

No. 645,804.

Patented Mar. 20, 1900.

J. GOODMAN.
NON-REFILLABLE BOTTLE.

(Application filed Dec. 1, 1899.)

(No Model.)

Fig. 1

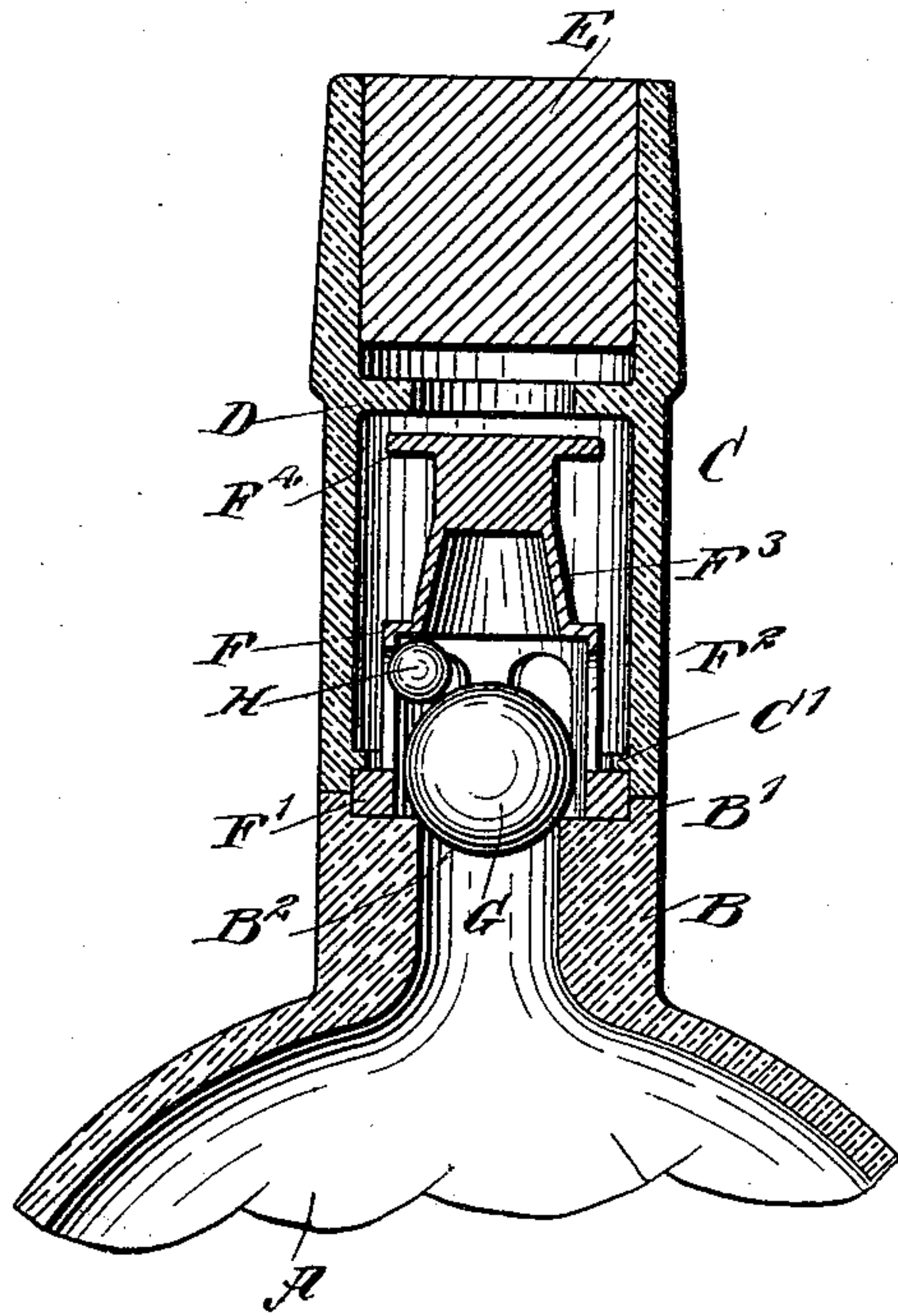


