

No. 616,710.

M. F. HUDSON.

Patented Dec. 27, 1898.

BOTTLE.

(Application filed Apr. 7, 1897.)

(No Model.)

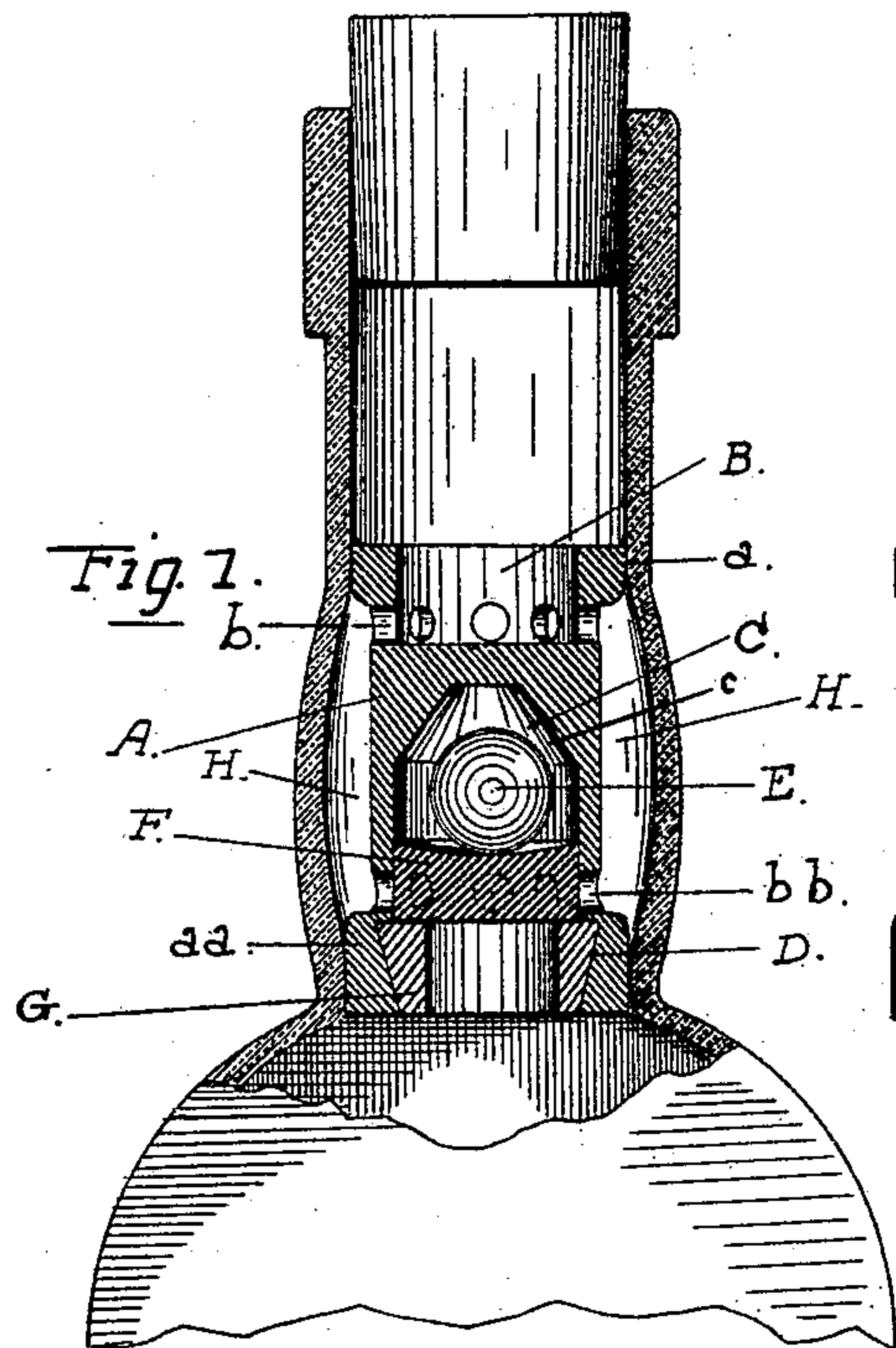


Fig. 3.

