

A. McCAMBRIDGE.  
BOTTLE NECK AND CLOSURE THEREFOR  
APPLICATION FILED APR. 9, 1908.

898,769.

Patented Sept. 15, 1908.

Fig. 1

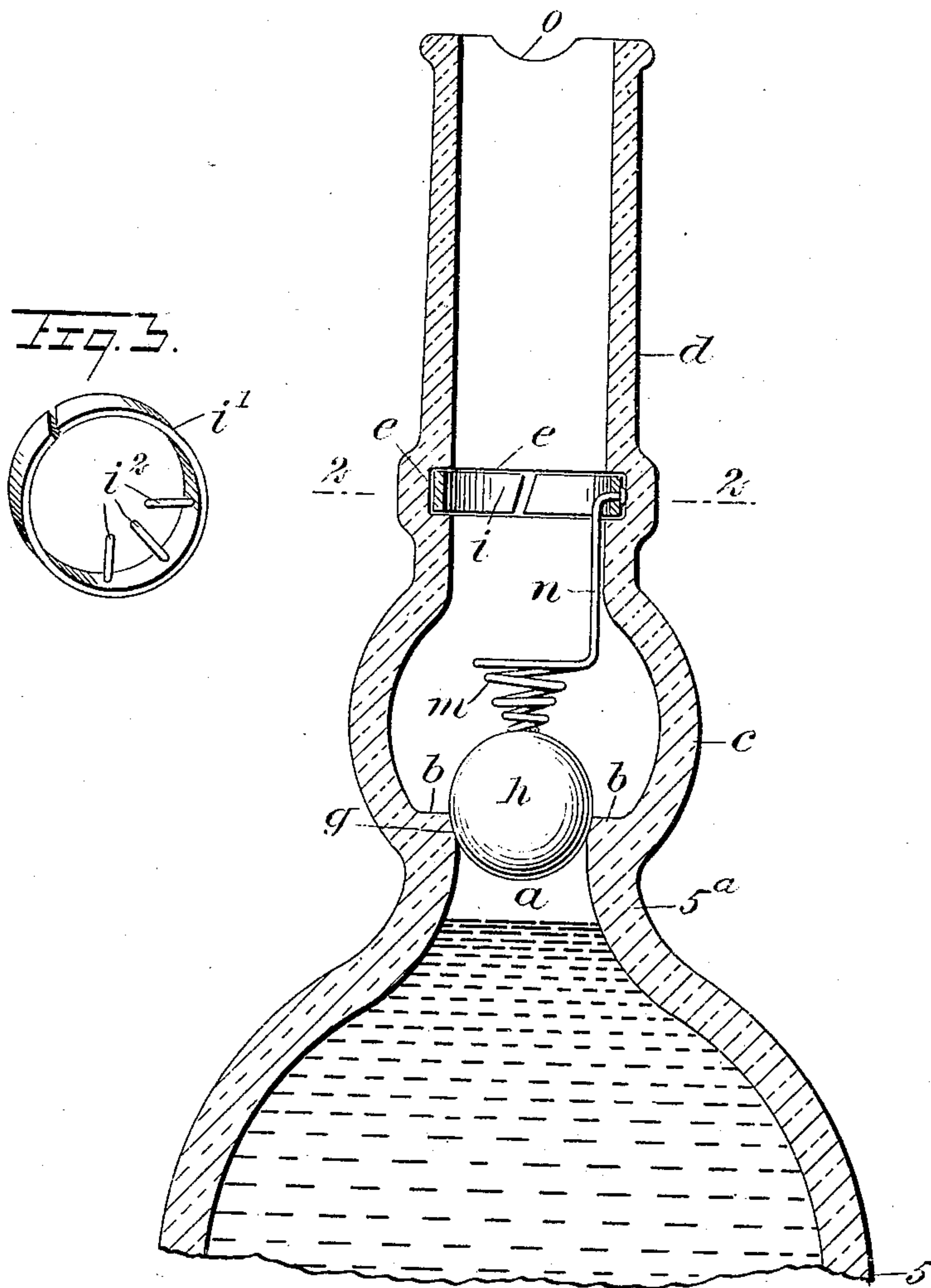


Fig. 3.

