

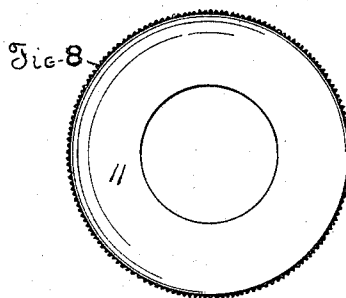
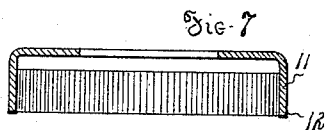
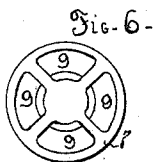
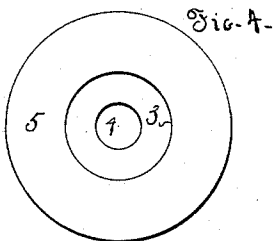
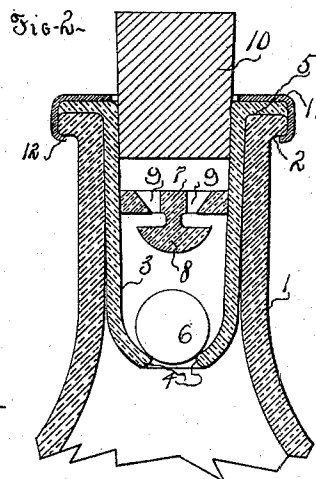
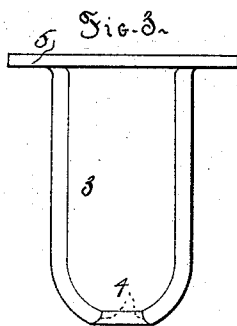
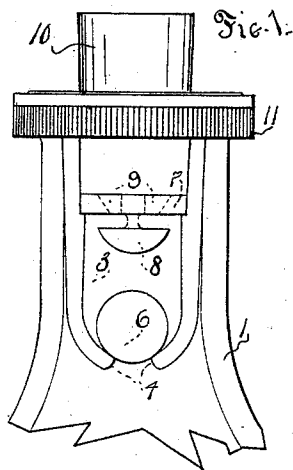
(No Model.)

W. H. PAYNE.

DEVICE FOR PREVENTING THE REFILLING OF BOTTLES.

No. 537,712.

Patented Apr. 16, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

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DEVICE FOR PREVENTING THE REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 537,712, dated April 16, 1895.

Application filed January 17, 1895. Serial No. 535,252. (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 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 the protection of bottles against clandestine or unauthorized refilling, and thereby a substitution of a spurious article for that with which the bottle had been filled by those responsible for its contents, and consists in an arrangement hereinafter described of tubular and valvular construction, a protecting guard against interference with the valve which is inevitably frangible by any attempt to reach the valve, by wires or other instruments, and can be made and applied to the bottle at low cost after it is first filled, so that refilling without detection becomes impracticable.

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

Figure 1 represents the neck of a bottle with this invention applied shown in elevation; Fig. 2, a vertical section in a central plane through Fig. 1; Fig. 3, a detached view of a tube which forms a lining for the bottle neck and the valve seat, and also the protecting flange covering the bottle lip. Fig. 4 is a plan view of a tube shown in Fig. 3. Fig. 5 shows a protecting grate and guard combined, which prevents access by any solid object to the valve or valve seat. Fig. 6 shows a plan view of the grate depicted in Fig. 5. Fig. 7 shows a cap which may be crimped around over the neck as a finish, and Fig. 8 is a plan view thereof.

1 is the neck of a bottle; 2, the lip thereof; 3, a sleeve formed of glass, having a valve seat 4 in the contracted portion of it at the base, and at the upper end a flange 5, which lies upon and is cemented to the lip 2 of the bottle neck 1.

6 is a spherical valve fitting in the valve seat 4, which it closes by gravitation.

7 is a grate formed with the apertures inclining inwardly.

