

No. 620,173.

Patented Feb. 28, 1899.

E. W. PHINNEY.  
DEVICE FOR PREVENTING REFILLING OF BOTTLES.

(Application filed Mar. 2, 1898.)

(No Model.)

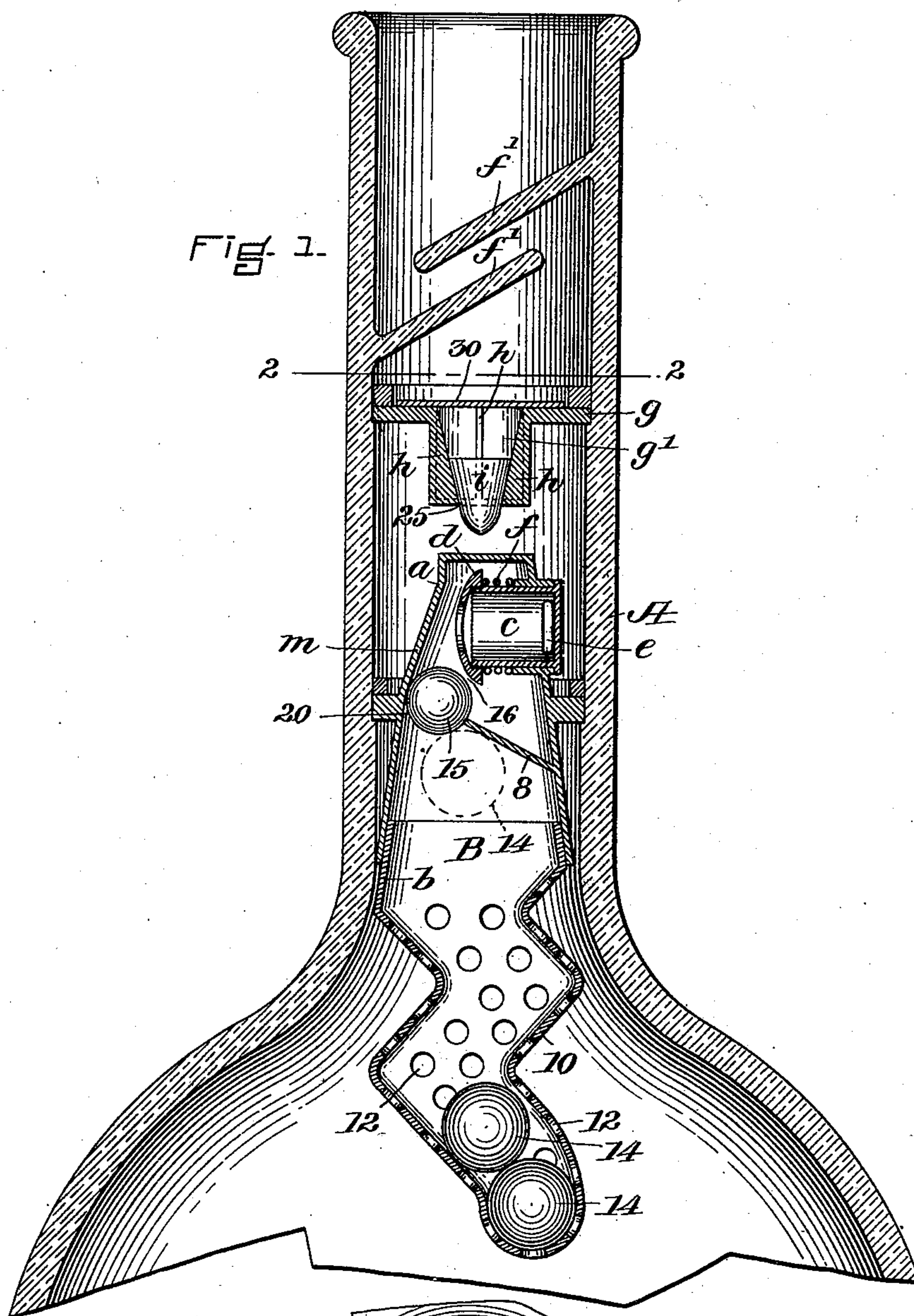
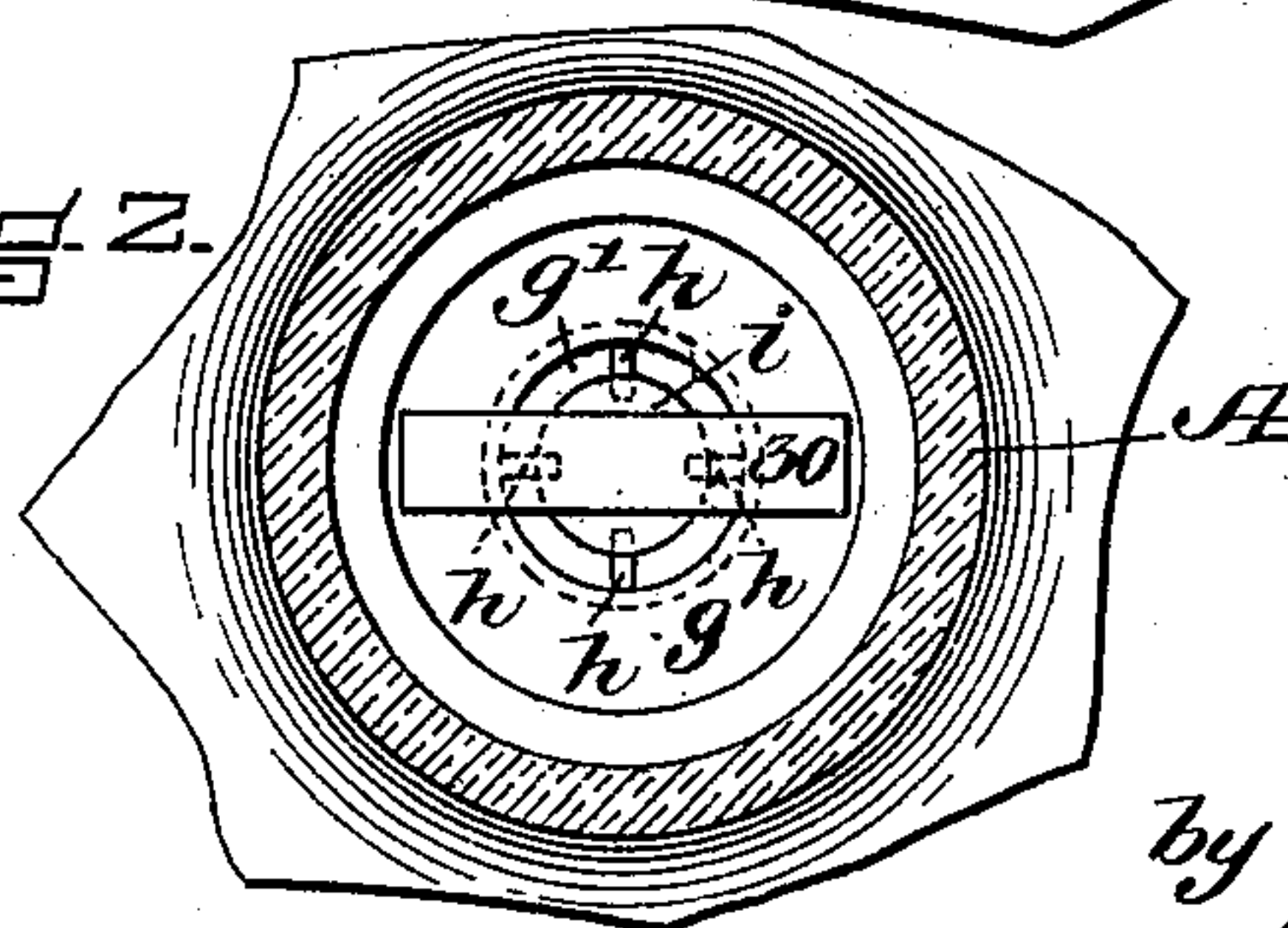