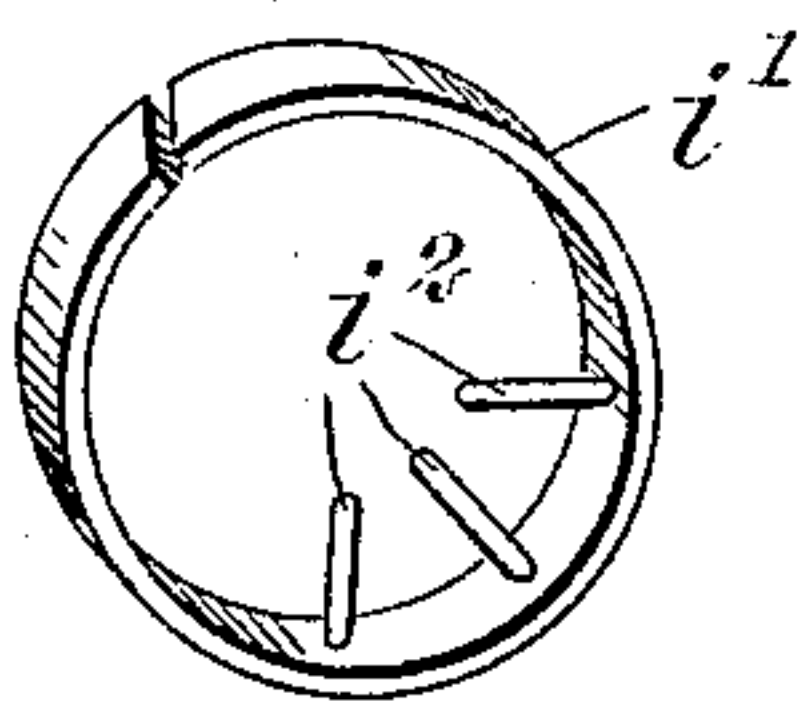
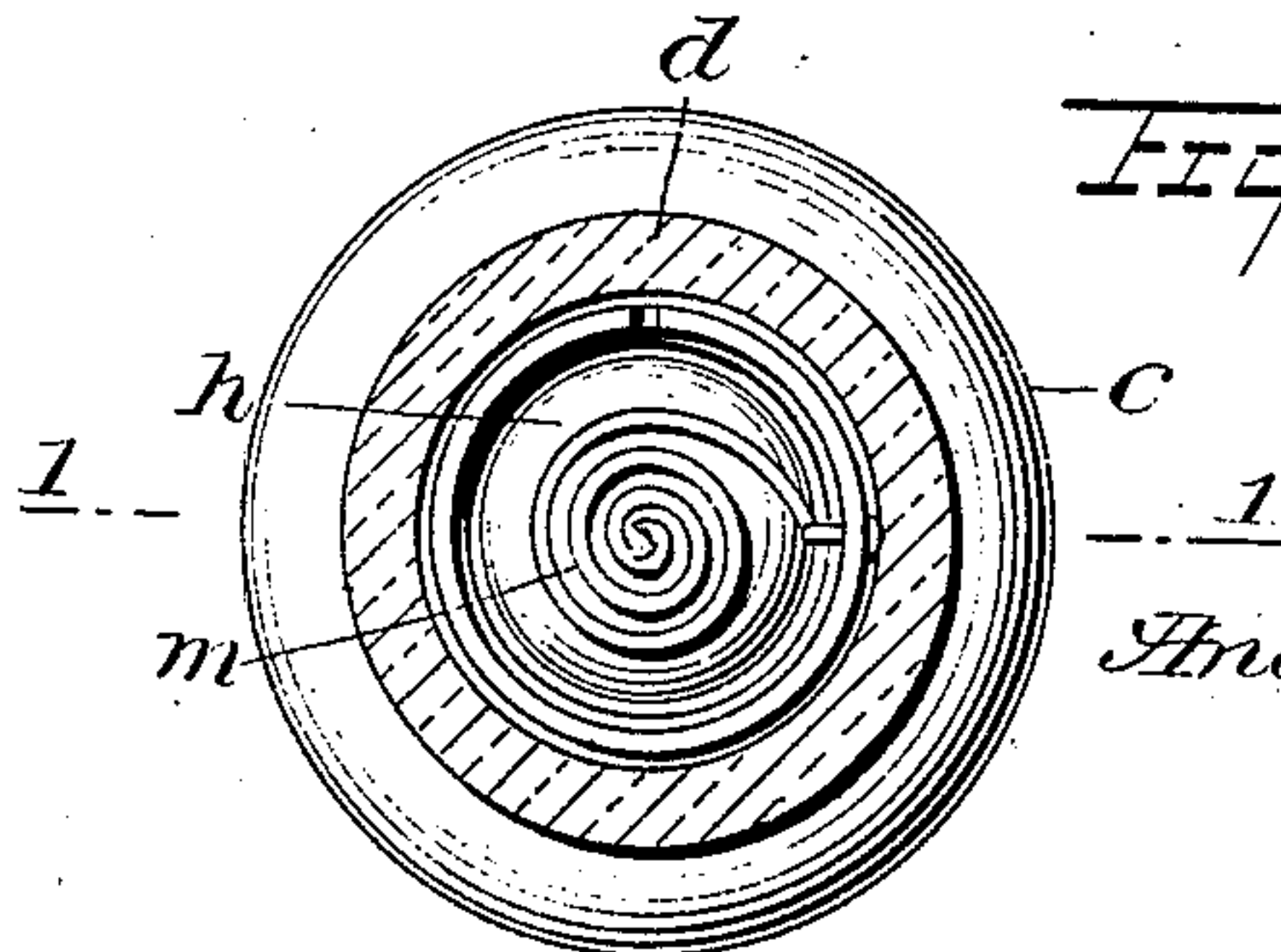


Fig. 2.



