

No. 736,434.

PATENTED AUG. 18, 1903.

W. S. PALMER.
NON-REFILLABLE BOTTLE.
APPLICATION FILED APR. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

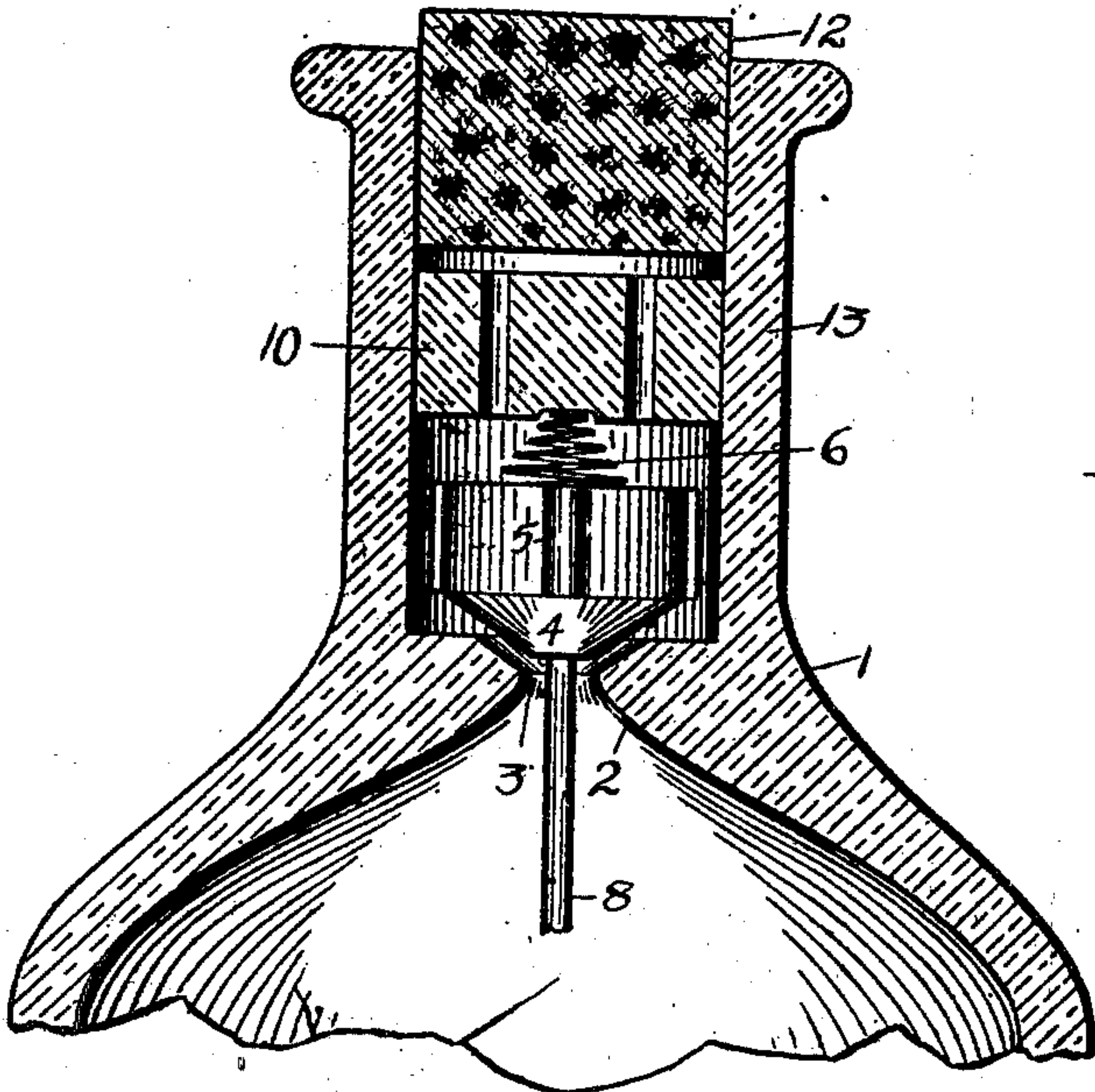


Fig. 1.

