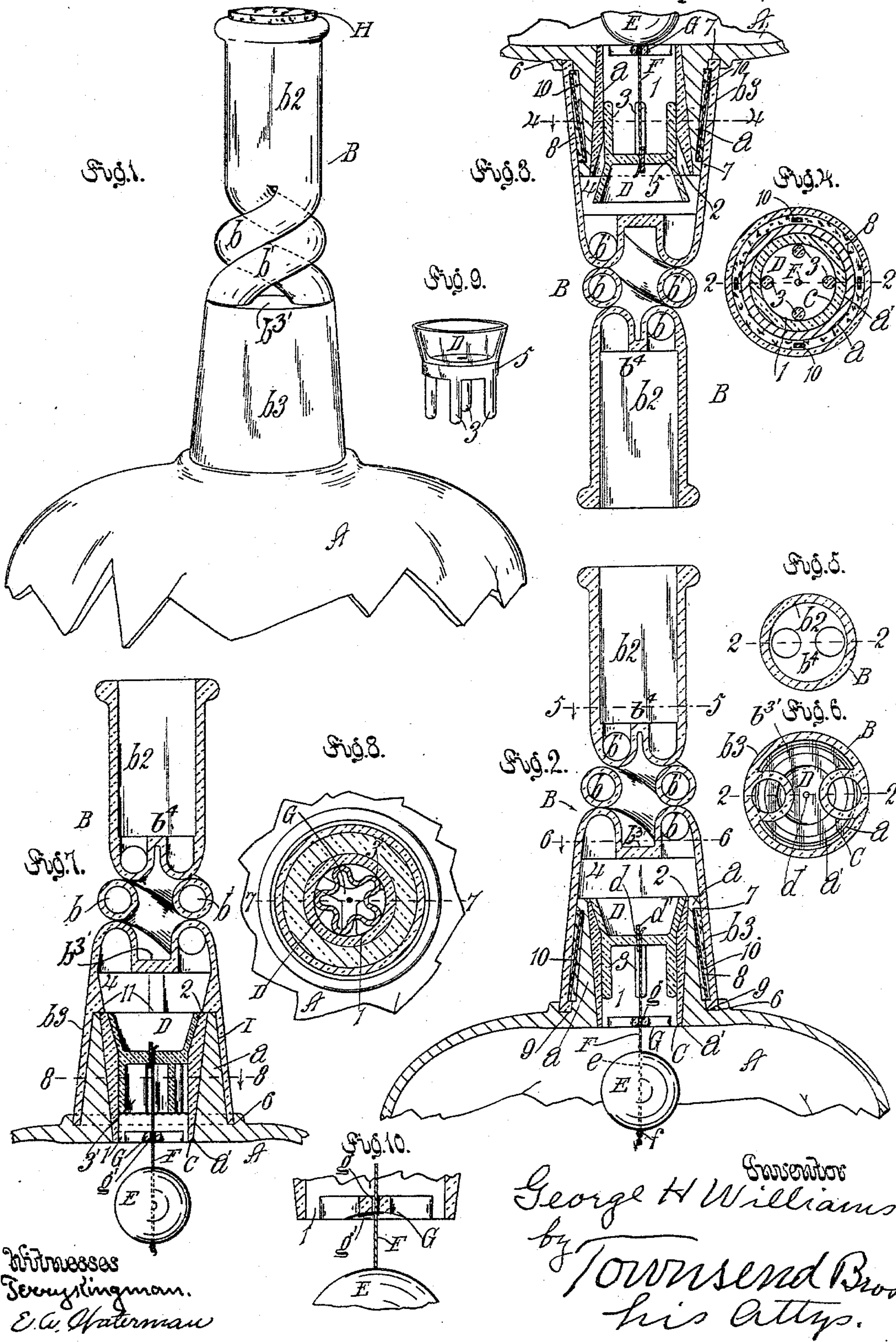


(No Model.)

G. H. WILLIAMS.
NON-REFILLING BOTTLE.

No. 602,811.

Patented Apr. 19, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. WILLIAMS, OF LOS ANGELES, CALIFORNIA.

NON-REFILLING BOTTLE.

SPECIFICATION forming part of Letters Patent No. 602,811, dated April 19, 1898.

Application filed October 25, 1897. Serial No. 656,360. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. WILLIAMS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Non-Refilling Bottle, of which the following is a specification.

My invention relates to that class of bottles designed for the sale of liquid condiments, special brands of liquors, and other liquids and designed to prevent the refilling of the bottles containing such liquids, so as to insure to the customer the brand of liquid intended to be bought and also to protect the dealer against unfair competition and damaging sales of inferior goods under his brand by preventing others from refilling the bottle which bears his mark.

The object of my invention is to provide superior, satisfactory, and absolutely-effective means for affording the designed protection.

My invention embraces a bottle having a coiled neck and a liquor-intercepting device between the coil and the body of the flask.