8 is a button or guard below the grate 7, and formed integrally with it of glass, so that it is impossible for any solid object to be passed through the perforations 9 in the grate 7 to reach the valve 6, because the button or guard 8 necessarily intercepts it, and any object which could be applied with such force as to pass the button 8 would fracture the button and insure detection.

10 is a cork fitting the tube in the usual manner for closing the bottle.

11 is the cap crimped upon the edges and placed over the flange 5 of the tube 3 and neck and lip 2, of the bottle neck 1 after having been cemented together and crimped at the point marked 12 underneath the lip 2 of the bottle. This cap is centrally perforated of a size slightly larger than the internal diameter of the tube 3 at its upper end so as not to abrade the cork 10 in opening and closing the bottle. The cap 11 is not essential to the operation of this invention.

This invention is applied to bottles in the following manner: The bottle is first filled with the intended contents, the ball is placed in the tube 3 and the grate 7 placed above it, and cemented with insoluble cement in the tube 3 so that the ball is then inaccessible. After this the tube 3 and its flange 5 are cemented to the bottle neck 1 and lip 2 with insoluble cement so that they may not be separated from each other without the fracture of the bottle. The cement having hardened, and being insoluble, does not impair the contents of the bottle, and the bottle may be readily emptied, because the ball 6 when the bottle is placed upon its side or inverted, falls away from the seat 4, but upon being placed in a vertical, or proximately vertical position, the ball 6 again seats itself upon the seat 4, and closes the valve seat 4 and prevents any ingress of fluid. Any attempt to introduce a flexible instrument to reach the ball 6, through the apertures 9 of the grate 7, is obstructed by the button or guard 8, and if such instruments are introduced, the effect

will be to force the ball 6 downwardly upon its seat. If rigid instruments are introduced the fracture of the guard 8 from the grate 7, leaves evidence of the bottle having been
 5 tampered with, and is an evidence to protect the parties, responsible for the proper contents of the bottle, from liability thereafter for its contents.

I am aware that bottle necks have been
 10 provided with grates above a ball valve and seat therefor in conjunction with tubular constructions of circuitous passages from the seat of the ball to the upward part of the neck, formed by tubes with closed caps, and per-
 15 forations beneath them inclosing the ball; such tubes being in some instances free to slide inside of the tube containing the grate and forming a valve seat within such tube; also that bottles with contracted necks and valve seats
 20 formed integrally therewith have been made, in which valve seat a ball valve was seated, and above which a tube was placed having lateral perforations to prevent access to the ball; having such valve seats formed inte-
 25 grally therewith for protecting grates in the neck and held by a spring engaging in a groove within the bottle neck and margin of the grate. Such inventions demand specially made bottles, and are difficult of production
 30 of proper form at any reasonable expense, because the heat required to finish the neck and in the subsequent annealing of the bottle, so softens the parts, that accuracy can only be attained in the form of the valve seats, by
 35 manipulations of grinding, and treatment

after the annealing of the bottle, which necessarily involves considerable expense. None of these inventions do I claim, but

What I do claim is—

1. In a protecting device to prevent the clandestine refilling of bottles, the centrally connected frangible guard 8 and the grate 7 formed integrally therewith and having inwardly inclined perforations 9 therein, in combination with the tube 3 provided with a
 45 flange at the upper portion and a valve seat in the lower contracted end, and a valve 6, constructed and arranged to operate as and for the purpose set forth.

2. In a device to prevent the clandestine refilling of bottles, the grate 7 provided with inwardly and downwardly inclined perforations, in combination with the centrally connected frangible guard 8 formed integrally therewith and adapted to be inserted in the necks of
 55 bottles above an upwardly opening valve and valve seat to protect such bottles from clandestine refilling substantially as set forth.

3. In a bottle protected against clandestine refilling a flanged bottle neck 1 a flanged
 60 sleeve 3 a valve seat 4, a valve 6 and cap 11 in combination with the downwardly and inwardly perforated grate 7 and centrally connected frangible guard 8 formed integrally therewith as described and shown, and ar-
 65 ranged to operate substantially as set forth.

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Witnesses:

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