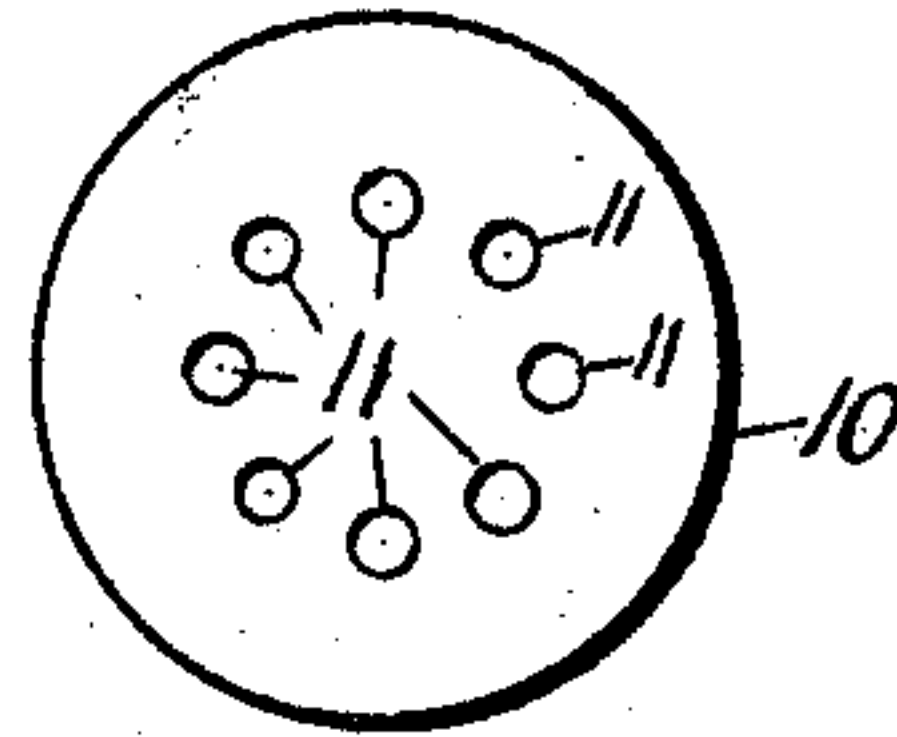


Fig. 3.

