

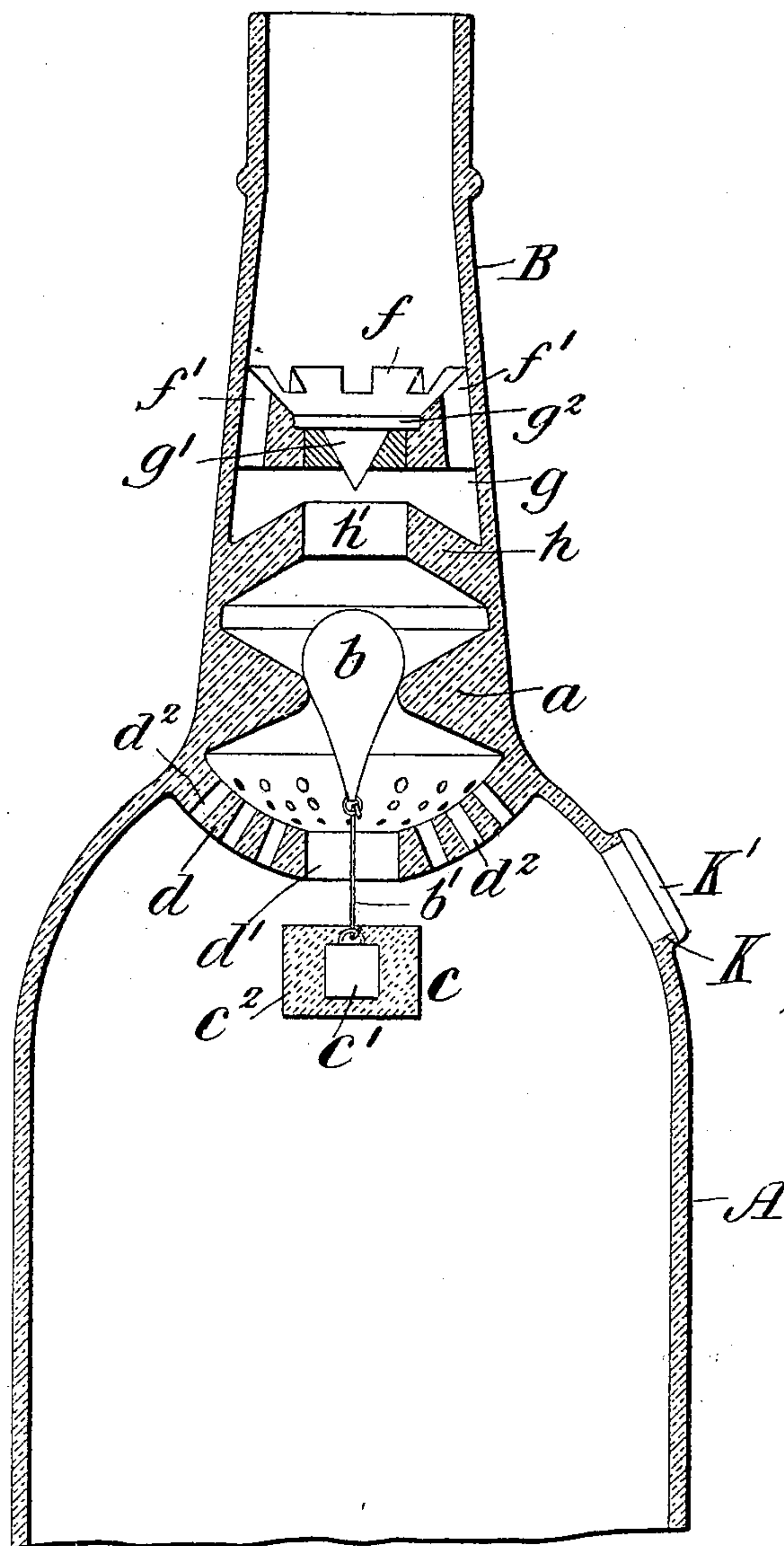
No. 611,831.

Patented Oct. 4, 1898.

W. H. CALDWELL.
NON-REFILLABLE BOTTLE.

(Application filed Sept. 30, 1897.)

(No Model.)



WITNESSES:

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WILLIAM H. CALDWELL, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 611,831, dated October 4, 1898.

Application filed September 30, 1897. Serial No. 653,543. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CALDWELL, a citizen of the United States, residing in the city, county, and State of New York, have
5 invented an Improvement in Non-Refillable Bottles, of which the following is a specification.

This invention relates to bottles or other liquid vessels, and has for its object to prevent the refilling of the bottle or other vessel after being emptied of its contents or to make such refilling so difficult as to be substantially impracticable.

The invention consists of the construction
15 hereinafter set forth.

In the drawing forming part of this specification I have shown one embodiment of the invention as applied to a bottle.