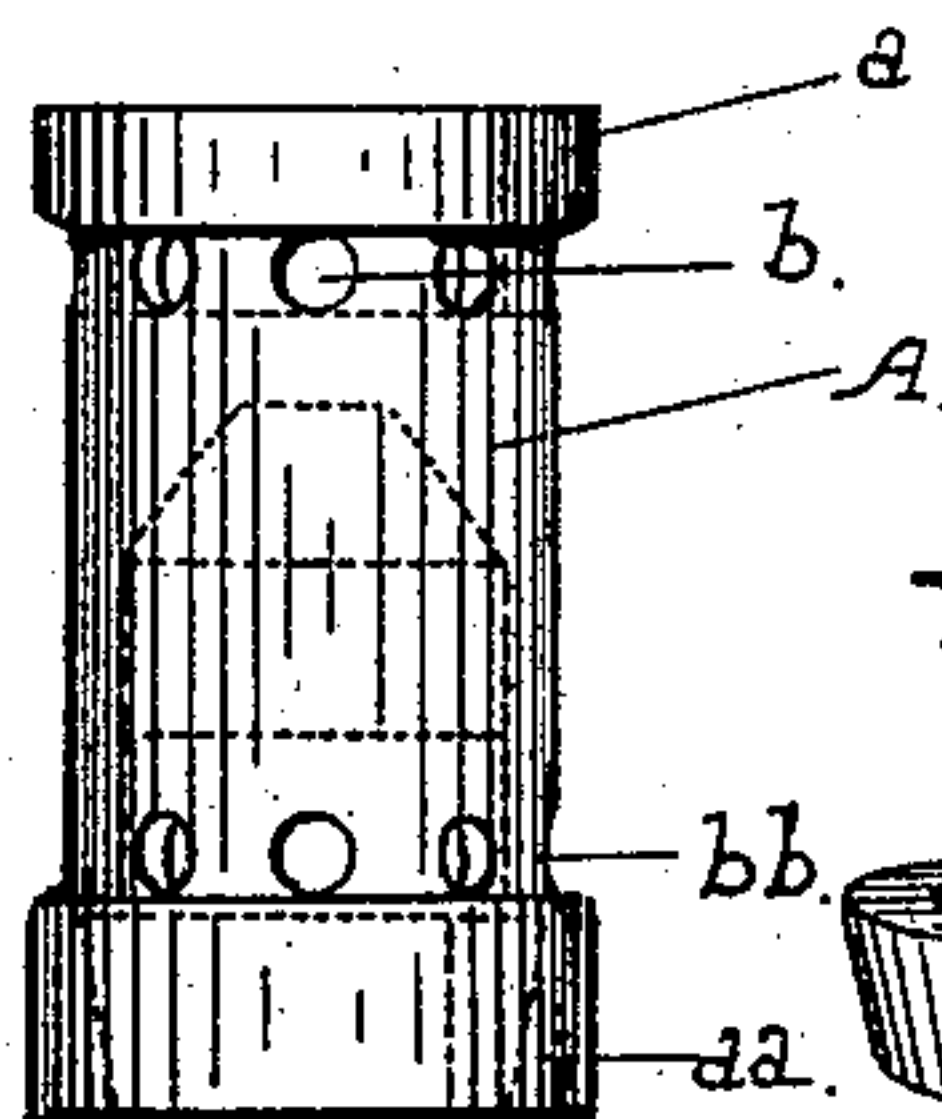


Fig. 2.



Fig. 5.