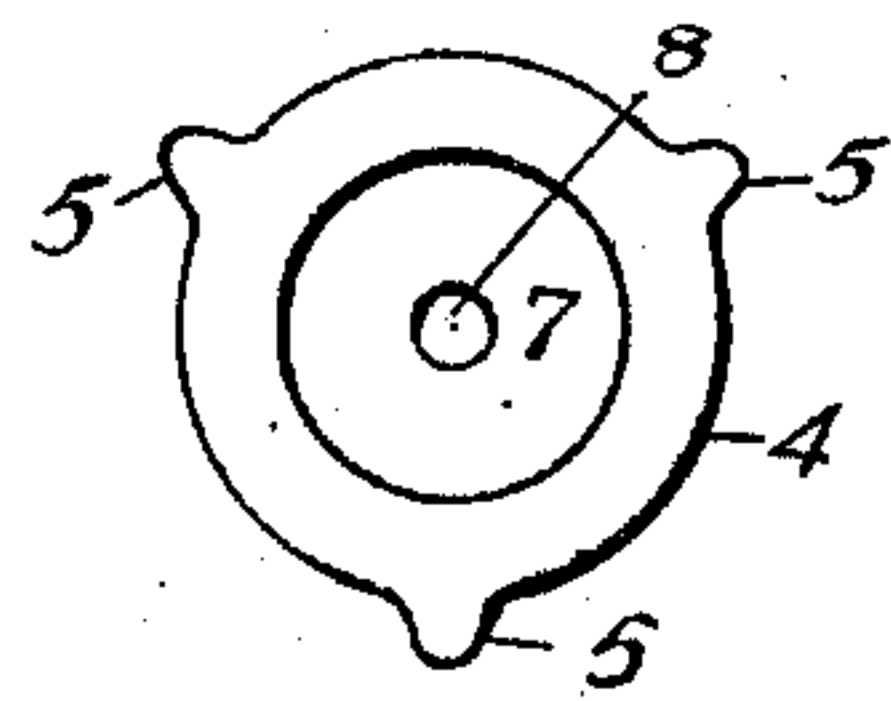


Fig. 4.