Fig. 2

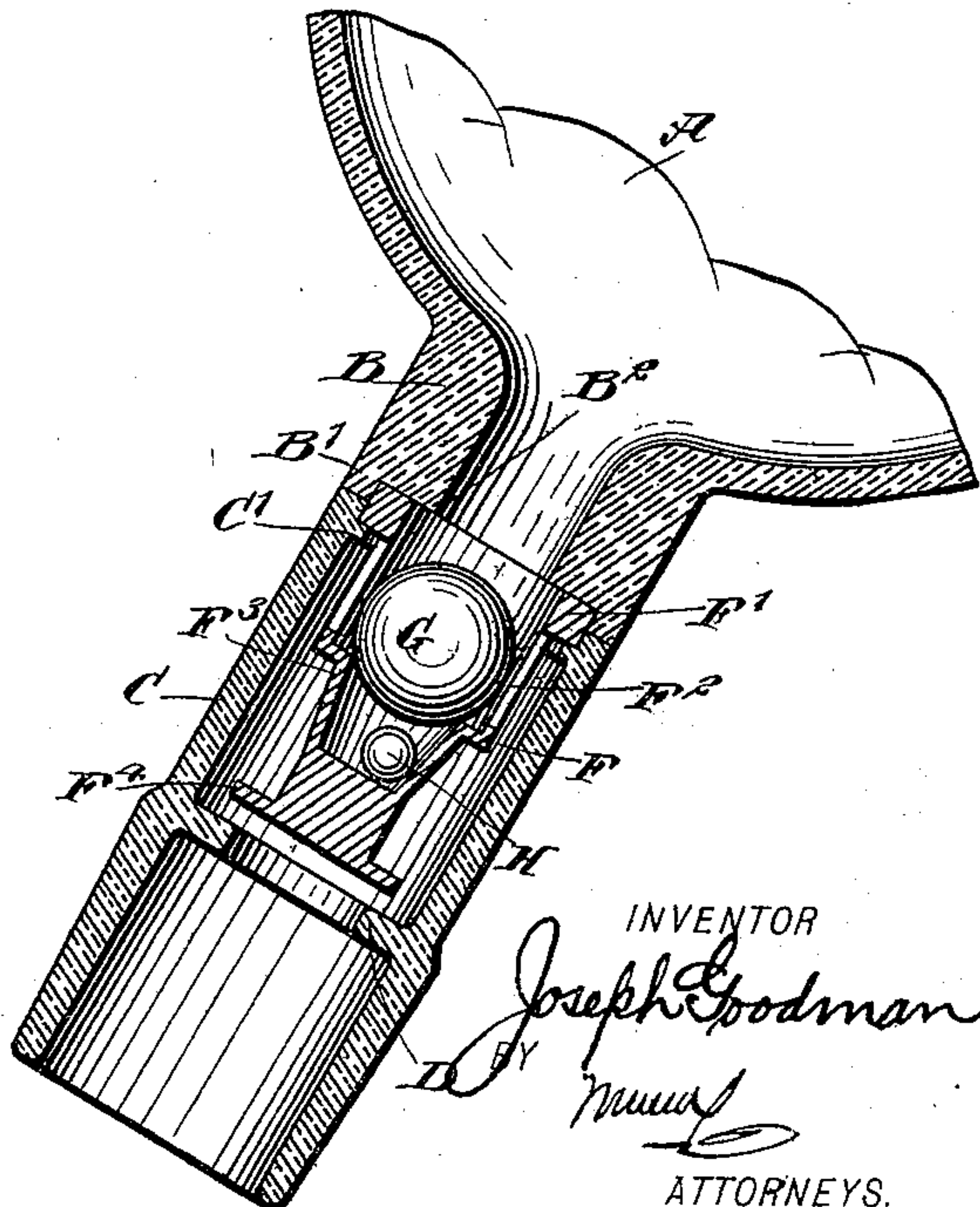
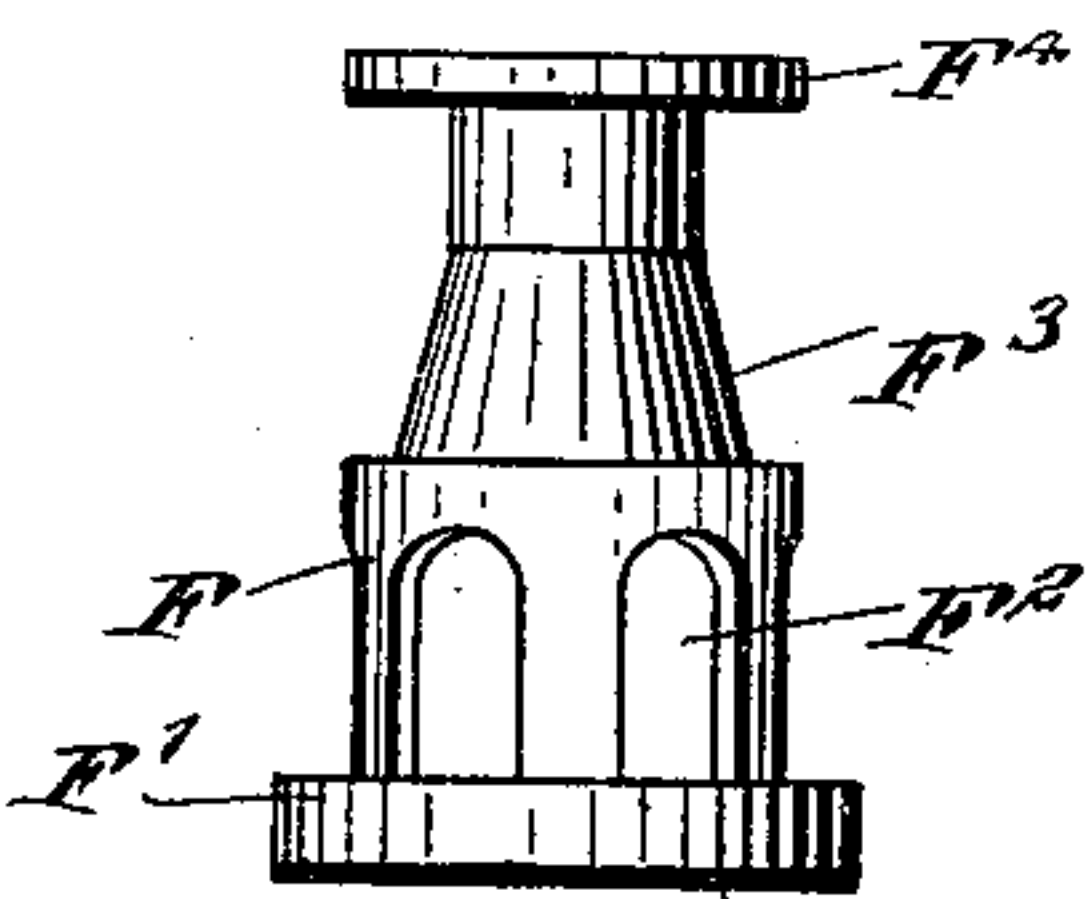


