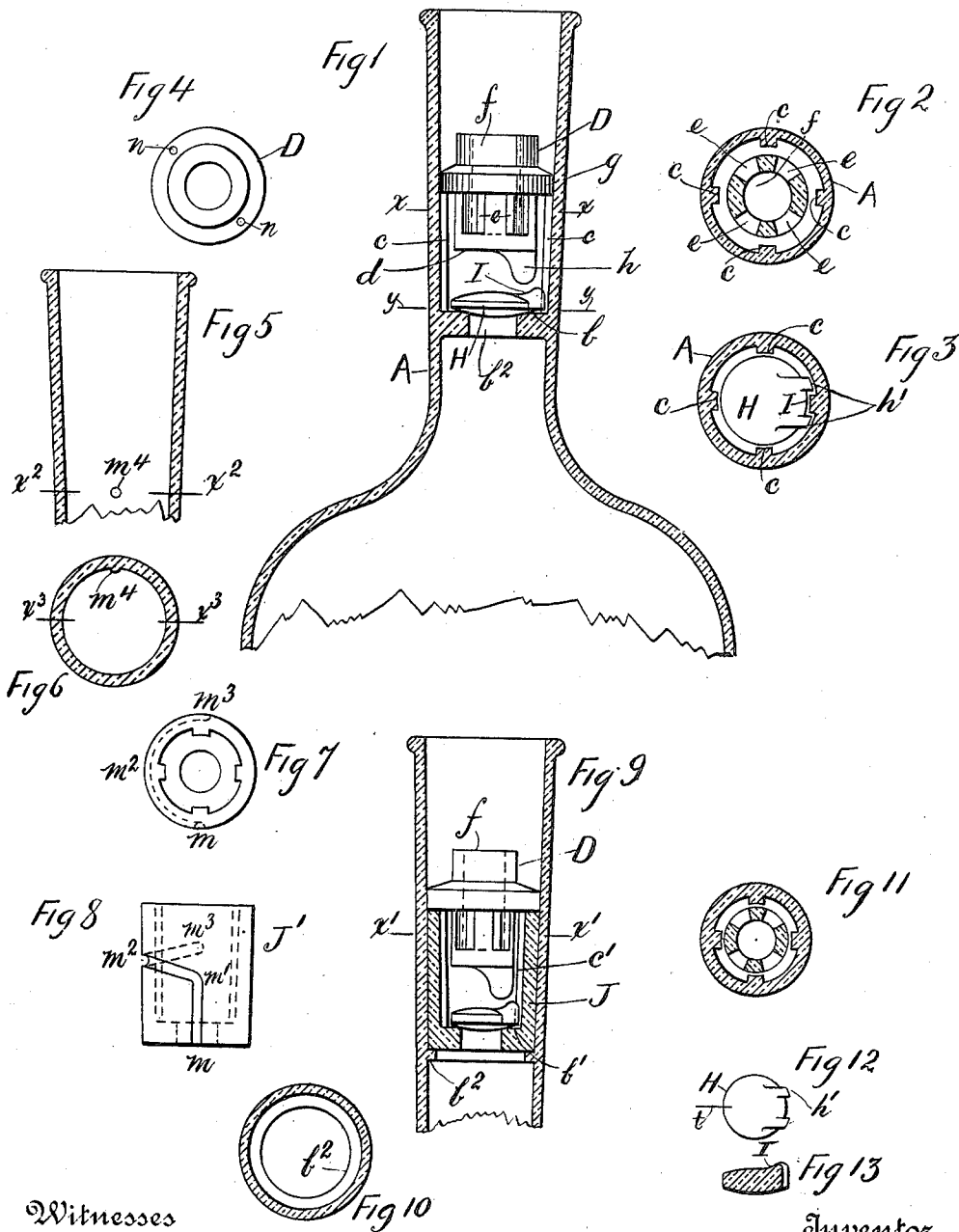


P. F. LENHART.
NON-REFILLABLE BOTTLE.

(Application filed Dec. 21, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

PHILIP F. LENHART, OF BROOKLYN, NEW YORK.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 679,173, dated July 23, 1901.

Application filed December 21, 1900. Serial No. 40,629. (No model.)

To all whom it may concern:

Be it known that I, PHILIP F. LENHART, a citizen of the United States, and a resident of the borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to means for preventing the refilling of bottles and similar vessels.

The object of the invention is to secure a device which can be incorporated in or applied to any bottle or similar vessel to prevent any fluid or other matter being introduced therein after it has received its first charge or been originally filled.

