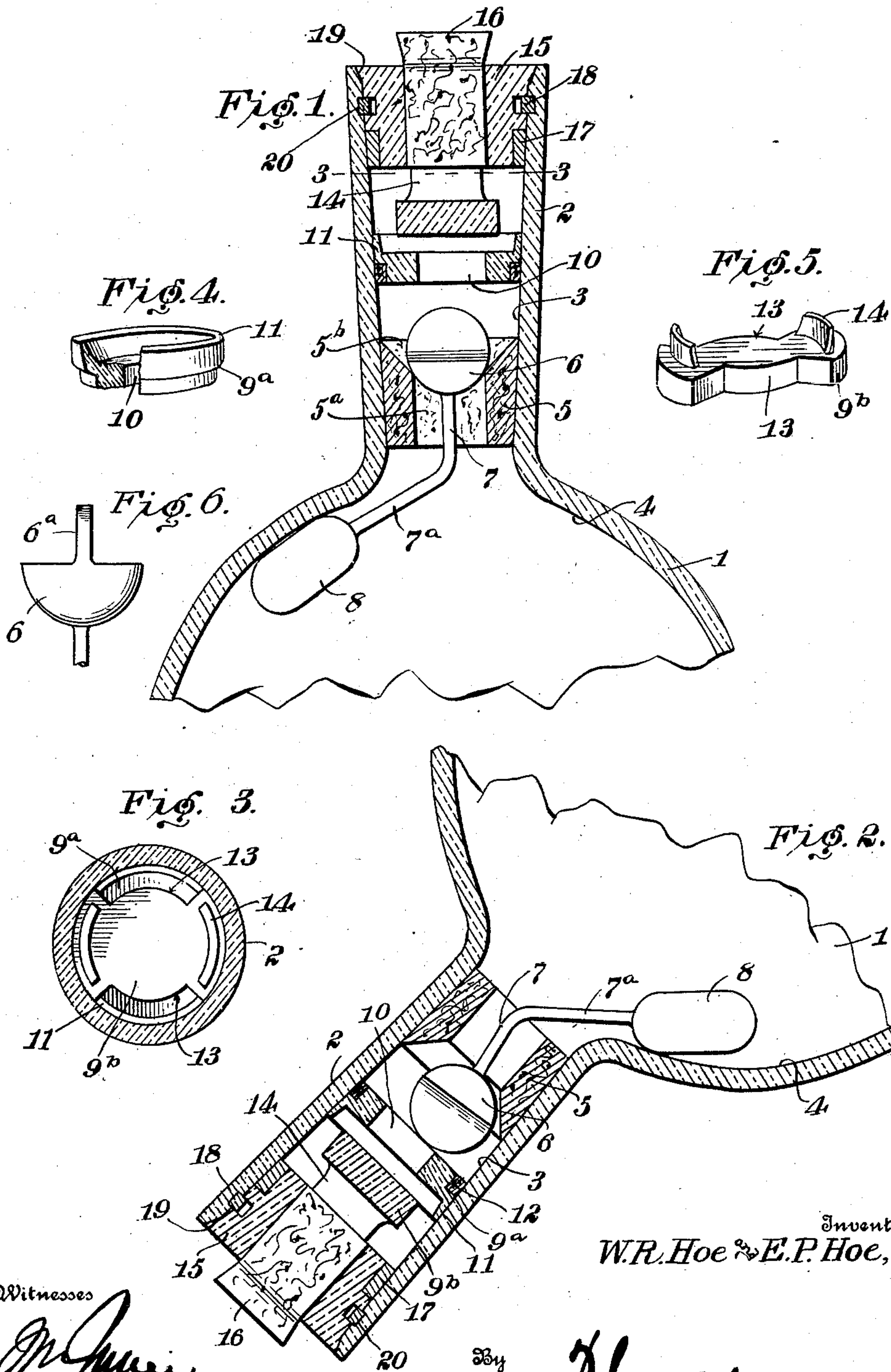


W. R. & E. P. HOE.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JULY 27, 1908.

967,771.

Patented Aug. 16, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER R. HOE AND EDWARD P. HOE, OF AVONMORE, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

967,771.

Specification of Letters Patent. Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that we, WALTER R. HOE and EDWARD P. HOE, citizens of the United States, residing at Avonmore, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The present invention relates to certain new and useful improvements in non-refillable bottles, and the object of the invention is the provision of a device of this character embodying a novel construction for preventing goods of an inferior nature being substituted for the original contents of a bottle or like receptacle after the said original contents have been withdrawn.

The invention further contemplates the provision of a novel valve mechanism which can be readily inserted in the neck of the bottle after the initial filling thereof and which will prevent the contents of the bottle from being withdrawn when the bottle is tilted into a horizontal position.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a vertical sectional view through a bottle constructed in accordance with the invention. Fig. 2 is a similar view showing the bottle in an inverted position. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail view of the lower section of the baffle member, portions being removed. Fig. 5 is a similar view of the upper section of the baffle member. Fig. 6 is a side elevation of the valve proper.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates the body portion of a bottle or similar necked receptacle and 2 the neck thereof, the interior walls of the neck being flared outwardly at 3 and the interior walls of the body portion being inclined outwardly away from the neck as indicated at 4. Fitted removably within the neck 2 at the base thereof is a valve seat 5 which is designed to cooperate with a valve 6 to prevent any liquid being forced into the bottle and at the

