

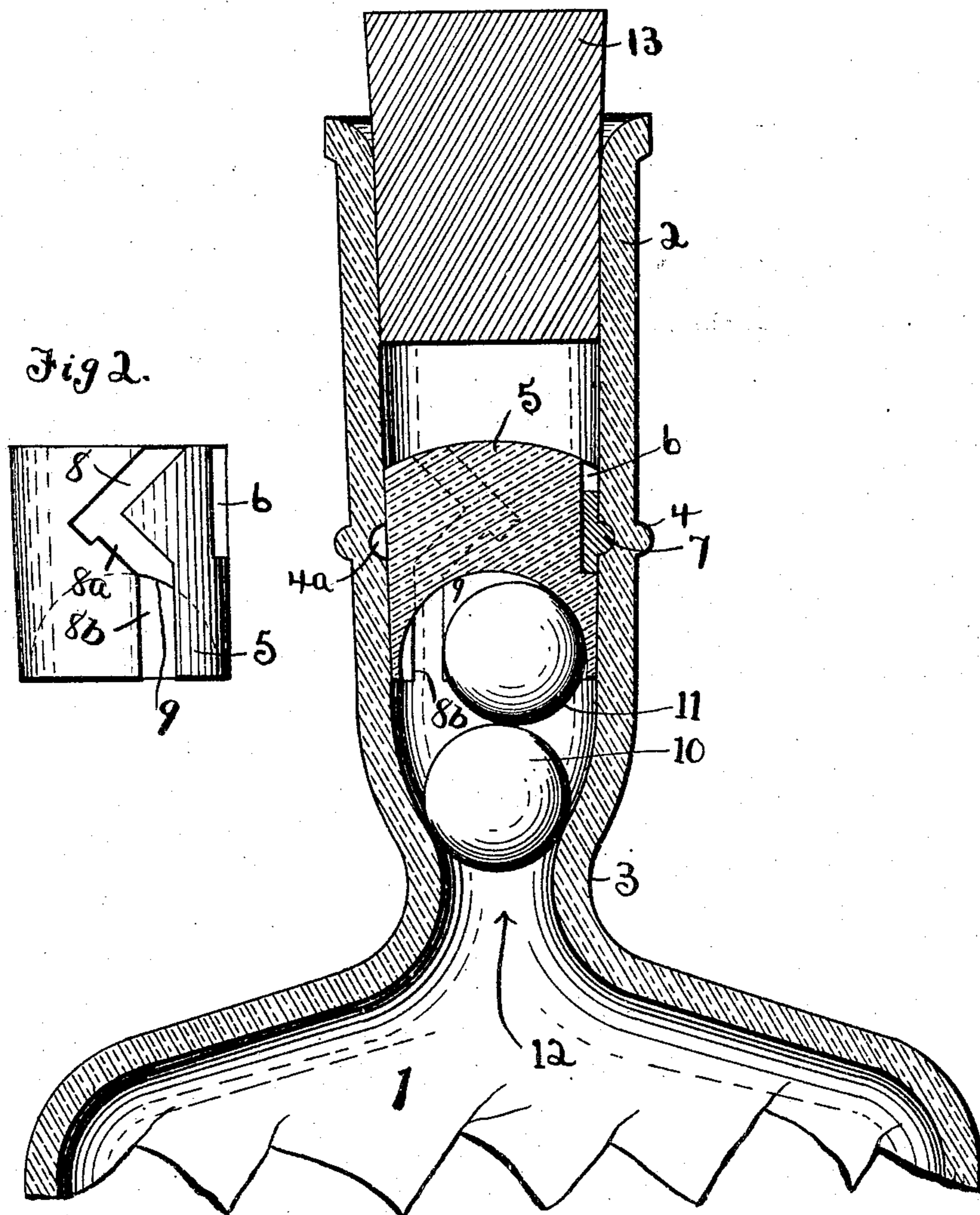
No. 775,650.

PATENTED NOV. 22, 1904.

W. B. HARGAN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JAN. 25, 1904.

NO MODEL.

Fig 1.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM B. HARGAN, OF SAN FRANCISCO, CALIFORNIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 775,650, dated November 22, 1904.

Application filed January 25, 1904. Serial No. 190,564. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. HARGAN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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, reference being had to the accompanying drawings and numerals of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a stopping means for the necks of bottles and similar vessels which may be applied or inserted in the neck of the bottle after it has been filled and which will allow the contents of the bottle to be emptied, but will not permit of its being refilled either by ordinary means or by force pressure, seepage, or immersion; and with this object in view I have constructed a bottle of this nature, which will be fully described in this specification and shown in the accompanying drawings, in which—

Figure 1 is a vertical section through the center of the neck of my improved non-refillable bottle. Fig. 2 designates a glass plug.

Similar numerals of reference indicate corresponding parts in both views.

1 designates a bottle or similar vessel.

2 designates the neck of the bottle. Said neck gradually narrows toward the lower end thereof for the purpose as will be shown.

