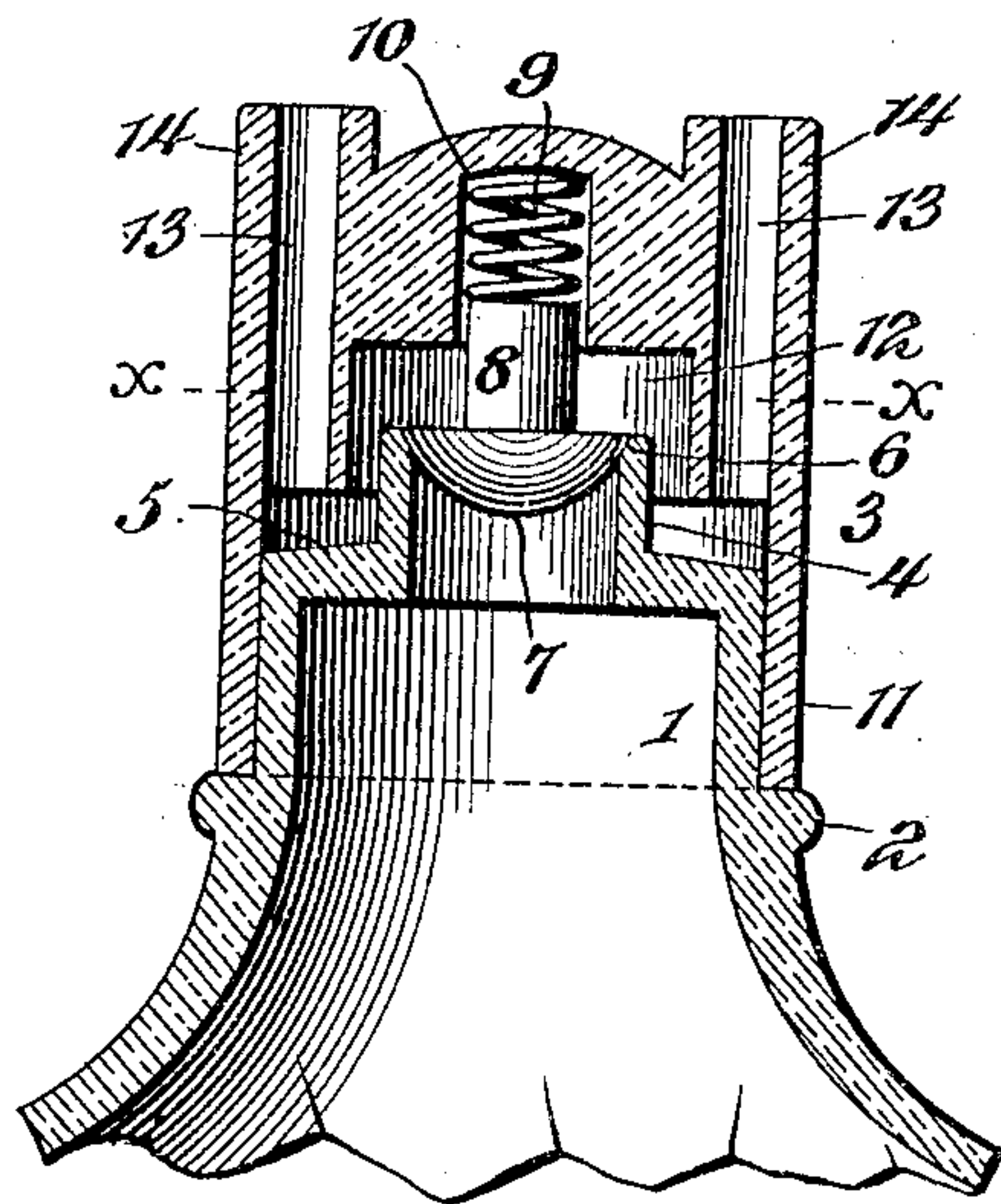


Fig. 3.