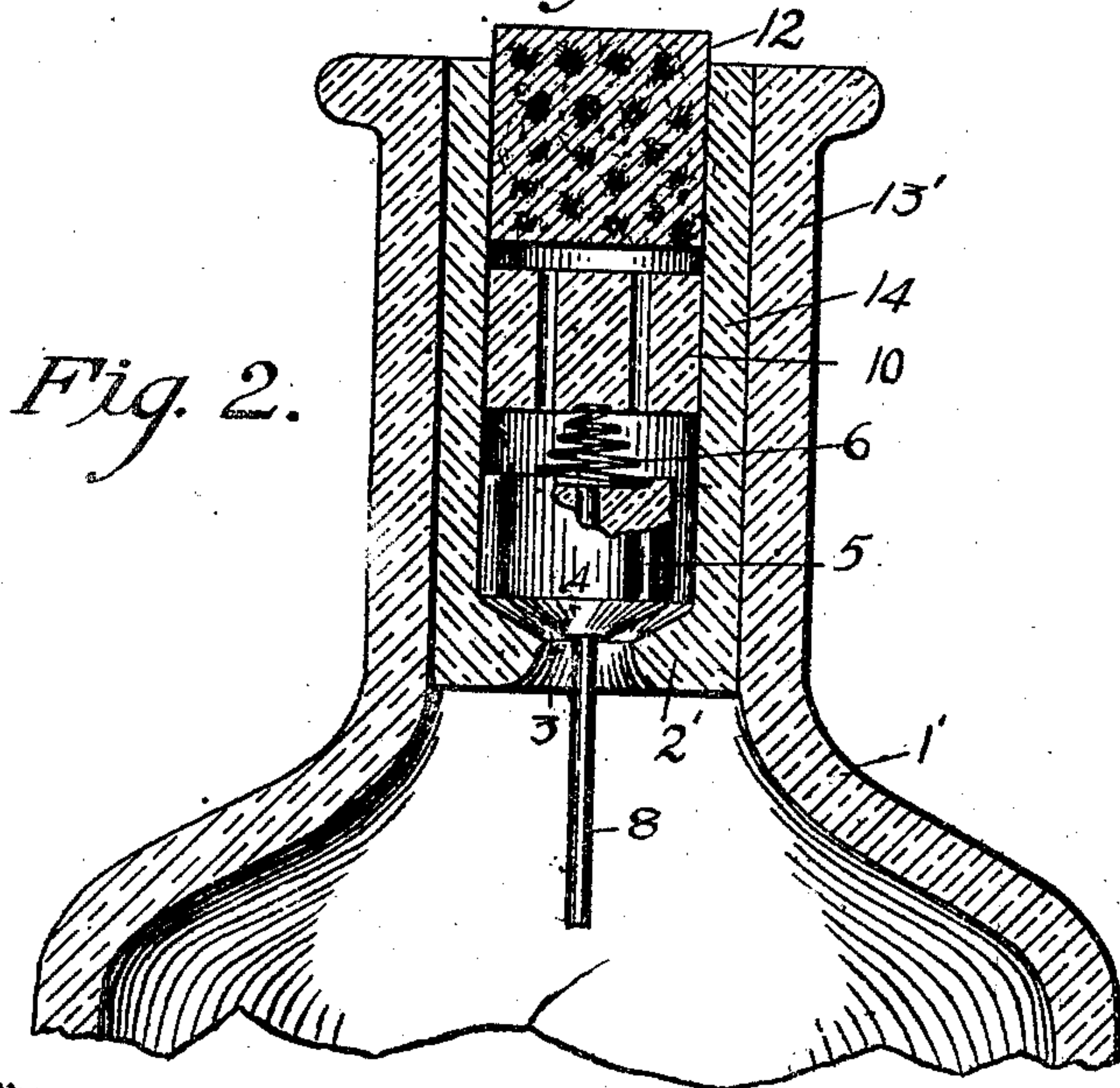


Fig. 2.

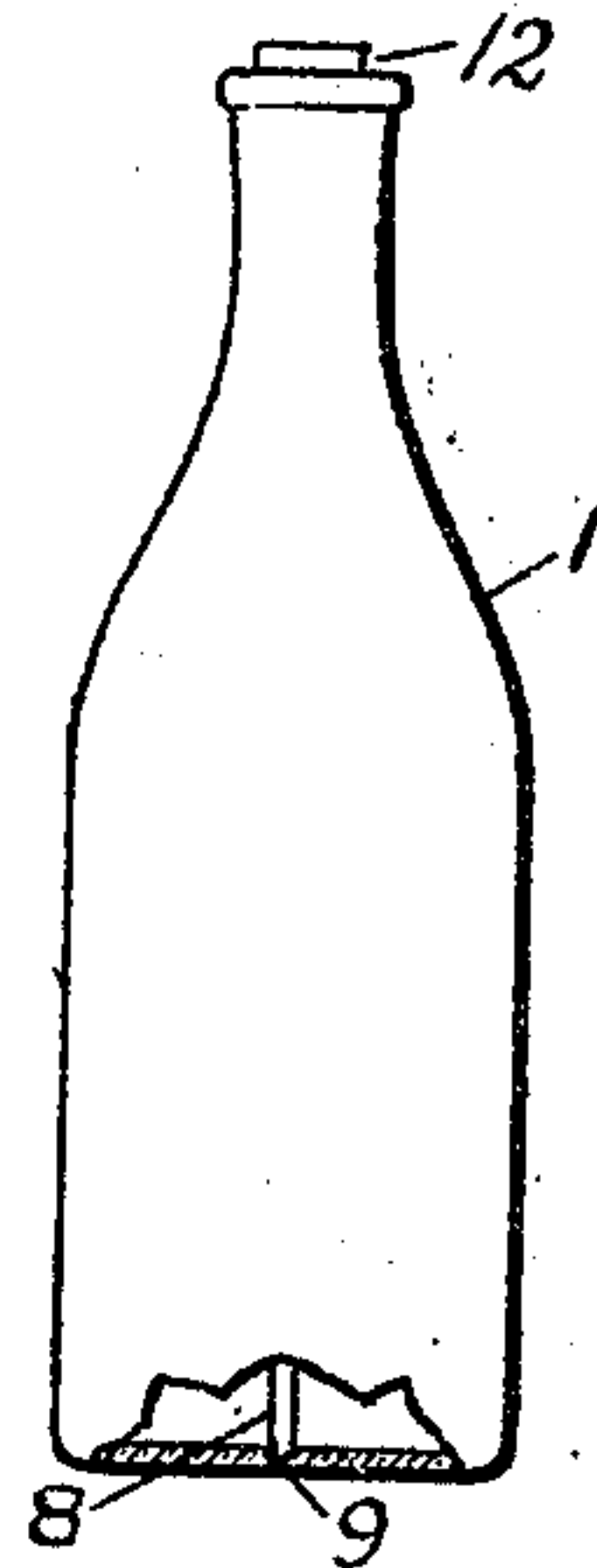


Fig. 5.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 6.