Figure 1 represents a fragmentary vertical section of a bottle with one form of the device shown therein in elevation. Fig. 2 shows a section on the line $x x$ of Fig. 1. Fig. 3 is a fragmentary section on line $y y$ of Fig. 1. Fig. 4 shows a plan of the valve-cap. Fig. 5 represents a section of the neck of a bottle on the line $x^3 x^3$ of Fig. 6. Fig. 6 is a section of Fig. 5 on the line $x^2 x^2$. Figs. 7 and 8 show, respectively, a plan and elevation of a modified form of valve-cage. Fig. 9 is a fragmentary vertical section of a modified form of my invention in the neck of a bottle. Fig. 10 shows a section of the neck of the bottle on the line $x' x'$ of Fig. 9. Fig. 11 is a section through the cage and valve-cap on line $x' x'$ of Fig. 9. Fig. 12 shows a top view of the valve shown in Fig. 9. Fig. 13 is a section on the line t of Fig. 12.

Referring to Figs. 1 to 4, a bottle is shown in section at A, in which is formed the valve-seat b , with its port b^2 and the ribs c . A cap or cover D is secured to the top of the ribs and consists of the cylindrical barrel d with ports e , running into the longitudinal passage f . The barrel d is capped with the collar g , containing vent-holes n , although the said vent-holes are not absolutely necessary, and a lug h projects from the bottom face of the said barrel. The valve H operates on the valve-seat b . It is round in its plan view, elliptical in vertical cross-section, and contains a lug I, with two ears h' , which straddle one of the ribs c of the bottle to prevent the valve

turning. The other ribs also guide the said valve.

Referring to Figs. 9 to 13, instead of forming ribs in the neck of the bottle a cage J may be secured therein, resting on a projection b^2 , although the said projection may be dispensed with if the bottle tapers, as shown. The cage contains the valve-seat b' and ribs c' , the cap D being secured to the cage J.

Figs. 5 to 8 show a modification of the valve-cage and neck of the bottle shown in Fig. 9 by having a groove $m m' m^2 m^3$ formed on the outer surface of the cage J' to engage a boss m^4 , formed in the neck of the bottle. In this latter case when the special valve-cage J' is lowered into position the boss m^4 enters the said groove in the vertical portion from m to m' , and then the boss enters the helical portion $m' m^2 m^3$ by turning the valve-cage until brought home to the end m^3 when it is securely in place.

In applying the device, referring now to Figs. 1 to 4, the valve is first dropped on its seat in the position shown in the figure after the bottle has been filled, after which the cap D is secured in place.

When the modified form shown in Fig. 9 is used, the valve-cage J is fastened in the neck of the bottle after filling the same, after which the valve is dropped in place and the cap D secured to the top of the valve-cage.

When the cage J', as shown in Fig. 8, is used, it is screwed in place in the neck of the bottle after the latter has been filled, when the valve and cap are respectively put in place.

It is evident that after the valve has been placed on its seat and the cap secured there are no means for raising the said valve unless the bottle is tilted or turned upside down, when its contents will run out.

When the bottle is tilted to empty it of its contents, the valve leaves its seat, rises, and swings from the same, the lug I meeting the lug h constituting a hinge, and forces the valve to actuate partially as a flap-valve.

Having described my invention, I desire to secure by United States Letters Patent and claim—

1. In the neck of a bottle and the like, a

valve, a valve-seat secured in the neck of said bottle, a cover with ports and a central opening secured above the valve, a lug projecting from the bottom face of the cover, ribs in the neck of the bottle, ears on the valve straddling one of the said ribs.

2. In the neck of a bottle and the like, a valve-cage secured in the said neck, ribs formed on the inside of the valve-cage, a cover secured to the top of the cage, a cylindrical barrel contained in the said cover, ports in the barrel extending to a central opening, a lug projecting from the bottom of the cover, a valve in the valve-cage, a lug with two ears on the valve, said ears straddling one of the ribs of the cage.

3. In the neck of a bottle and the like, a valve-cage in the said neck, a projection extending from the inside of the neck, ribs formed on the inside cylindrical face of the valve-cage, a cover secured to the top of the cage, a cylindrical barrel contained in the said cover, ports in the barrel extending to a central opening, a lug projecting from the

bottom of the cover, a valve in the valve-cage, a lug with two ears on the valve, said ears straddling one of the ribs of the cage. 25

4. In the neck of a bottle and the like, a valve-cage in the said neck, a boss projecting from the inside face of the neck of the bottle, a groove formed on the outside cylindrical surface of the valve-cage, ribs formed on the inside cylindrical face of the valve-cage, a cover secured to the top of the cage, a cylindrical barrel contained in the said cover, ports in the barrel extending to a central opening thereof, a lug projecting from the bottom of the cover, a valve in the valve-cage, a lug with two ears on the valve, said ears straddling one of the ribs of the cage. 30 35 40

Signed at New York, in the county of New York and State of New York, this 14th day of December, A. D. 1900.

PHILIP F. LENHART. [L. s.]

Witnesses:

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