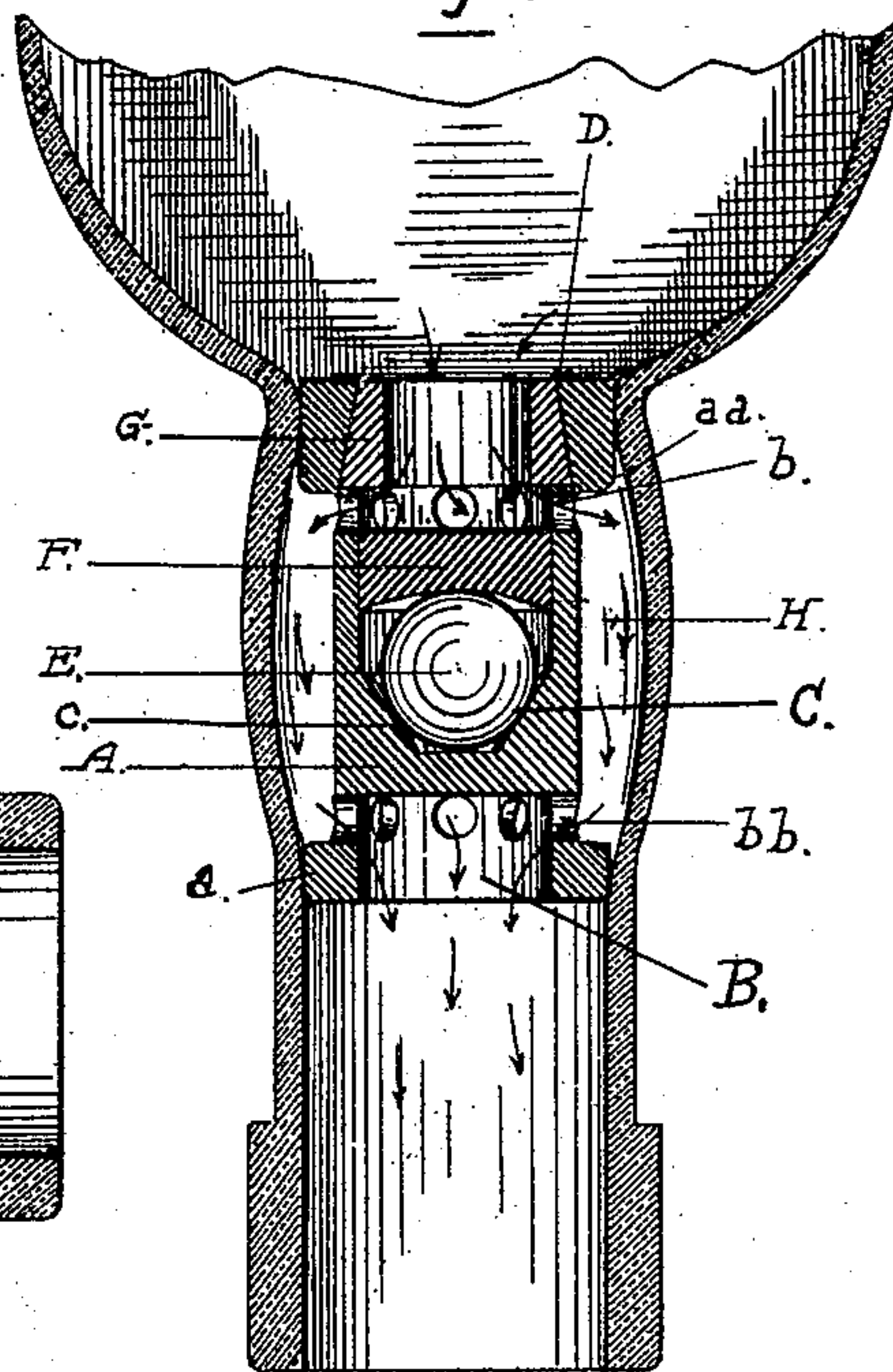