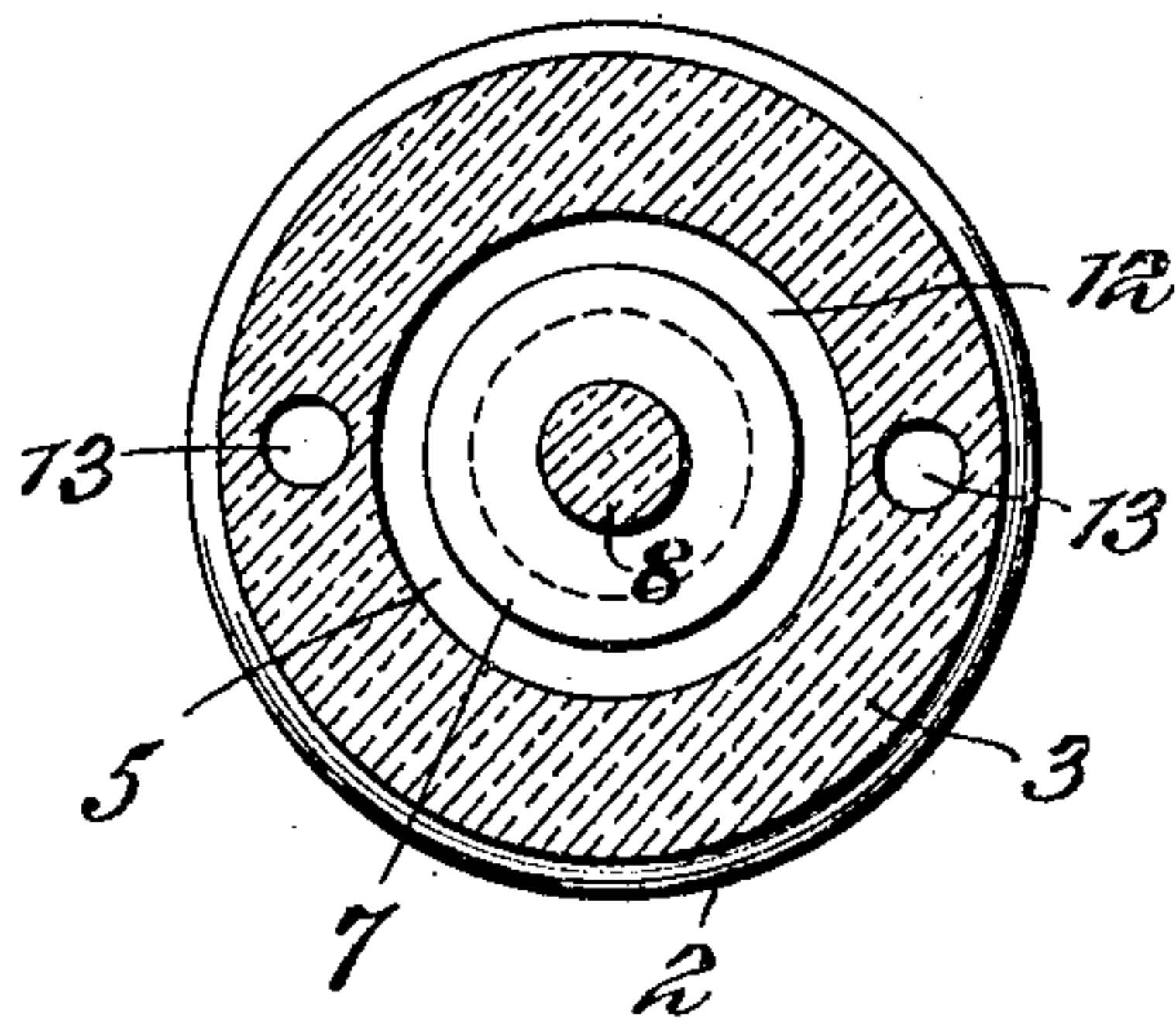