FIG. 2.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

ETTA W. PHINNEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LUTHER J. DRAKE, OF SAME PLACE.

## DEVICE FOR PREVENTING REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 620,173, dated February 28, 1899.

Application filed March 2, 1898. Serial No. 672,312. (No model.)

*To all whom it may concern:*

Be it known that I, ETTA W. PHINNEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Device for Preventing the Refilling of Bottles, of which the following is a specification.

My invention has for its object to provide a simple and reliable device for preventing bottles from being wholly or partially refilled, thereby preventing deception by the use of empty bottles bearing well-known labels or names for containing fraudulent compounds or imitations of liquids originally put in said bottles; and to this end my invention consists in the combination, with a bottle, of a hollow internal casing suitably apertured at its lower end to permit the entrance therein of the liquid while emptying the bottle and provided with an automatic spring-pressed valve opening through its side, whereby communication is afforded with the upper part of the neck of the bottle, and means for opening said valve when the bottle is inverted.

My invention also consists in the combination, with the said casing and its automatic valve, of an outwardly-opening valve composed of flotative material and loosely confined within a chamber, said valve being arranged above the spring-pressed valve to afford security against filling the bottle by compression.

In the accompanying drawings, Figure 1 is a vertical section of the neck and upper portion of a bottle having my improved device applied thereto. Fig. 2 is a transverse section on the line 2 2 of Fig. 1.

In the said drawings, A represents the neck of a bottle, within which, after the bottle has been filled, is inserted and securely fastened, by cement or otherwise, an internal casing B, which, as shown, may be made of two parts *a b*, the lower portion 10 of the part *b* being of angular or zigzag form and being provided with apertures 12 to permit the free flow of the liquid to its interior. This portion normally contains one or more weights or balls 14, whose function will be presently explained.