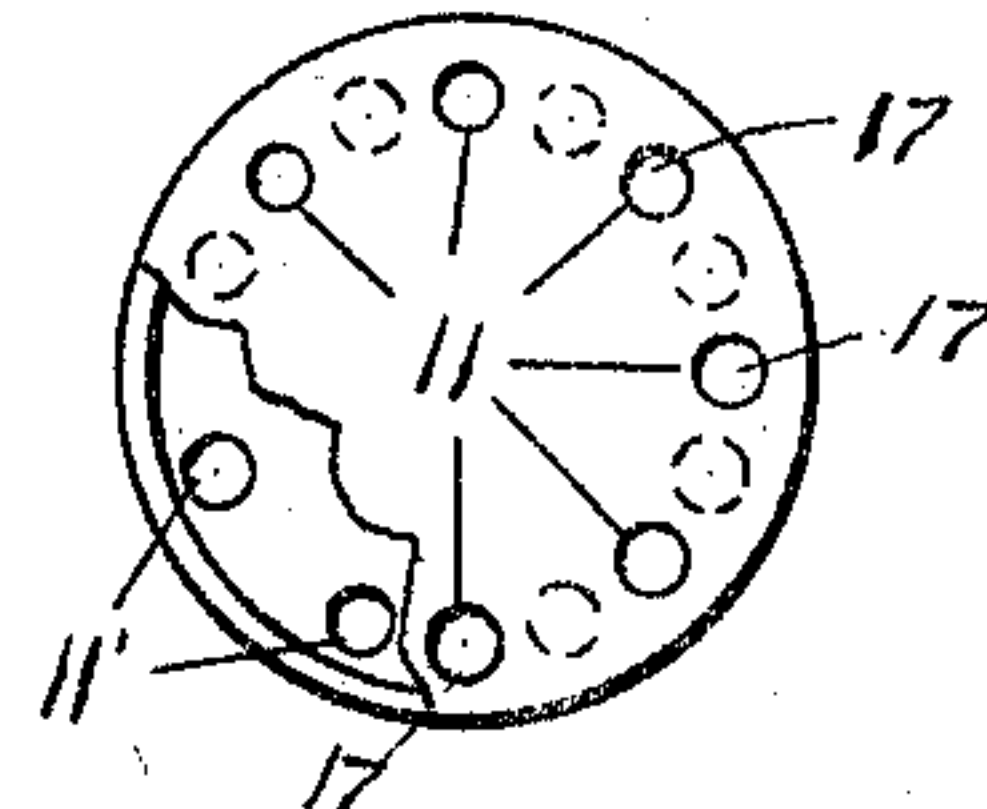
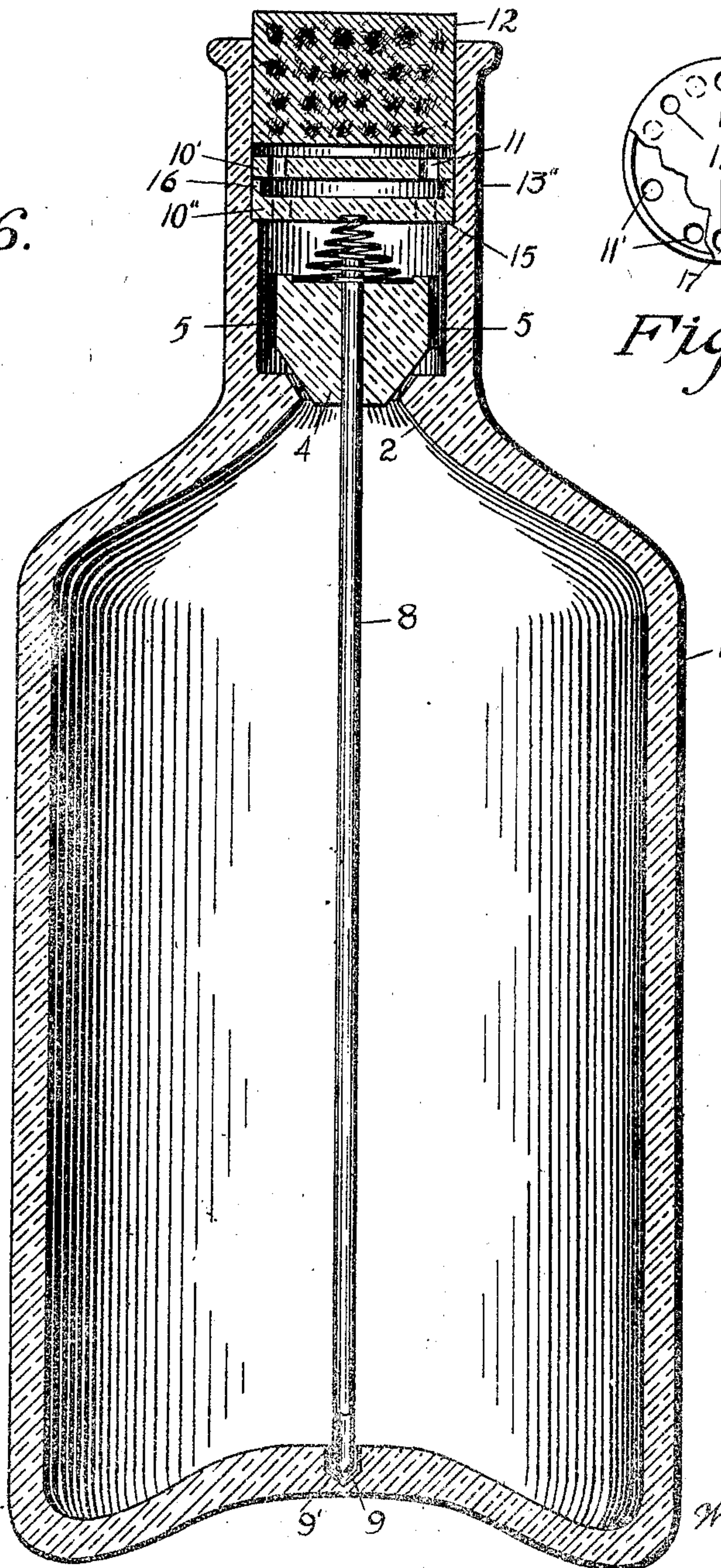