Fig. 3



WITNESSES:

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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 645,804, dated March 20, 1900.

Application filed December 1, 1899. Serial No. 738,808. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GOODMAN, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved non-refillable bottle which is simple and durable in construction, cheap to manufacture, and arranged to prevent refilling of the bottle after the same has once been emptied of its contents.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a like view of the same in a tilted position, and Fig. 3 is a side elevation of the valve-cage.

The bottle A, on which the improvement is applied, is provided with a short neck B, on which is fixed, cemented or otherwise secured, a neck extension C, formed in its upper portion with an apertured horizontal partition D, dividing the neck extension into a lower or valve compartment and into an upper compartment adapted to receive a cork or stopper E for normally closing the bottle.

In the lower compartment of the neck extension C is arranged a valve-cage F, adapted to contain a ball-valve G and a locking-ball H for locking the ball-valve G in place when the bottle is in an upright position, as shown in Fig. 1. The cage F is provided at its bottom with an outwardly-extending annular flange F', seated in an annular recess B', formed on the top of the neck B and surrounding the outlet-passage of said neck, and said flange F' is engaged on its top by an inwardly-extending annular flange C', formed on the lower portion of the neck extension C to securely lock the cage F in position within the neck extension C and at the upper end of the neck B.

The ball-valve G is adapted to be seated on a seat B² for closing the neck B, and said ball-valve is free to move in the lower cylindrical apertured portion F² of the cage at the time the bottle A is held in a tilted position to allow the ball-valve G to move off its seat B², as indicated in Fig. 2. From the cylindrical portion F² of the cage F extends a hollow cone F³, terminating at its top in a baffle-plate F⁴, arranged immediately below the apertured part D, the outer edges of the baffle-plate extending beyond the inner wall of the opening in the partition D, as shown in Figs. 1 and 2. The base of the cone F³ is somewhat less in diameter than the diameter of the top of the cylindrical portion F² of the cage to form at the inside shoulders for the ball H to abut against at the time the ball-valve G is on its seat, so as to lock said ball-valve in position on its seat during the time the bottle is in an upright position, as shown in Fig. 1. When the cork or stopper E is removed and the bottle is tilted, then the locking-ball H is free to drop into the hollow cone F³, thereby unlocking or releasing the ball-valve G, so that the latter moves outward in the cylindrical portion F² and seats in the cone F³ of the cage, as shown in Fig. 2. When this takes place, the contents of the bottle A can readily flow through the now uncovered seat B² to the cylindrical portion F² of the cage and through the side openings thereof into the lower compartment of the neck extension, to then flow around the baffle-plate F⁴ and through the aperture in the partition D, to finally reach the upper compartment of the neck extension, and then pass to the glass or other vessel into which the contents of the bottle are to be poured.

When the bottle A is moved from its tilted position back into an upright position, as shown in Fig. 1, then the ball-valve G drops immediately to its seat B² to close the neck of the bottle, and the locking-ball H drops in position on the ball-valve and the shoulders of the cage to hold the ball-valve in a locked position.

It is evident that when the several parts are in this position the bottle cannot be refilled from above, as the valve G prevents the entrance of liquid poured into the upper compartment of the neck extension.

The arrangement of the apertured partition D and the baffle-plate F⁴, immediately below said partition, prevents introducing a wire or other flexible device to reach the ball-valve G and hold the same off its seat while attempting to refill the bottle. It is evident that such a wire when introduced is deflected sidewise by the baffle-plate and is not likely to reach the ball-valve and hold the latter off its seat while the bottle A is in an upright position.

The ball-valve G is to be made sufficiently light to float in liquid and, if of glass, is made hollow for the purpose, so that the bottle can not be filled with a spurious liquid under a vacuum. When the bottle is placed in a horizontal position, the locking-ball H rolls down the inclined wall of the cone F³ and upon the ball-valve G, causing the latter to find its seat.

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

1. A non-refillable bottle, comprising a bottle whose neck is formed on its upper edge with an annular recess surrounding the outlet-passage, a valve-cage carrying a valve and provided at its bottom with an outwardly-extending annular flange seated in said recess and a neck extension fitted upon and secured to said neck and formed with an inwardly-extending annular flange engaging the top of the flange at the bottom of the

cage, whereby to hold the cage in place, as and for the purpose set forth.

2. A non-refillable bottle, comprising a bottle having a short neck and an extension of said neck secured thereto and provided with an inwardly-extending flange, a valve-cage having at its bottom an outwardly-extending annular flange on which the flange of the extension rests whereby to hold the cage in place, said cage being further provided with an apertured cylindrical portion above its flange, a hollow cone thereabove having closed sides and whose base forms an annular shoulder where it joins the top of the cylindrical portion, and a solid top closing the top of said hollow cone and forming a baffle-plate, a ball-valve having movement within the cylindrical portion of the cage, and of such a diameter that it will fit on the said annular shoulder when the bottle is inverted, and a locking-ball in said cage above the ball-valve and of a diameter approximately equal to the distance between said annular shoulder and the ball-valve in closed position, as set forth.

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

JOSEPH GOODMAN.

Witnesses:

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