

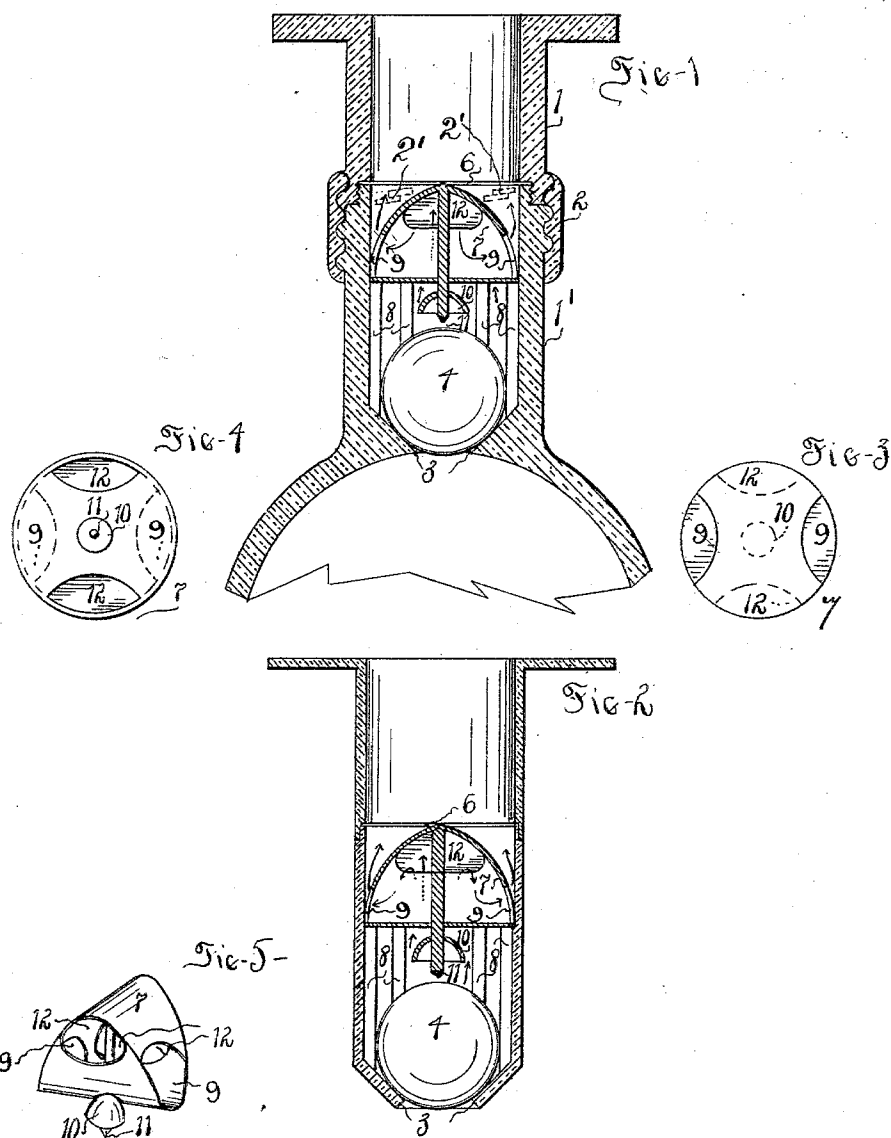
(No Model.)

W. H. PAYNE.

DEVICE FOR PREVENTING BOTTLE REFILLING.

No. 566,720.

Patented Aug. 25, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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DEVICE FOR PREVENTING BOTTLE-REFILLING.

SPECIFICATION forming part of Letters Patent No. 566,720, dated August 25, 1896.

Application filed May 25, 1895. Serial No. 550,687. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PAYNE, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Devices for Preventing the Clandestine Refilling of Bottles; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to devices for preventing the clandestine refilling of bottles by unauthorized persons, and has for its object the furnishing of a cheap and effective means of preventing such refilling without detection; and to this end it consists of a valve-seat and a valve opening automatically outwardly from the bottle and automatically closing against ingress thereto and in a guard preventing access to the valve, but permitting egress of liquid from the bottle. The invention further embraces means of guiding the valve to and from its seat and of securing the guard in the neck of the bottle or in tubes or sleeves applicable to the bottle-necks.