The upper portion *a* of the casing B is provided with an aperture in its side, into which

is fitted a cylindrical valve *c*, closed at its outer end and provided at its inner end with a bevel-edged cap *d*, said valve being also provided with a slot or aperture *e*, which when the valve is in its normal position, where it is held by means of a spring *f*, lies within the casing and is therefore closed.

Beneath and on one side of the valve *c* the interior of the casing is provided with an inwardly-projecting lip or flange 8, which serves to loosely support between it and the opposite wall of the casing a solid spherical weight 15 in such manner that a space 16 will be left between the end of the cap *d* of the valve *c* and said weight when the bottle is in an upright position, a space or opening 20 being at the same time left for the passage of the liquid to said valve and said space being of sufficient size to permit a portion of the weight 15 to project down therethrough, as shown in Fig. 1, and when the bottle is inverted and the balls 14 fall out of the lower angular portion 10 of the casing one of them will contact with the protruding portion of the ball 15, as shown in dotted lines, and by its own weight and that of the ball or balls behind it force said ball 15 between the inclined side or wall *m* of the casing and the beveled edge of the cap *d* of the valve *c*, thus pressing the same outwardly against the resistance of the spring *f* until the aperture *e* is brought into a position outside of the casing, which permits the flow of the liquid into the outer portion of the neck through the internal casing.

Within the neck of the bottle above the casing B is suitably secured a circular guard plate or disk *g*, formed with a recessed chamber *g'*, which is provided with an aperture 25 in its bottom, forming a seat for a valve *i*, located within said chamber. This chamber *g'* is provided with a series of inclined guides *h*, which serve to guide the valve *i* into the said aperture. The said valve *i* is conical in form and is made of some flotative material lighter than water, or it may be hollow, and it is kept from falling out of the chamber *g'* by a narrow strip 30, secured to the guard-plate and extending across the open top of said chamber. The base of the valve is of smaller diameter than the aperture in the plate *g*, and the strip 30 is also of less width



than the diameter of said chamber, so that when the bottle is inverted and the valve *i* drops from its seat the escape of the liquid from the bottle after passing through the lower valve *c* is not prevented.

The upper part *a* of the casing B is sufficiently near to the aperture 25 in the chamber *g'* to prevent the valve *i* from being forced through the said aperture in an attempt to fill the bottle by compression.

The angular arrangement of the bottom of the casing is made to keep the balls 14 from being shaken against the bevel-edged cap *d* to open the valve while the bottle is held in an upright position. If desired, however, this angular portion of the casing may be dispensed with and its bottom be left entirely open, in which case the balls 14 would be placed loosely within the bottle and would fall into the casing to act on the cap *d* of the valve *c* when the bottle is inverted.

It is obvious that the projecting lip or flange 8, which supports the ball 15, may be dispensed with, in which case when the bottle is inverted the balls would fall between the beveled cap *d* of the valve and the opposite inclined wall of the casing and by their combined weight and wedging action press back the valve *c* to open the same, as desired.

Above the auxiliary valve *i* I preferably arrange within the upper portion of the neck of the bottle a series of plates *f'*, arranged alternately upon opposite sides of the neck and overlapping each other, as shown, said plates serving to prevent the introduction of a wire or other implement for the purpose of raising the valves or otherwise tampering with the mechanism contained within the neck of the bottle.

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

1. In a device for preventing the refilling of bottles, the combination of a hollow casing apertured at its lower end and adapted to contain suitable weights free to move therein, a spring-pressed valve projecting through the side of said casing, and adapted to be

opened by the weights when the bottle is inverted, and an auxiliary flotative valve located above the spring-pressed valve, substantially as described.

2. In a device for preventing the refilling of bottles, the combination of a guard-disk having an apertured chamber, a flotative valve adapted to close said aperture, an internal casing a portion thereof lying directly beneath the aperture in the guard-disk to prevent the valve from being forced through said aperture, said internal casing being provided with an automatically opening and closing valve, substantially as described.

3. In a device for preventing the refilling of bottles, the combination of a hollow casing apertured at its lower end, the latter being of angular or zigzag form and adapted to contain suitable weights free to move therein, said casing having an inclined side *m*, and a spring-pressed valve projecting through the side of said casing opposite to the inclined side *m*, and adapted when the bottle is inverted to be opened by a weight acting between the bevel-edged cap of the valve and the inclined side *m*, and the auxiliary flotative valve located above the spring-pressed valve, substantially as described.

4. In a device for preventing the refilling of bottles, a hollow casing adapted to be inserted in the neck of a bottle and being constructed to permit the passage of the liquid at its lower end, a spring-pressed cylindrical valve apertured in its side, said valve being normally held inside the valve-casing to keep its aperture closed, a lip or flange 8 on the inside of the casing near the valve, a ball or weight 15 supported by said flange near to said valve, and loose weights adapted to open said valve by contact with said ball 15, substantially as described.

Witness my hand this 28th day of February, A. D. 1898.

ETTA W. PHINNEY.

In presence of—

P. E. TESCHEMACHER,  
LOUISE A. CHACE.