Fig. 7.

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UNITED STATES PATENT OFFICE.

WINFIELD S. PALMER, OF GLENBURN, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 736,434, dated August 18, 1903.

Application filed April 13, 1903. Serial No. 152,340. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. PALMER, a citizen of the United States, residing at Glenburn, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles for dispensing of wines, whiskies, or other valuable liquors; and the objects of the invention are to prevent fraudulent refilling of bottles after their original contents have been used or partly used therefrom, to provide for an air-passage to assist the ready flow of liquid from the bottle, to furnish means for preventing interference with the closure of said bottles, to render the action of the closure of said bottles more efficient, and other objects, as are specified herein and pointed out more fully in the claims.

To these ends my invention consists of the construction, arrangement, and combination of parts, as herein specified, and illustrated in the drawings in this specification, in which—

Figure 1 is a view, partly in cross-section, of the neck of a bottle and the closure parts constituting my invention. Fig. 2 is a view of the same in a modified form. Fig. 3 is a plan view of a drain-shield used to protect the working parts of my closure. Fig. 4 is a detail view of the valve-plug used to close the passage-way in the closure of the bottle. Fig. 5 is a view of the bottle with a part broken away at the base, showing a means of closing the end of the air-tube used in connection with the closure. Fig. 6 shows a cross-section of a bottle complete fitted with a modified form of my closure. Fig. 7 is a detail view showing the construction of the drain-shield used in the modified form shown in Fig. 6.

Similar characters of reference denote like and corresponding parts throughout the several views.