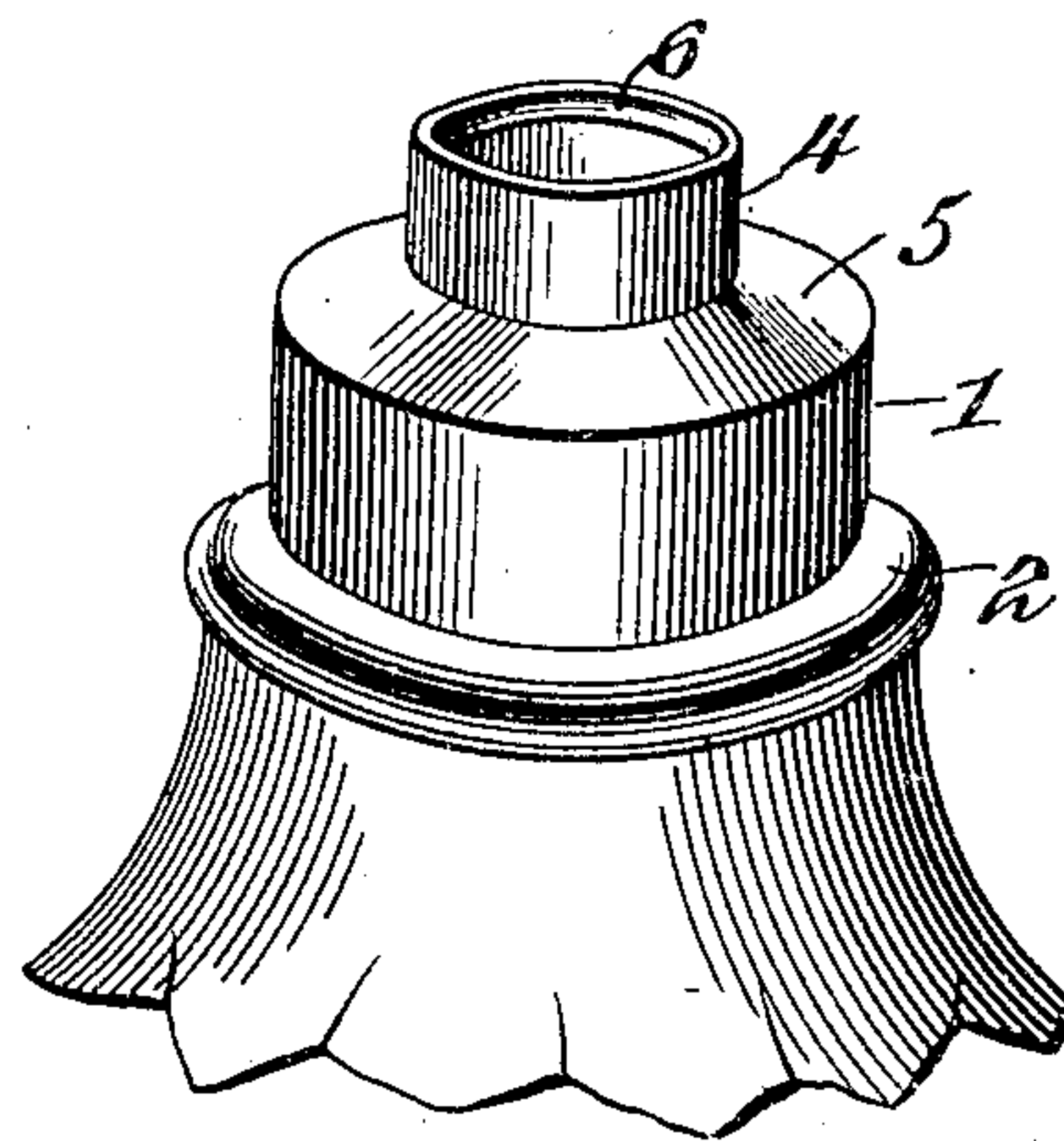