same time admit the contents of the bottle to be withdrawn when the bottle is inverted. This valve seat 5 is in the nature of a plug of cork or similar material that is of frusto-conical form and frictionally engages the flared walls of the neck, the valve seat being provided with a central opening 5^a that is flared at its upper end, as indicated at 5^b. The valve 6 has a semi-spherical formation and is formed with an upwardly projecting transverse flange 6^a, and pendent from this valve is a stem 7 which passes through the central opening 5^a of the valve seat and has the lower end thereof deflected laterally at 7^a. Applied to the extremity of the valve stem is a weight 8 which normally engages the inclined portion 4 of the inner walls of the receptacle. When the receptacle is tilted to a horizontal position the weight 8 has a tendency to slide downwardly upon the inclined wall 4 of the body portion and thereby draws the valve against its seat so as to prevent any outflow of the liquid contents of the receptacle. However, when the receptacle is inverted it will be obvious that the weight 8 will slide downwardly upon the inclined wall 4 and will permit the valve to drop away from its seat so that the liquid will flow out through the neck 2.

Arranged within the neck 2 at an intermediate point in the length thereof is a baffle member which is formed of glass or similar material and comprises two independent plates 9^a and 9^b. The lower plate 9^a is wedged in position in the bottle neck in spaced relation to the valve seat and is provided with a central opening 10 and also with an outwardly projecting peripheral flange 11 which surrounds the central opening and engages the interior walls of the neck. It will also be observed that the inner or lower edge of the plate 9^a is rabbeted or cut-away to receive a packing ring 12 which serves to prevent any liquid from leaking around the edges of the baffle member. The upper plate 9^b of the baffle member fits against the peripheral flange 11 of the lower plate and is formed in its margin with oppositely located segmental cut-away portions 13 which are out of alinement with the opening 10 of the lower plate. In this manner the liquid flowing through the baffle member is caused to follow a tortuous path and all danger of tampering with the valve member from the exterior of the bottle is eliminated. The plate 9^b is also formed

intermediate of the cut-away portions with the upward projections 14 which engage the inner end of a frusto-conical shell 15, the said tubular shell being mounted in the mouth of the bottle and being designed to receive the usual cork or stopper 16. The inner end of the tubular shell 15 is cut-away to receive the packing ring 17 while the middle portion of the shell is formed with an annular groove receiving the split ring 18. This ring 18 is formed of spring material and when the tubular shell is being inserted in the neck, the ring is compressed by the flared walls 19 at the mouth of the neck. However, when the tubular shell has reached its final position the ring 18 expands and engages an annular groove 20 in the neck, thereby locking the tubular shell against withdrawal. The lugs 14 upon the baffle member serve to engage the inner end of the tubular shell so as to hold the said members in a properly spaced position and when the bottle is in an upright position the valve rests upon its seat so that no liquid can enter the bottle, any tampering with the valve being prevented by the baffle member which is locked in position by the tubular shell. When the bottle is inverted however, the valve drops away from its seat and the liquid within the bottle can flow outwardly through the valve seat and through the tortuous paths provided by the baffle member, the transverse flange 6^a projecting from the outer face of the semi-spherical valve being of greater length than the diameter of the central opening 10 and abutting against the inner end of the baffle member 9^a on opposite sides of said opening to prevent the valve from closing the same.

Having thus described the invention, what is claimed as new is:

1. The combination of a necked vessel provided at the base of its neck with a valve seat, a baffle member secured across the neck in outwardly spaced relation to the valve seat, the baffle having an opening extending therethrough, a valve confined within the neck between the inner end of the baffle and the valve seat, a stem extending inwardly from the valve, and a weight secured to the stem for normally maintaining the valve closed against its seat, the valve having a substantially flat outer face and being formed at such outer face with an outstanding flange adapted to abut against the inner end of the baffle when the valve moves away

from its seat, whereby to prevent the valve from closing the opening through the baffle.

2. The combination of a necked vessel provided at the base of its neck with a valve seat, a baffle secured across the neck in outwardly spaced relation to the valve seat, the baffle having an opening extending therethrough, a semi-spherical valve confined within the neck between the valve seat and the inner end of the baffle, a stem extending inwardly from the valve opposite to the flat face thereof, and a weight secured to the stem for normally maintaining the valve closed against its seat, the valve being formed at its flat outer face with an outstanding transverse flange of greater length than the diameter of the inner end of the opening through the baffle, the flange being arranged to abut against the inner end of the baffle when the valve moves away from its seat, whereby to prevent the flat outer face of the valve from closing the opening.

3. The combination of a necked receptacle provided at the base of its neck with a valve seat, a baffle secured across the neck in outwardly spaced relation to the valve seat, the baffle having a tortuous passage extending entirely therethrough and opening centrally through the inner end thereof, a valve of less diameter than the internal diameter of the neck and confined therein between the valve seat and the inner end of the baffle, a stem extending inwardly from the valve, and a weight secured to the stem to normally maintain the valve closed against its seat, the valve having a substantially flat outer face and being formed at said face with an outstanding transverse flange of greater length than the diameter of the inner end of the passage through the baffle, the flange being arranged to abut against the inner end of the baffle when the valve moves outwardly away from its seat to prevent the valve from closing said passage, the flange being of substantially semi-circular form whereby to center the valve with respect to the passage.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER R. HOE. [L. S.]
EDWARD P. HOE. [L. S.]

Witnesses:

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