3 is a contracted portion of the neck 2 at the outlet of said neck into the bottle proper, 1.

4 is a protruding ring in the neck 2 at a point preferably a little below the middle of said neck. Said ring 4 forms in the neck 2 a groove or channel 4^a.

5 is a plug made, preferably, of glass.

6 is a slot in the side of said plug 5, extending downwardly from the top thereof to any desired depth.

7 designates hard cement.

8 designates a slot of suitable depth located in the side of the plug 5 and extending at an acute angle from the top thereof. 8^a is a slot

of any desired length or depth extending at right angles from the slot 8 at a point slightly above the lower end of said slot 8. 8^b is a slot extending at right angles from the bottom of the plug 5 in the side thereof and connecting with the slot 8^a. Said slots 8 8^a 8^b form a vent or outlet in the plug 5, and two or more will be used.

9 is a socket hollowed out in the bottom of the plug 5.

10 is a glass ball-valve adapted to be seated in the contracted portion of the neck 3 just above the outlet or inlet 12, between the contracted portion 3 of the neck 2 and the bottle proper, 1. 11 is similar glass ball, adapted to act in the socket 9 and regulate the valve 10, all as will be fully hereinafter described.

13 is an ordinary stopple or cork.

The operation of my improved non-refillable bottle is as follows: The bottle is filled with the material desired. The balls 10 and 11 are then dropped into the neck thereof. The plug 5 is pushed into the neck 2 until the bottom of the slot 6 is below the slot 4^a and the ball 11 is partly inclosed in the socket 9. A sufficient amount of cement is then dropped into the slot 6 to fill that part of the slot 4^a which is exposed to the slot 6. This cement hardens, and the plug is thus permanently secured in the neck 2. Any stopple 13 may be inserted in the neck of the bottle at the top thereof. When it is desired to remove the contents of the bottle, the stopple 13 is removed and the bottle inverted. The ball 11 then rolls down into the socket 9 and allows the ball 10 to drop from the seat in the contracted portion 3 of the neck 2. The liquid in the bottle will then flow through the outlet 12, past the balls 10 and 11 and through the vents 8 8^a 8^b, and thence out of the neck of the bottle.

It will be readily seen that if any person should try to refill the bottle by the ordinary means that the glass ball-valve 10 would prevent any liquid from passing through the inlet into the bottle.

If it is attempted to half fill the bottle by immersing it on its side and allowing the liquid to seep in, the ball 11 rolls down the curved side of the socket 9 and automatically

closes the inlet 12 by forcing the glass ball-valve 10 against the contracted portion 3, and thus the attempt would be in vain.

If force pressure is used, the glass ball-valve 5 10 is simply more tightly secured in its seat.

The reason for having the irregular vents 8 8^a 8^b is as follows: A person in trying to refill the bottle might attempt to insert a flexible wire through the vents and force it between the ball-valve 10 and the contracted portion 3 of the neck 2, and thus form an opening through which the liquid might pass. In my bottle this cannot be done, because when the wire is inserted in the slot 8 and strikes 15 the bottom thereof and bends it cannot enter the slot 8^a, because the same enters the slot 8 above the bottom thereof, and thus the attempt is foiled.

I have the neck 2 of my bottle narrowing 20 slightly toward the bottom, so that the plugs made to fit at a certain point will not catch above that point, as might be the case if the neck was the same width all the way down.

I have described the plug 5 as being made 25 of glass. It may, however, be made of ivory or any other suitable material, though glass is preferable.

In practice a pear-shaped glass or cork float-valve may be used in place of the glass ball-valve 10; but for all practical purposes I prefer 30 the said glass ball-valve.

In Fig. 1 I have shown the plug 5 as having a curved top, while in Fig. 2 it is shown with a flat top. Either style may be used, 35 but the curved top is preferable.

Although I have shown but one slot 6, still any desired number may be used.

The slot 6, though shown straight, may be of any shape desired.

40 I have entered into a detailed description of

the construction and relative arrangement of parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific arrangement and construction of parts, as such changes and modification may be made in practice as fairly fall within the scope of my claim. 50

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

A bottle provided with a neck having a contracted portion at its junction with the body 55 of the bottle forming a valve-seat, and having an interior annular groove located approximately midway the length of the neck, combined with a plug adapted to fit in the bottle-neck and having a vertical slot in the periphery registering with the annular groove in the bottle-neck to receive a securing means, said plug having a concave seat in its lower end, and having one or more tortuous vents in its side, each of said vents embodying registering slots the intermediate one of which extends at right angles to the uppermost slot and registers therewith at a point above the lower end of said uppermost slot, a ball-valve seated on the seat in the bottle-neck, and a 70 controlling-weight mounted on said ball-valve and received in the concave lower end of the plug, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 75

WILLIAM B. HARGAN.

Witnesses:

PERCY S. WEBSTER,
JOSHUA B. WEBSTER.