Fig. 4.



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UNITED STATES PATENT OFFICE.

MARK ANTHONY BROWN, OF SAVANNAH, GEORGIA.

NON-REFILLABLE BOTTLE.

No. 876,260.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed April 11, 1907. Serial No. 367,640.

To all whom it may concern:

Be it known that I, MARK ANTHONY BROWN, a citizen of the United States, residing at Savannah, in the county of Chatham and State of Georgia, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

The invention relates to improvements in non-refillable bottles.

10 The object of the present invention is to improve the construction of non-refillable bottles, and to provide a simple and comparatively inexpensive one, adapted to be quickly and easily assembled after it has been
15 filled, and capable of effectually preventing a liquid from being introduced into it after it has received its original contents, whereby all adulterations and fraudulent refillings are avoided.

20 A further object of the invention is to provide a bottle of this character having an automatic valve, adapted to dispense with the ordinary stopper, and capable of enabling the contents of a bottle or analogous receptacle to be freely decanted, and of positively
25 closing, when relieved of internal pressure incident to pouring a liquid from it.

Another object of the invention is to provide a non-refillable bottle, adapted to be
30 easily blown, and capable of effectually preventing a wire, or other instrument, introduced into it, from interfering with the operation of the valve.

With these and other objects in view, the
35 invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various
40 changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

45 In the drawing:—Figure 1 is a perspective view of a portion of a non-refillable bottle, constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional
50 view on the line $x-x$ of Fig. 2. Fig. 4 is a detail perspective view of the neck of the bottle.

Like numerals of reference designate corre-

sponding parts in all the figures of the drawing.

1 designates the neck of a non-refillable bottle, but the improvements herein shown and described may be readily applied to various other receptacles having a neck, as will be readily understood. The neck 1 is provided with a cylindrical cap-receiving portion, and it has an exterior annular shoulder 2, located at the lower end of the cylindrical cap-receiving portion to form a stop or support for a cap 3, which is fitted on the neck, as clearly illustrated in Fig. 2 of the drawing, being secured to the said neck by cement, or other adhesive material.

The neck is provided above the cylindrical cap-receiving portion with a reduced tubular extension 4, connected at the base with the cylindrical cap-receiving portion by an annular flange 5, having a downwardly inclined upper face, adapted to direct a wire, or other instrument outwardly away from the valve mechanism. The tubular extension is interiorly beveled at its upper edge to provide a seat 6 for a valve 7, consisting of a substantially semispherical head and an upwardly extending stem 8. The head presents a lower convex face to fit the beveled seat of the tubular extension, and it is adapted to effect an air and liquid tight joint, which is not affected by any lateral movement of the stem of the valve. The valve is positively maintained in a closed position, when the bottle is in a vertical position, by means of a coiled spring 9, which is housed within a socket or bore 10 of the cap. The spring by being housed within the bore or socket of the cap does not affect the liquid poured from the bottle.

The cap is provided with a cylindrical lower portion 11 to fit on the cylindrical portion of the neck, and it is provided with a thick top wall, which has the bore or socket for the spring. The bore or socket extends upwardly from the lower face of the thickened top wall or portion of the cap, and terminates short of the outer face thereof, as clearly illustrated in Fig. 2 of the drawing.

The cap is provided in its upper portion with a cylindrical cavity or chamber 12, which is of greater diameter than the tubular extension 4, and into which the latter extends. The tubular extension is spaced from the

walls of the chamber or cavity 12 to provide an intervening annular space, and to form a tortuous passage for the liquid, which, when the bottle is inverted, opens the valve and flows around the edges of the extension and out through one or the other of a pair of passages 13. The passages 13, which consist of bores or openings, are vertical and extend downwardly from the top of the cap to the lower edges of the walls of the chamber or cavity 12, and to points below the upper edge of the tubular extension 4, so that it will be impossible for a wire or instrument, introduced into the passages 13, to interfere with the operation of the valve. The cap, which is tapered at the top, as clearly shown in Fig. 1, is provided at opposite sides with tubular portions 14, the openings of which form extensions or continuations of the passages 13 of the cap. One of the passages 13 forms an outlet for the contents of the bottle, and the other passage constitutes a vent and admits air to permit the contents of the bottle to flow freely therefrom.

