No. 725,051. PATENTED APR. 14, 1903.

T. C. DE HART.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JULY 24, 1902.

NO MODEL.

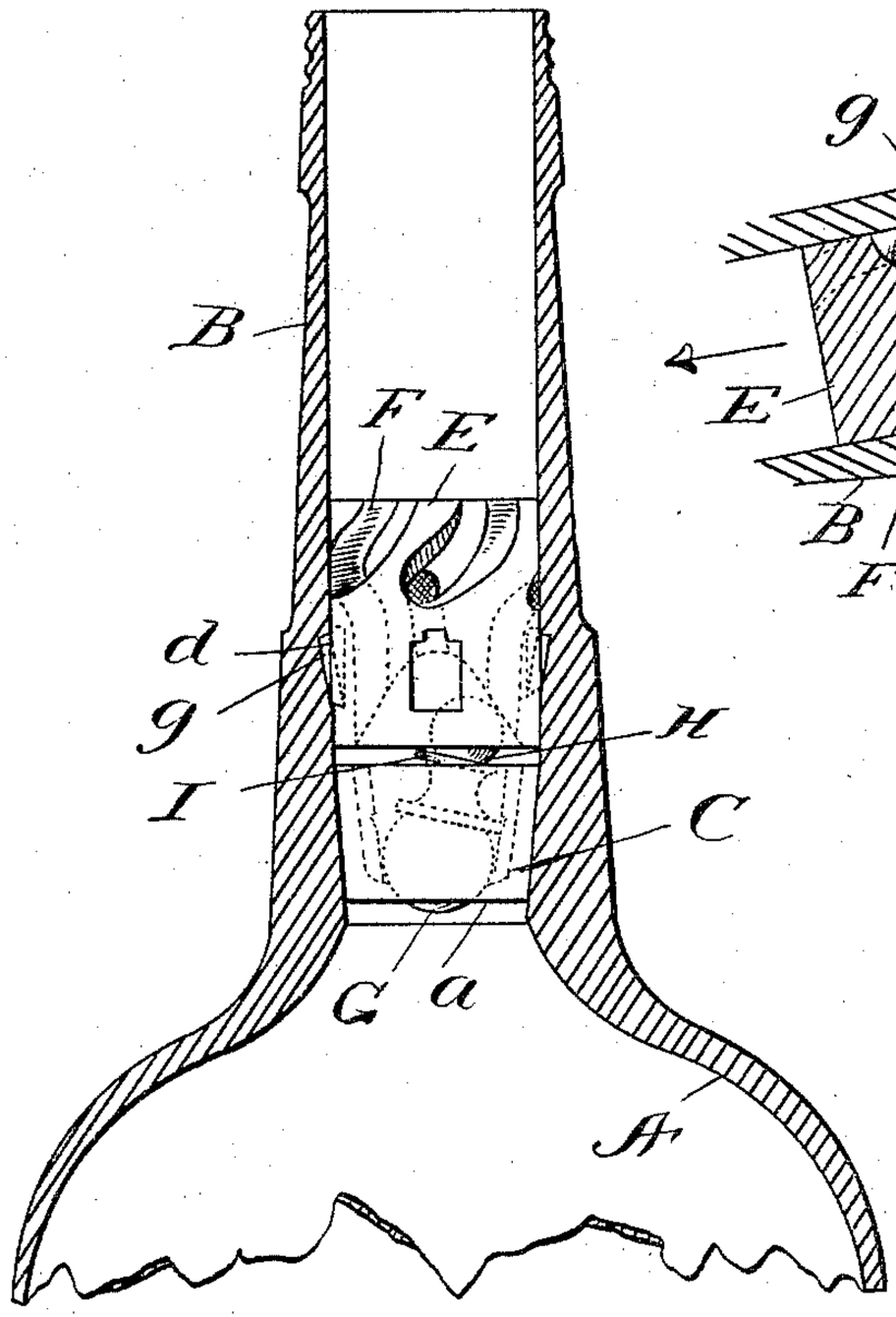

Fig. 1

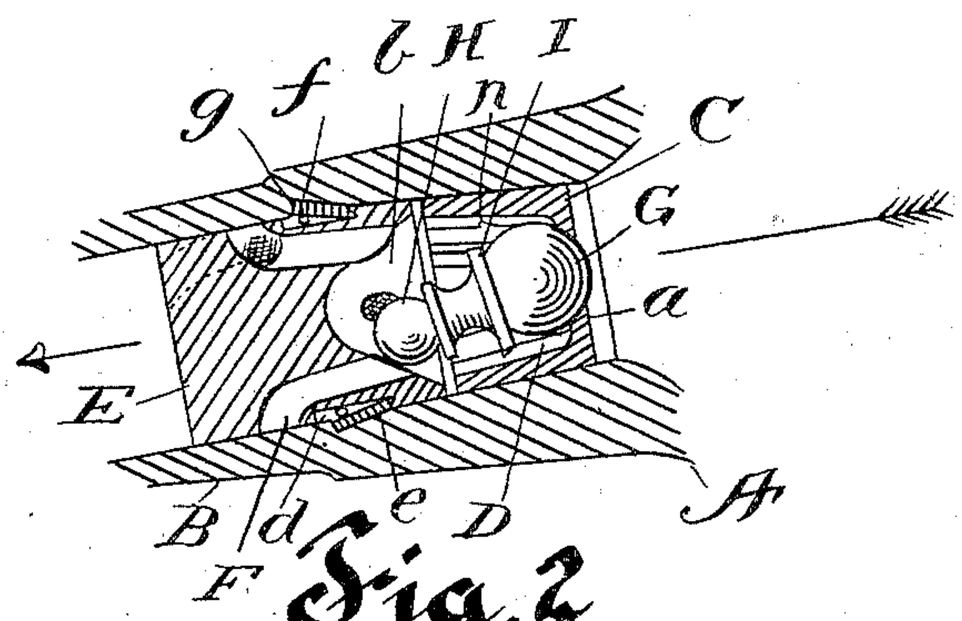

Fig. 2

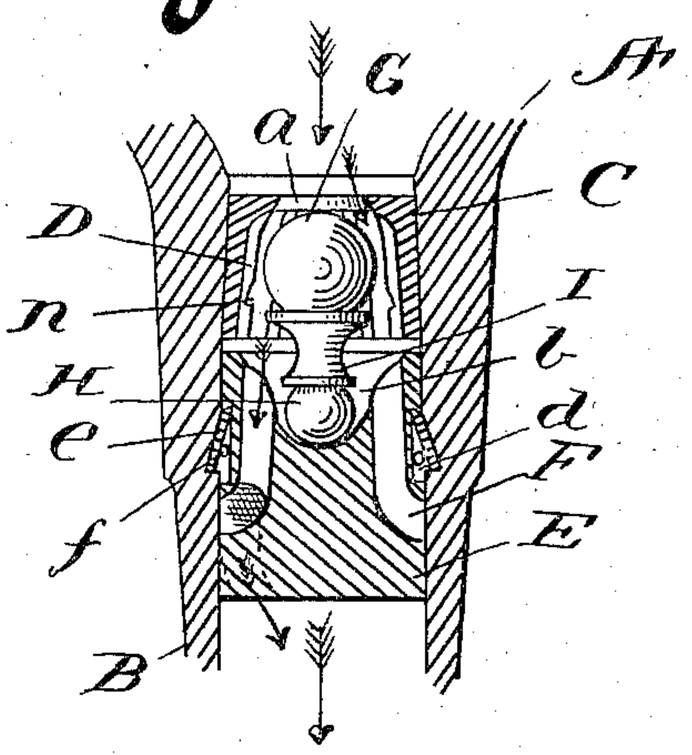

Fig. 3

Fig. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

TAZWELL C. DE HART, OF OAKLAND, CALIFORNIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 725,051, dated April 14, 1903.

Application filed July 24, 1902. Serial No. 116,842. (No model.)