Referring to the drawings, 1 and 1' designate bottles to which my closure is fitted. In the bottle 1 a throat or valve-seat is provided by the inward-extending flange 2 at the junc-

tion of the neck and breast of the bottle. The said breast is ground out in conical shape at 3 and is adapted to be exactly fitted and closed by the conical end of the valve-plug 4, which plug is provided with vertical frets 5 5 5, adapted to rest against the concave surface of the inner side of the neck of the bottle, but allowing the same to slide loosely therein. A recess 7 in the top of the valve-plug furnishes a seat for an elongated spiral coil-spring 6, the upper end of which impinges against the central part of the drain-shield 10. The drain-shield is preferably constructed from glass or porcelain and is provided with drain-holes 11 11, &c.; through which liquid may pass outward and air pass inward into the bottle. The said drain-shield before setting into the bottle is coated with liquid glass or insoluble cement and securely cemented into its place in the neck of the bottle, it being pressed down upon the spring 6 until the said spring is compressed to a tension just sufficient to hold the conical end 4 of the plug in close contact with the throat of the bottle. This insertion and adjustment are made by holding the bottle in the inverted position, and the part must be left so that if the additional weight of liquid or contents of the bottle be added to the plug the said spring 6 will not then support it. The upper part of the neck 13 or 13' of the bottle is fitted with a common cork 12, which may be protected in its place by any of the usual means.

The valve-plug may be furnished with an air-tube 8, extending from a bore through said plug downward into the bottle and engaging with a closing contact 9 at the bottom of the bottle, if preferred. When this tube is used, it may be adjusted to such a length that the lower end of the tube 8 is closed by contact with the bottle simultaneously with the closure of the throat of the bottle by the plug, as before explained. The closure, however, is operative without said tube added, and any extension of the tube down into the body of the bottle will adapt it to serve as an air-inlet to the bottle during the operation of pouring out liquid therefrom.

In the substitute form of the closure shown

in Fig. 2 a member 14 is fitted with the working parts of my closure, as described, and the said member 14 is then slid into the plain neck of an ordinary bottle and cemented into place by liquid glass or other suitable cement.

In the modified form shown in Fig. 6 the neck 13" of the bottle is fitted with an annular seat 15, on which rests a drain-shield comprising two parts, one part or disk 10" designed to rest on the annular shoulder 15 and having a flange 16 extending around the edge thereof, designed to support an additional disk or shield member 10', having drain-holes 17 17, &c., which are staggered or alternated in circumferential position with the drain-holes 11' through the lower member of the shield 10". By this arrangement of drain-holes in the shield the closing valve or plug is rendered difficult of access by persons intending to tamper with same.

The operation of the device is as follows: The bottle is filled before my closure is added. It having been previously ascertained to what height the drain-shield 10 must be located in order to give the proper tension to the spring, the parts of the closure are then put into position and secured. When it is attempted to pour out the liquid, the weight of the liquid within the bottle added to the weight of the valve-plug compresses the spring 6, thus allowing the liquid to escape and trickle around the side of the plug between the frets 5 5 5, whence it finds its way out through the drain-holes 11 11, &c., in the

shield 10, some of which serve for an inlet of air during the process.

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

1. In a bottle-closure of the kind described, the combination with the neck of a bottle having a contracted opening therein, a plug arranged to close said opening, a perforated shield adapted to be rigidly secured above said plug, a spring arranged to be constrained between said shield and the plug aforesaid, and an air-tube extending through the plug aforesaid into the interior of the bottle, substantially as specified.

2. In a bottle-closure of the kind described, the combination with a neck of a bottle having a contracted opening therein, a plug arranged to close said opening, a perforated shield adapted to be rigidly secured above said plug, a spring arranged to be constrained between said shield and the plug aforesaid, and an air-tube extending through the said plug and centrally through the bottle to the bottom thereof, the lower end of said tube arranged to be closed by contact with the bottom of the bottle, substantially as specified.

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

WINFIELD S. PALMER.

Witnesses:

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DANIEL ELSINGER.