The bottle may be easily blown, and the valve and cap may be cheaply molded. After the bottle is filled, the spring is inserted in the socket of the cap, and the valve is placed in position. The cap is then cemented to the neck. The valve opens through internal pressure resulting from pouring out the contents of the bottle; it is adapted to open freely to permit the contents of the bottle to be poured out, and after the contents of the bottle have been consumed, the spring will maintain the valve firmly in its closed position. Any external pressure will simply cooperate with the spring in holding the valve closed, so that it will be impossible for a liquid to be surreptitiously introduced into the bottle.

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

1. In a device of the class described, the combination of a cap provided with an interior cavity and having a passage spaced from the said cavity, a receptacle provided with a neck extending into the cavity and spaced from the walls thereof to provide a tortuous passage for connecting the neck with the passage of the cap, said neck being also provided with a valve seat, and a valve located within the cavity of the cap and engaging the seat of the neck.

2. In a device of the class described, the combination of a cap provided with an interior cavity and having a passage spaced from the cavity and terminating at the base thereof, a receptacle provided with a neck extending into the cavity and having a valve seat located above the lower end of the passage of the cap, and a valve arranged within the cavity and engaging the seat of the neck.

3. In a device of the class described, the combination of a receptacle having a neck, a cap fitted on the neck and provided with a cavity into which the upper end of the neck extends and which is of greater diameter than the same to provide an intervening space, said cap having an outlet located beyond the cavity and communicating with the same at a point below the upper end of the neck, and a valve operating within the cavity at a point above the lower end of the outlet.

4. In a device of the class described, the combination of a cap provided with a cavity closed at the top, said cap being also provided with an outlet passage, a receptacle receiving the cap and extending into the cavity to a point above the lower end of the outlet passage, and spaced from the walls of the cavity to provide a tortuous passage, which connects the neck with the said outlet passage, and a valve engaging the neck.

5. In a device of the class described, the combination of a neck provided with a cavity and having an outlet extending through it at a point beyond the cavity, a receptacle provided at its neck with a cap-receiving portion and having a reduced extension projecting into the cavity and spaced from the walls thereof and provided with a valve seat, and a valve arranged within the cavity of the cap and engaging the said seat.

6. In a device of the class described, the combination of a cap having a cavity and provided with an outlet passage extending through it, a receptacle having a cap-receiving portion and provided at the bottom thereof with a supporting shoulder, said neck being also provided with a reduced tubular extension projecting into the said cavity, and a spring-actuated valve engaging the tubular extension of the neck.

7. In a device of the class described, the combination of a cap having a cavity and provided with passages extending through the cap, a receptacle having a cap-receiving portion and provided with a reduced tubular extension projecting into the cavity, said receptacle having a connecting flange or wall extending from the tubular extension to the cap-receiving portion and presenting an upper inclined face, and a valve.

8. In a device of the class described, the combination of a receptacle having a neck, a cap fitted on the neck and having a cavity into which the neck extends; said cap being also provided with passages and having tubular extensions projecting upwardly from it at the said passages, and a valve.

9. In a device of the class described, the combination of a receptacle having a neck and provided with a valve seat, a cap fitted on the neck and provided with a cavity receiving the valve seat, said cap being pro-

vided beyond the cavity with an outlet and
having a socket located above the valve seat,
a valve having a stem extending into the
socket, and a spring housed within the socket
5 and engaging the stem for holding the valve
normally closed.

In testimony, that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

MARK ANTHONY BROWN.

Witnesses:

RAY JACKSON,
W. R. MORRISON.