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## BOTTLE-NECK AND CLOSURE THEREFOR.

No. 898,769.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed April 9, 1908. Serial No. 426,043.

*To all whom it may concern:*

Be it known that I, ANDREW McCAMBRIDGE, a citizen of the United States, and a resident of Williamstown, in the county of Gloucester and State of New Jersey, have invented a new and Improved Bottle-Neck and Closure Therefor, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide novel details of construction for a bottle neck and closure which are very simple, and that when assembled, after the bottle has been filled, will permit the free out-pouring of the liquid contents of the bottle but prevent refilling of the bottle.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to 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 view of the upper portion of a bottle, an improved form for the neck thereon, and the improved closure for the neck in position therein, the section being taken substantially on the line 1—1 in Fig. 2; Fig. 2 is a transverse sectional view substantially on the line 2—2 in Fig. 1, and Fig. 3 is a detached perspective view of a modified form for a keeper ring that is a detail of the invention.

The bottle body 5 may be of any approved shape and dimensions, the neck portion 5<sup>a</sup> thereon converging so as to produce a suitably sized passage *a* that terminates at an annular shoulder *b*. From said shoulder *b*, the wall forming the lower portion of the bottle neck, is swelled out so as to give the wall *c* thereof bulbous form, thus increasing the space within said portion of the neck for free passage of liquid from the bottle body.

Above the bulbous formation *c*, the neck proper is given substantially cylindrical form, and in this neck portion *d*, somewhat above the portion *c*, an annular channel *e* is formed in the inner surface thereof.

A valve seat *g* is formed at the junction of the flat shoulder *b* with the wall defining the passage *a*, and a spherical ball valve *h* is placed in the bulbous chamber defined by the wall *c*, and is normally seated upon the annular valve seat *g*, as shown in Fig. 1.

In the annular channel *e*, a resilient, split keeper ring *i* is sprung after the bottle body

has been filled with the liquid it is to hold, it being understood that the valve *h* is placed in the bottle neck at the same time with the keeper ring. The ring *i*, shown as inserted in place in Fig. 1, may be formed of any suitable resilient material, and be given any preferred form in cross section, it being understood that the outside diameter of said ring is slightly greater than that of the recess or channel *e*, so that when compressed it may be forced down in the neck portion *d* until it reaches the channel *e*, into which it is pressed, and then expands, so as to retain it therein.

Before the introduction of the keeper ring within the bottle neck, a coniform coiled spring *m* preferably of wire rod is attached thereto, preferably by means of an integral arm of wire rod *n*, that extends from the upper coil of the spring *m* at one side thereof, and at its normally upper end is secured on the keeper ring, as shown in Fig. 1.

As already explained, the body of the bottle is filled with liquid it is to hold as an original package, and then receives the valve *h* that seats upon the valve seat *g*. The keeper ring *i* is now forced down into the channel *e* and by its expansion is immovably secured therein, and as shown in Fig. 1, the length of the arm *n* is so proportioned, that the coniform spring *m* will be held with slight pressure upon the ball valve *h*.

The keeper ring shown at *i'* in Fig. 3, may be provided with a plurality of inwardly projecting fingers *i'*<sup>2</sup> which will obstruct any attempt to remove the spring pressed valve *h* from its seat, and thus open a passage into the bottle for refilling it.

There may be a scallop or pouring lip formed in the edge of the bottle neck, as indicated at *o* in Fig. 1, and above the keeper ring a common cork may be inserted for temporarily sealing the bottle neck.

From the foregoing description it will be seen that the liquid contents of a bottle having the improved closure, may be freely poured therefrom as may be desired, but that it will not be possible to replenish the same after a portion or the entire contents of the bottle has been removed.

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

1. The combination with a bottle neck, having a valve seat therein, and an annular channel in its inner surface above the valve seat, of a spherical valve that engages the

valve seat, an expansible split ring seated in the channel, an arm depending from the ring, and a spring on the lower end of said arm which presses on the valve.

5 2. The combination with a bottle neck, having a valve seat therein, and an annular channel in its inner surface above the valve seat, of a spherical valve that engages the valve seat, an expansible split ring seated in  
10 the channel, an arm depending from the ring, and an integral coiled spring on the lower end of said arm which presses on the valve.

3. The combination with a bottle having a valve seat in its neck, of a valve engaging the  
15 valve seat, a spring pressing on the valve to

hold it to its seat, and a split ring secured in the bottle neck and to which one end of the spring is secured.

4. In a device of the character described, the resilient split ring, the wire rod arm de- 20 pending from the ring, and the integral coiled spring formed on the lower end of the arm.

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

ANDREW McCAMBRIDGE.

Witnesses:

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