It also embraces other features, parts, and combinations hereinafter set forth.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of the upper portion of a flask embodying my invention. Fig. 2 is a vertical mid-section on line 2 2, Figs. 4, 5, and 6. Fig. 3 is a vertical mid-section showing the bottle inverted. Line 2 2, Figs. 4, 5, and 6, indicates the line of section. Fig. 4 is a plan section on line 4 4, Fig. 3. Fig. 5 is a plan section on line 5 5, Fig. 2. Fig. 6 is a plan section on line 6 6, Fig. 2. In this view the top of the stopper is seen through the glass which closes the space inside the neck around the mouths of the coils. Fig. 7 is a vertical mid-section on line 7 7, Fig. 8, showing a modification. Fig. 8 is a plan section on line 8 8, Fig. 7. Fig. 9 is a perspective view of the stopper. Fig. 10 is a fragmental detail of the rest and guide for the weight and its flexible connection.

A indicates the body of the flask; B, the coiled neck. The coiled portion of the neck is composed of two tubular coils $b\ b'$. The flask A is provided with a nipple a , having a tapering opening a' therethrough.

C is a valve-seat bushing to seat in the tapering opening and provided with a cylindrical passage 1, having a flaring mouth 2, forming a flaring passage leading from the flask.

D is a tapering stopper to fit the flaring mouth of the valve-seat and having guides 3 within the cylindrical portion of the passage to hold the stopper true with relation to its seat when the stopper moves in and out of the seat.

E is a weight inside the flask and connected with the stopper by a flexible connection F, which is preferably a thread of silk, cotton, or other suitable material, passed through a hole d in the stopper, at the axis thereof, and fastened by a pin d' , while the other end is passed through a hole e in the weight and is fastened by a knot f .

G is a guide at the inner end of the valve-seat for the flexible connection. The neck has a cork seat b^2 at one end and a nipple-socket b^3 at the other end, its intermediate portion being formed of two tubular coils, a space 4 being provided between the valve-seat and the mouths of the coils, when the parts are assembled, for the play of the stoppers, so that when the flask is inverted the stopper can fall out of the flaring or tapering passage or mouth 2 and yet leave a passage between such mouth and the mouths of the coils, means being provided for preventing the stopper from closing the outlet through the neck. By preference the said means consist of the flexible connection F between the stopper and the weight inside the flask, the same being only of sufficient length to allow the stopper to fall far enough to open a free passage for the liquid, but to hold the stopper suspended above the mouths of the coils; but any form of construction can be employed which will allow a free passage for the liquid when the stopper falls out of the seat 2 by reason of the bottle being inverted.

b^3 indicates the closed top or cap of the nipple-socket, through which cap the tubes of the coils open into the space 4.

b^4 indicates the bottom of the cork-socket, through which the tubes of the coils open.

The weight E is preferably a sphere, thereby being of such form at the portion which engages the guide G as to cause the weight

to readily roll away from the guide at the moment the flask is turned on its side, thus to draw the stopper back to seat in the flaring mouth. The guide G is provided with a slight cavity or recess g' to hold the weight steady when the flask is inverted for pouring.

The stopper has a short cylindrical extension or portion 5 below the tapering portion to fit the cylindrical portion 1 of the passage in the valve-seat, so that when the valve or stopper D has partially seated, but the tapering portion is not in engagement with the flaring portion of the seat, there is no opening for the passage of liquid between the stopper and the cylindrical portion 1 of the valve-seat passage.

Each of the two coils makes one complete turn, so that the two coils form two traps when the flask is horizontal. When the flask is inverted, as shown in Fig. 3, (the cork H being removed,) the liquid will flow out through the passage 1 2 4 and through the neck and out at b^2 . The upper portion of the stopper D is hollow and is the frustum of a cone and fits the tapering passage. The tapering hollow stopper, open at the top and seated in the passage and arranged to play axially therein, is especially adapted to catch the return liquor when the flask is returned to an upright position, thus assisting in seating the stopper. The coils effectually prevent the use of any tools to tamper with the stopper.

The neck may be fastened on the nipple by any suitable means, such as cement at I, Fig. 7.

6 indicates an annular socket around the nipple to seat the lower end of the nipple-socket b^3 , and in practice the neck may be fastened on the nipple by cement, or it may be fastened on the nipple by the appliance shown in Figs. 2 and 3, in which the nipple has a projecting shoulder 7. An elastic packing, such as the cork jacket 8, is fitted around the nipple between the shoulder and the body of the flask. The socket of the neck is provided with an inwardly-projecting shoulder 9, and braces 10 are seated in the packing between the shoulders and, extending diagonally through the packing, are seated against the shoulders 7 and 9. As many of these braces may be provided as may be desired. In the process of making, the upper ends of the braces are inserted, slanting up through the packing until they engage the shoulder 7. Then when the bottle is filled the socket is pushed down over the packing until the shoulder 9 passes the lower ends of the braces, which then spring out to engage said shoulder 9 and prevent removal of the neck. The packing prevents leakage.