The construction and operation of this invention are hereinafter fully described, and shown in the accompanying drawings, in which—

Figure 1 shows a vertical section of a bottle-neck with this invention applied thereto. Fig. 2 is a vertical section of a tube containing this invention applicable to bottle-necks. Fig. 3 is a detached top view of the guard. Fig. 4 is a lower detached view thereof. Fig. 5 is a perspective view thereof.

1 represents the upper part of the bottle-neck, attached to the lower part 1' by any known means, such as internal or external screw-threads and a nut 2, or a segmental screw-thread or interlocking projections and cement, or by cement alone, all of which excepting the last named are shown in the drawings. A valve-seat 3 is formed in the lower part of the neck, in which a ball-valve 4 fits. Guides 8 are formed on the inside of the neck 1', which support the ball 4 in position concentric with the valve-seat 3 as it opens and closes in the seat 3.

6 is a groove formed in the joint between the parts 1 and 1'.

7 is the guard, formed preferably of china, porcelain, or glass, both on account of having thoroughly innocuous properties and also as frangible, although metal, such as block-tin, silver-plated copper or brass, or aluminium may be used. The upper edge of the guard 7 is held in the groove 6. In plan view the guard 7 is circular. In side view in one direction it resembles a gothic arch, as shown in Figs. 1 and 2, with an opening or channel 12 extending across it near the crown, and in a view at right angle to this it resembles an inverted gothic arch with a channel 9 below and at right angles to the channel 12. The under side of the guard 7 has formed on it a small inverted cup 10, having a thin-edged rim and a central projection 11 extending below the rim of the cup, the function of which projection being to limit the extent of opening movement of the valve 4 and to present the smallest surface for any adhesive liquid to make contact with the ball. The cup 10 serves to deflect any liquid poured into the bottle-neck from the projection 11.

The course of liquid when poured from the bottle containing this device is between the ball 4 and guides 8, through the channel 12, thence through the channel 9, and out through the neck 1, as shown by the arrows in Figs. 1 and 2.

The form of the guard 7 prohibits the introduction of wires or other objects to reach the valve, and if any force is applied the guard 7 is bent or broken and leaves evidence of tampering with the bottle.

Having described my invention and the mode of making and using the same, what I claim is—

1. In a device for preventing the clandestine refilling of bottles, a valve-seat and valve opening upwardly in the neck of a bottle, or in a tube applicable thereto, and guides supporting said valve in axial line with the valve-seat, in combination with a guard having two communicating transverse channels therein, located one above the other, the ends of the upper channel opening into

the lower part of the bottle-neck, and the end of the lower channel opening into the upper part of the bottle-neck, substantially as shown and described.

- 5 2. In a device for preventing the refilling of bottles, a bottle-neck, or tube applicable thereto, formed in two parts, with an internal groove between said parts, means of uniting
10 said parts, a valve-seat formed in the lower part, and a valve, in combination with a guard, having transverse communicating channels arranged one above the other as described and shown, engaged in and secured by said groove, substantially as set forth.
- 15 3. In a device for preventing the refilling of bottles, a valve-seat and a spherical valve opening outwardly in combination with a superposed guard, having communicating transverse channels arranged one above the other
20 as described, and a central projection to limit the opening of the valve, substantially as set forth.

4. As an article of manufacture, guards

having intercommunicating channels at right angles to each other, a circular contour in a projection in a plane parallel to said channels, and beveled sides, whereby during egress through such channels, a double reversal of direction of flow is enforced, substantially as set forth.

5. A guard, adapted to fit in the necks of bottles, or in a tube applicable thereto, provided with a valve having intercommunicating channels at right angles to each other in different planes, and beveled upon the edges, so as to require a double reversal of flow for egress, and provided with a projection and inverted cup, adapted to restrict the opening motion of a valve and protect such projection from contact and adherence of cohesive fluid, substantially as set forth.

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Witnesses:

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