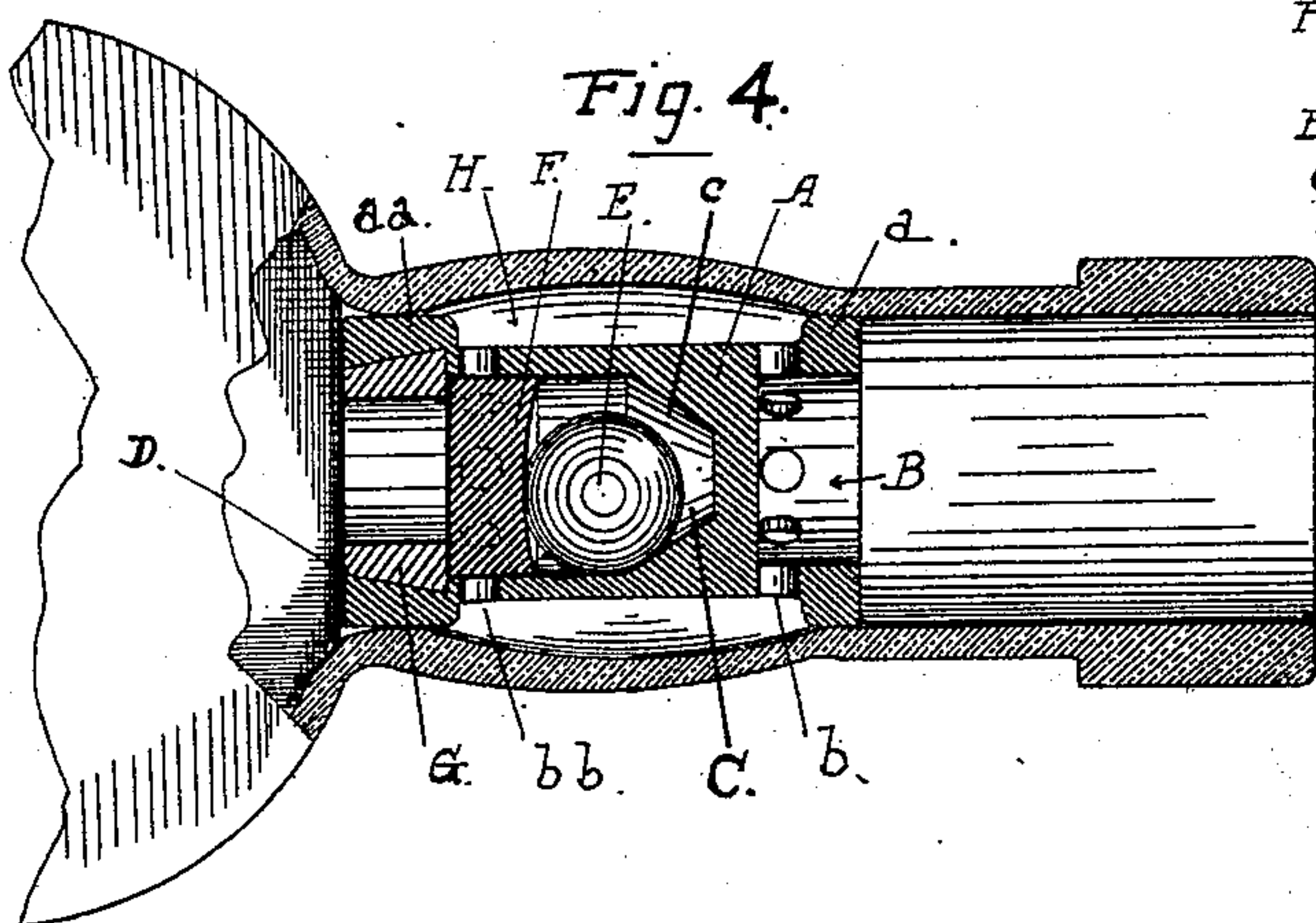