The body A of the bottle is provided with
20 a neck B, in which is confined the valve *b*, adapted to rest upon the valve-seat *a* to close the neck. Suspended by the stiff link *b'* within the body of the bottle from the lower side of the valve is a controller *c*, designed
25 to move the valve to its seat and hold it there when the bottle is in a horizontal or an upright position. The valve-controller is of sufficient weight to accomplish this result and is so arranged that when the bottle is inverted
30 the controller cannot pass up into the neck, but will catch on the lower side of the guard-ring *d*, located just below the valve-seat *a*. This guard-ring is generally curved downward and is provided with the central opening *d'*, through which the controller is suspended from the valve, and is also provided with perforations *d''*, through which the liquid may readily flow from the bottle when
35 the bottle is tilted to move the valve from its
40 seat.

f is a ring made fast in the neck and provided with perforations or flow-passages *f'*, preferably in its periphery, for the escape of the liquid. Its central aperture *g* is arranged to be filled by the stopper *g'*, provided
45 with a hard top, generally made of glass. This stopper after the bottle is filled is permanently fitted in place in such a manner that it cannot be withdrawn. A stop-ring
50 *h*, generally projecting upward, as shown, is made fast in the neck between the ring *f* and

the valve *b* to prevent the valve being tampered with by the introduction of a wire or other means through the apertures *f'*. If a wire should be inserted through these apertures, the guard-ring would bend its end up and effectually prevent it from reaching the valve. The rings *f g*, valve-seat, and guard-ring *d* are made integral with the bottle and at the same time the bottle is made. By
60 making the bottle in this way the trouble and expense of making, fitting, and sealing these parts separately is avoided, and the parts are secured against surreptitious removal.
65

The controller *c* consists of some suitable material *c'*, which is susceptible of considerable compression and of remaining compressed when dry, but which when wet will expand. Care, of course, is taken that it be
70 made of sufficient weight to properly act upon the valve. Cork or sponge I consider the best material for the purpose, and when either of these materials is used I attach to it a small weight *c'*. In the drawing I have shown this
75 weight as incased in the material *c'*. The controller as thus constructed is compressed so as to be able to pass down to place below the guard-ring *d*, and when thereafter moistened by the liquid in the bottle in which it
80 is suspended will expand to an extent sufficient to prevent it from passing up through the opening *d'* in the guard-ring *d*, thereby preventing the improper displacement of the valve *b*. The valve has its sides rounded,
85 as shown, so that it not only closes the valve-opening when the valve is in the upright position shown in the drawing, but also when the valve is tilted, and the controller is of such weight as to hold the valve against
90 movement from its seat until the neck of the bottle is canted below a horizontal position, at which time the controller bears down on the stiff link *b'* and pushes the valve from its seat.
95

In any position that the valve may occupy while on its seat it will close the valve-opening. Moreover, owing to the weight of the controller and the sloping sides of the valve-seat, the controller will draw the valve to its
100 seat and hold it there when the bottle is in any other position than one in which its neck

is at an inclination below a horizontal. It will therefore be seen that the bottle cannot be surreptitiously filled by immersion.

The bottle may be filled for the first time through the neck and the valve and its controller and the stopper *f* then put in place; but these parts may, if desired, be put in place by the bottle-maker before the bottle is filled and the bottle afterward filled by the bottler through the opening *K*, which is then permanently closed by the stopper *K'* and sealed. The neck is finally closed by an ordinary removable cork of any desirable construction.

This invention, it will be seen, does not require any particular shape for the neck or body of the bottle and may therefore be employed by manufacturers or dealers in connection with whatever bottle they may have heretofore used in trade.

Various changes, which will readily occur to any one skilled in the art, may of course be made without departing from the invention.

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

1. A bottle or other liquid vessel provided with a neck having, in combination, a valve-seat therein, a valve fitting said seat, and a valve-controller operating to seat the valve when the bottle is in horizontal or upright position, and including in its construction a substance susceptible of compression and of remaining compressed when dry, and capable of expansion when moist, a guard-ring between the valve-seat and controller having an opening therein of a size sufficient to permit the passage of the controller to place when compressed but to prevent its repassage when expanded, substantially as set forth.

2. A bottle or other liquid vessel provided

with a neck having, in combination, a valve-seat therein, a valve fitting said seat, and a valve-controller operating to seat the valve when the bottle is in horizontal or upright position and including in its combination a substance susceptible of compression and of remaining compressed when dry, and capable of expansion when moist, a guard-ring between the valve-seat and controller having an opening therein of a size sufficient to permit the passage of the controller to place when compressed but to prevent its repassage when expanded, and an apertured ring as *f* having a central opening and a stopper therefor, substantially as set forth.

3. A bottle or other liquid vessel provided with a neck having, in combination, a valve-seat therein, a valve fitting said seat, and a valve-controller operating to seat the valve when the bottle is in horizontal or upright position and including in its combination a substance susceptible of compression and of remaining compressed when dry, and capable of expansion when moist, a guard-ring between the valve-seat and controller having an opening therein of a size sufficient to permit the passage of the controller to place when compressed but to prevent its repassage when expanded, an apertured ring as *f* having a central opening and a stopper therefor, and a stop-ring as *h* below the ring *f*, substantially as set forth.

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

WILLIAM H. CALDWELL.

Witnesses:

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EDWIN SEGER.