To all whom it may concern:

Be it known that I, TAZWELL C. DE HART, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Non-Refillable Bottles; 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 is an improvement on the device shown in my former application for a patent, filed December 14, 1899, Serial No. 740,334, and besides embodying all the important features of said former application has additional advantages which add to its general efficiency.

To provide means for insuring against the possibility of refilling the bottle by jarring it is one object of my present invention that I have carried out in a most simple manner, while in going over the following description it will be apparent to those familiar with this class of devices that I have paid particular attention to structural simplicity and economy.

I have illustrated the invention in the accompanying drawings and in the several views shown have employed like letters of reference to indicate corresponding parts.

Figure 1 is a central longitudinal section of an ordinary bottle, showing my invention positioned therein, the latter being shown in elevation. Fig. 2 is a section of the device, showing the relative positions of the parts as the bottle is inclined slightly beyond the horizontal. Fig. 3 is a similar view showing the position of the parts as the bottle is inverted for the withdrawal of the liquid contents. Fig. 4 is a top view of the several parts deranged.

Referring now to the above views by letter, A represents the main body of the bottle, the lower portion of the neck B of which is formed with a gradually-converging wall, into which is securely wedged a similarly-formed cylindrical member C. This cylindrical member C is formed at its lower end with a valve-seat *a*, while leading upward from this seat and lining the upper wall of member C are the projecting inclined ribs D.

Directly above the member C and snugly fitting the neck of the bottle is the member E, whose under side is concaved to form a cavity *b*, with walls gradually diverging until they meet the upper rim of member C. Perforating the upper wall of the cavity *b* and following an upward spiral course are the conduits F. Cut into the outer vertical wall of the member E are the cavities *d*, into each of which I place an independently-formed lip of glass *e*. Above this lip *e* and into the contracted top of each cavity I place a small loose wedge *f*. Now it is manifest that as the member E is placed into the mouth of the bottle and forced downward when the lips *e* reach a groove *g* which I have formed in the neck of the bottle they will tilt outward and the wedges will drop into the position shown in Figs. 2 and 3. By this construction the member E is held firmly and stationary regardless of any attempt at withdrawal or other tampering. As a valve to engage the seat *a* I have provided the large sphere G, while above this sphere and operating in the cavity *b* is the smaller sphere H. These spheres are held apart by the independently-formed and loose member I.

Now as to the operation. It is manifest that as the bottle is held in an upright position the sphere G will completely close the valve-seat *a* and prevent the passage of any liquid to the interior of the bottle. By inverting the bottle, as shown in Fig. 3, the spheres G and H and member I will fall by gravity and permit the full outward flow of the liquid. In Fig. 3 I have shown the course of the outflowing liquid by means of small arrows. While in a position slightly beyond the horizontal, or that shown in Fig. 2, it is evident that the small sphere H endeavoring to travel down the inclined wall of the cavity *b* will exert a force against member I sufficient to hold lighter sphere G snugly in its seat.

From the explanation so far gone into it will be readily seen that the angle of inclination of the bottle must be very acute before the sphere G will leave its seat and permit the outflow of the liquid. This fact insures against possibility of refilling.

Now to provide means for guarding against refilling by the "jarring" process I have formed small notches *n* in the ribs D, into

which the rim of member I lodges and hugs as the bottle is erect, as shown in Figs. 1 and 2.

Other advantages of my invention will appear to those familiar with this class of devices, while in the matter of mechanical substitutes I wish to be protected. The device is so constructed that the necessity of employing any metal is entirely obviated, which fact is of more than minor importance.

What I claim, and desire to secure by Letters Patent, is—

A non-refillable bottle consisting of a stationary member placed in the neck of the bottle, a secondary member above said stationary member, cavities formed in said members, a sphere in each of said cavities, a movable member interposed between said spheres, and a series of notches in said stationary member to be engaged by said movable member, substantially as and for the purpose set forth.

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

TAZWELL C. DE HART.

Witnesses:

GEORGE PATTISON,

ELIZ. KINCAID.