In practice the flask will be filled while the neck is removed. The flexible connection F will be passed through the hole g in the brace G and will be fastened at its opposite ends to the stopper and the weight. Then the weight will be inserted into the flask through the opening a' in the nipple. In case the valve-

seat bushing C fits the opening a' perfectly it may not be necessary to fasten it in place, friction being sufficient to hold it; but, if desired, it may be cemented in place or fastened by the lugs 11, projecting inward from the neck, as indicated in Fig. 7. After the valve-seat bushing with its stopper is thus in place the neck is brought into place with its socket over the nipple, cement being first applied if the form shown in Fig. 7 is used, or if the form shown in Fig. 2 is used the elastic packing and the springs 10 are depended upon for preventing leakage and preventing the removal of the neck without breaking. Then the cork H is inserted in the socket b^2 and the flask is ready for the trade.

When it is desired to pour liquid out of the flask, the cork H is removed, the flask is inverted, and the liquid allowed to flow out through the neck. If the valve sticks, it may be loosened by a slight shake. The liquid, after it has started, will flow out through the neck until the flask is emptied or turned from the vertical. When turned from the vertical, the weight E falls away from the guide and draws upon the flexible connection F and immediately draws the valve back to close the passage 1 and, when fully seated, the flaring mouth 2.

The guides for the stopper may be legs 3, as shown in Figs. 2 and 3, or the inner end of the stopper D may be ribbed or corrugated, as at 3', Figs. 7 and 8.

The purpose of using a bushing C at the valve-seat is to allow the use of a large round weight, so that the weight can be a ball of glass and yet be heavy enough to seat the stopper readily. If a weight having a diameter less than the smallest diameter of the stopper is used, the separate bushing can be dispensed with, because the weight can then be inserted through the hole in which the stopper seats.

The hollow glass stopper is light, so that it will yield readily to the weight of the liquid when the flask is inverted.

When the bushing C is seated in the nipple, it practically constitutes a portion of the nipple, and the passage through the valve-seat is therefore a passage through the nipple.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A flask having a coiled neck and having a liquor-intercepting device between the flask-body and the coil of the neck.

2. A flask having a portion of its neck composed of two tubular coils and having a liquor-intercepting device between the flask-body and the said coils.

3. The bottle set forth comprising the flask provided with a tapering passage leading therefrom, the tapering hollow stopper open at the top, seated in the passage and arranged to play axially therein; and the coiled neck leading from the tapering passage.

4. The bottle set forth comprising the flask provided with the nipple having the inwardly-tapering passage; the stopper consisting of the frustum of a cone seated in the tapering passage and adapted and arranged to play axially therein; and the separate coiled neck provided with a socket fastened upon the nipple substantially as set forth.

5. The bottle set forth comprising the flask provided with a tapering passage leading therefrom; the tapering hollow stopper open at the top and seated in the passage and arranged to play axially therein; the coiled neck leading from the tapering passage; and means for preventing the stopper from falling sufficiently to close the outlet through the neck when the bottle is inverted.

6. The combination of the flask provided with a nipple having an outwardly-projecting annular shoulder; an elastic packing around the nipple between the shoulder and the body of the flask; a neck provided with a socket fitted upon the nipple and provided with the inwardly-projecting shoulder; and the brace seated in the packing between the shoulders and extending diagonally through the packing and seated against the shoulders.

7. The combination of the flask-body with tapering passage leading therefrom; a tapering stopper seated in the passage and arranged to play axially therein; the neck comprising two tubular coils leading from the tapering passage; and a weight inside the flask-body and connected with the stopper by a flexible connection.

8. The combination of the flask-body with a nipple having a tapering opening there-through; a valve-seat to seat in the tapering opening and provided with a cylindrical passage having a flaring mouth; a tapering stopper to fit the flaring mouth and having guides within the cylindrical portion of the passage; a weight inside the flask and connected with the stopper by a flexible connection; a guide at the inner end of the valve-seat for the flexible connection; and a neck comprising two tubular coils leading from the tapering passage.

9. The neck with a stopper-seat at one end; a nipple-socket at the other end and an intermediate portion formed of two tubular coils.

10. The combination of the flask having a nipple with flaring opening therein; a valve-seat having a cylindrical passage with flaring mouth and seated in the flaring opening; a neck having a stopper-seat at one end; a nipple-socket in the other end to fit the nipple; an intermediate portion formed of two tubular coils, and within the socket, lugs to fit upon the valve-seat and a space between the valve-seat and the mouths of the coils for the play of the stopper; a weight inside the flask; a flexible connection connecting the weight with the stopper; and a support for said connection and to retain the weight in the flask.

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Witnesses:

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