Fig. 4.



WITNESSES:

Frances Cella Scott.  
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INVENTOR:

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# UNITED STATES PATENT OFFICE.

MILLARD FILLMORE HUDSON, OF OAKLAND, CALIFORNIA.

## BOTTLE.

SPECIFICATION forming part of Letters Patent No. 616,710, dated December 27, 1898.

Application filed April 7, 1897. Serial No. 631,192. (No model.)

*To all whom it may concern:*

Be it known that I, MILLARD FILLMORE HUDSON, a citizen of the United States, residing at the city of Oakland, in the county of Alameda and State of California, have invented a new and useful Improvement in Bottles, of which the following is a specification.

My invention relates to an improvement in bottles by means of a contrivance introduced into the neck; and the object of my improvement is to render bottles non-refillable after having been once used.

I attain this object by the contrivance illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section; Fig. 2, a perspective view of the cone marked G in Fig. 1, illustrating its structure; Fig. 3, an exterior view particularly designed to illustrate the perforations *b* and *bb*; Fig. 4, a vertical section illustrating the action of the ball E when placed horizontally; and Fig. 5, a vertical section, inverted, designed to illustrate the action of the ball E, the plate F, and the course followed by the escaping liquid.

The same reference-letters refer to the same parts throughout all the views.

The cylinder A is a shell within which the other parts are placed. Extending around its outer circumference it has a narrow annular ridge *a* and at the bottom a wide one *aa*, designed to form the points of contact of the cylinder with the inside of the bottle-neck, thus leaving a wide annular chamber H, through which liquid may flow. The bottom of *aa* rests upon an inward curve of the bottle-neck.

A cylindrical opening B extends perpendicularly downward from the top. A series of small holes *b* pierce the cylinder horizontally from a point just below the ridge *a* and open into the opening B and are designed to permit free passage of liquid from the annular chamber H into the opening B, and thus out of the bottle-neck, and the whole designed, by reason of the tortuous shape of the passage, to prevent interference by the introduction of a wire or other instrument. Another circular cylindrical opening extends upward from the bottom divided into two sections C and D. The diameter of section

D at its bottom is the same as that of section C; but it has a greater diameter at its top, the wall being sloped and designed to hold securely in position the cone G.

G may be described as an inverted hollow truncated cone, made of elastic material, designed to fit the interior wall of section D. It supports the plate F, and the ball E rests upon the plate. When the plate F is removed, the hole through the center of the cone G forms the vent-hole for the passage of liquid from the body of the bottle into the section C, and thence through the holes *bb*, &c.

C, the upper section of the lower excavation, is conical. It has a flat roof of small diameter joined to its main wall by a sloped section *c*. The disk and ball rest upon the cone G within the section C. A series of small holes *bb*, similar to *b*, pierce the cylinder horizontally from a point immediately above the annular ridge *aa*, opening into the lower part of section C and designed to permit the free passage of liquid from section C into the annular chamber H.

The plate or disk F is circular, with a flat bottom and concave top. It rests upon the cone G and covers and closes the vent-hole through its center. It is held in position by the ball E, which rests upon its concave upper surface. E is made of heavier material than F and preponderates it. When the contrivance is turned upon its side, as in Fig. 4, the ball slides or rolls forward upon *c*—viz., the sloped section of the wall of the conical chamber C—and thus presses against the plate or disk and continues to hold it steadily in position.

The manner of its use is as follows: The bottle is first filled with liquid. The annular ridges of the contrivance *a* and *aa* are then coated with cement and the contrivance is pushed down into the bottle-neck. The bottle is then corked in the ordinary way and is ready for shipment or use. When it is desired to withdraw the liquid, the cork being drawn, the bottle is turned upside down and the parts assume the position shown in Fig. 5. The ball E and the plate F fall, thereby removing the obstructions to the flow of liquid through the vent-hole through the center of the section G and through the holes *b*, &c., as shown by the arrows.

I am aware that prior to my invention a ball was used to close a vent-hole, and to hold a disk or plate in position covering and closing a vent-hole, and a plate or disk was used  
5 to cover and close a vent-hole. I therefore do not wish to be understood as making claim, broadly, to such ball and plate or disk; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

10 The combination with a bottle, of an integral cylinder in the neck thereof, having upper and lower ridges and reduced intermediate portion forming an annular chamber, said cylinder having a centrally-disposed, vertical  
15 opening in its top with holes leading transversely therefrom into said annular chamber, said cylinder having, also, an opening into its bottom forming an internal chamber hav-

oppositely-disposed conical ends, an elastic washer or cone fitted into the lower conical 20 end of said internal chamber, a disk or plate within the chamber and adapted to normally rest upon said washer or cone to close the inlet to the chamber and a second series of  
25 holes leading from the chamber to the surrounding annular chamber, and a ball in said internal chamber normally resting on the disk or plate to retain it on its seat, the inclined walls of the upper conical end of the  
30 internal chamber serving to hold the ball against the disk or plate when the bottle is partly inverted or laid on its side.

MILLARD FILLMORE HUDSON.

Attest:

FRANCES ELLA SCOTT,  
H. J. LANG.



It is hereby certified that in Letters Patent No. 616,710, granted December 27, 1898, upon the application of Millard Fillmore Hudson, of Oakland, California, for an improvement in "Bottles," an error appears in the printed specification requiring correction, as follows: In line 18, page 2, the word "hav-" should read *having*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 7th day of February, A. D., 1899.

[SEAL.]

WEBSTER DAVIS,  
*Assistant Secretary of the Interior.*

Countersigned:

C. H. DUELL,  
*Commissioner of Patents.*