No. 635,335. Patented Oct. 24, 1899.

E. R. MEYER.

DEVICE FOR PREVENTING FRAUDULENT REFILLING OF BOTTLES.

(No Model.) (Application filed Aug. 20, 1895. Renewed Mar. 23, 1899.)

Fig. 1

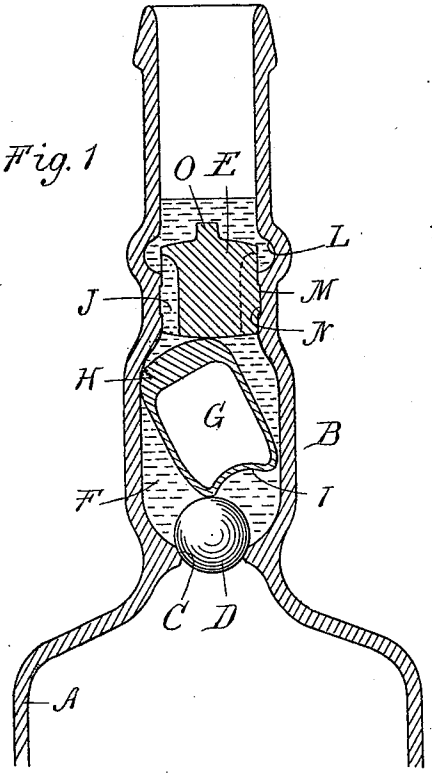


Fig. 2

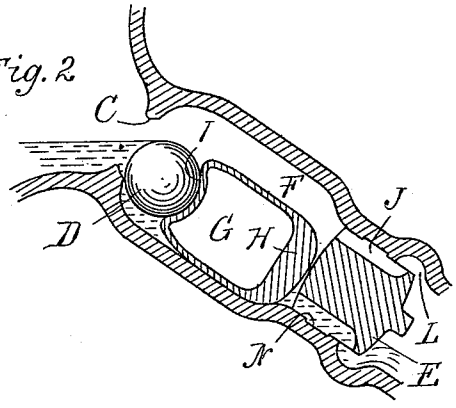


Fig. 3

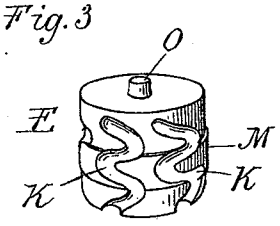


Fig. 4

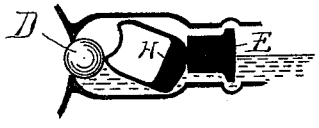
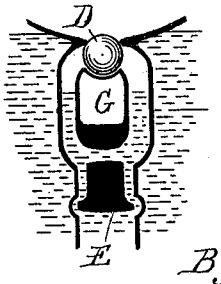


Fig. 5



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UNITED STATES PATENT OFFICE.

ERNST R. MEYER, OF DETROIT, MICHIGAN.

DEVICE FOR PREVENTING FRAUDULENT REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 635,335, dated October 24, 1899.

Application filed August 20, 1895. Renewed March 23, 1899. Serial No. 710,251. (No model.)

To all whom it may concern:

Be it known that I, ERNST R. MEYER, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Devices for Preventing the Fraudulent Refilling of Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists, first, in the peculiar construction and arrangement of the float; further, in the peculiar construction of the baffle-plug, and, further, in the peculiar construction, arrangement, and combination of parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical central longitudinal section through a bottle provided with my device, showing the parts in the position which will be assumed when an attempt is made to refill the bottle. Fig. 2 is a similar section showing the bottle as being emptied. Fig. 3 is a perspective view of the baffle-plug. Figs. 4 and 5 are diagrams showing the bottle in different positions.

A is a bottle, and B is the neck thereof.

C is a valve-seat formed at the lower end of the neck.

D is a valve, preferably of spherical form, adapted to rest upon said seat in the upright position of the bottle.

E is a baffle-plug located in the neck of the bottle some distance above the valve, so as to form between the chamber F, sloping down at its lower end to the valve-seat C.

G is a cylindrical or oblong float in the chamber F, provided with a weighted upper end H and preferably having the recess I in its lower end. This float is of such proportions that when in its central position, with the end H touching the baffle-plug E, there will be space for the valve D to open sufficiently to allow the liquid in the bottle to escape; but when the float is turned to an inclined position the valve will be tightly wedged to its seat.

The baffle-plug E is of cylindrical form and imperforate at its upper end, being provided with side channels extending from its lower end to near the top, which may be either straight, as shown at J in Figs. 1 and 2, or zigzag, as shown at K in Fig. 3.

L is an annular recess formed in the neck opposite the upper end of the plug E. In order to securely fasten this plug in the neck of the bottle, I make the inside diameter of the latter above the chamber F exactly the size of the body portion of the plug and provide the plug with a shoulder (preferably the annular ring M) of slightly-greater diameter and adapted to fit in a corresponding recess N formed in the neck. After the bottle is filled and the valve and float are placed in the chamber F, to place the plug in position it is necessary to first heat the neck of the bottle, thereby expanding it sufficiently to permit of the shoulder M passing therethrough. The plug is then placed in its position in the neck, the nipple O forming a convenient hold for the instrument with which it is introduced. When the neck has contracted again, it will be impossible to extract the plug.

When it is desired to pour out the contents of the bottle, it is turned into the position shown in Fig. 2, in which position the valve D drops into the recess I, allowing the liquid to pass out through the chamber F, the channels J, and annular channel L. If now an attempt is made to refill the bottle by turning it into an upright or inclined position, as soon as the liquid reaches the chamber F the lower end of the float will tend to rise, while the weighted upper end will tend to fall, the combined action turning the float at an angle which wedges the valve against its seat, as shown in Fig. 1. When in this position, it will be impossible to get any liquid past the valve or to change the position of parts until the liquid is again poured out from the chamber F.

The baffle-plate effectually prevents the introduction of any instrument into the chamber F, as the upper end of the plug is imperforate and it would be difficult or impossible to pass the instrument around the annular chamber L and channels J. This is rendered still more difficult if the zigzag channels K are used, as shown in Fig. 3.

In Fig. 4 I have shown the operation of the device when the bottle is in a horizontal position and an attempt is made to refill it, as by immersing it into a vessel containing the liquid. In this position, the weighted end of the float being heavier than the valve, the latter will be lifted to its seat.

In Fig. 5 the bottle is shown bottom side up and immersed in the liquid. Here the valve is lifted bodily to its seat by the float.

What I claim as my invention is—

1. In a bottle, a valve-seat formed in the neck thereof, a valve therefor, a baffle-plug some distance above said seat forming a chamber between, and a float in said chamber weighted at its upper end and adapted when turned in an inclined position in the chamber to wedge the valve to its seat, substantially as described.

2. In a bottle, a valve-seat in the neck thereof, a valve therefor, a baffle-plug secured in the neck above the valve, and a weighted float between the valve and plug, adapted to seat and hold the valve to its seat in different positions of the bottle, substantially as described.

3. In a bottle, a valve-seat formed in the neck thereof, a baffle-plug some distance above said seat forming a chamber between, a float in said chamber having a socket at its inner end and weighted at its outer end, and a ball-valve between said float and valve-seat, of lesser weight than the weighted end of the float, and adapted to be forced to its seat by the lifting of the inner end of said float, substantially as described.

4. In a bottle, a valve-seat formed in the neck thereof, a valve therefor, a baffle some distance above said seat, a float between the baffle and the valve adapted when the bottle is in an inclined position to wedge the valve to its seat.

In testimony whereof I affix my signature in presence of two witnesses.

ERNST R. MEYER.

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