

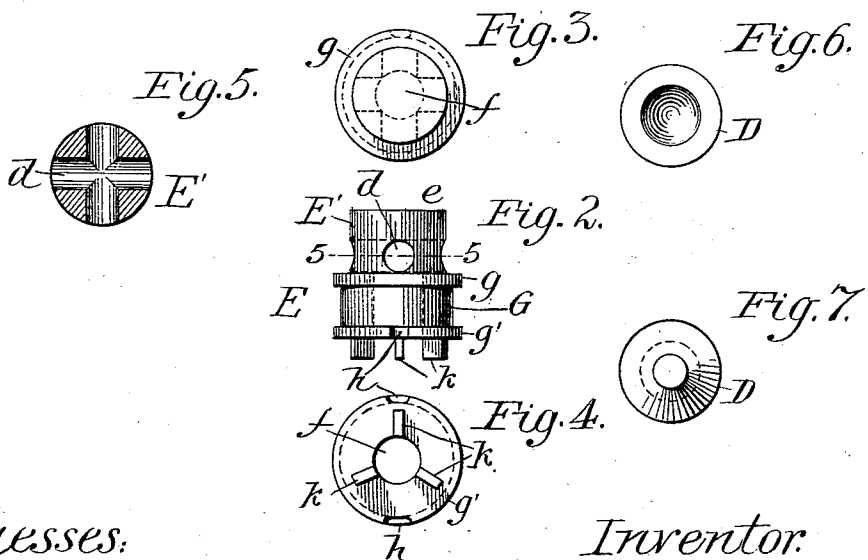
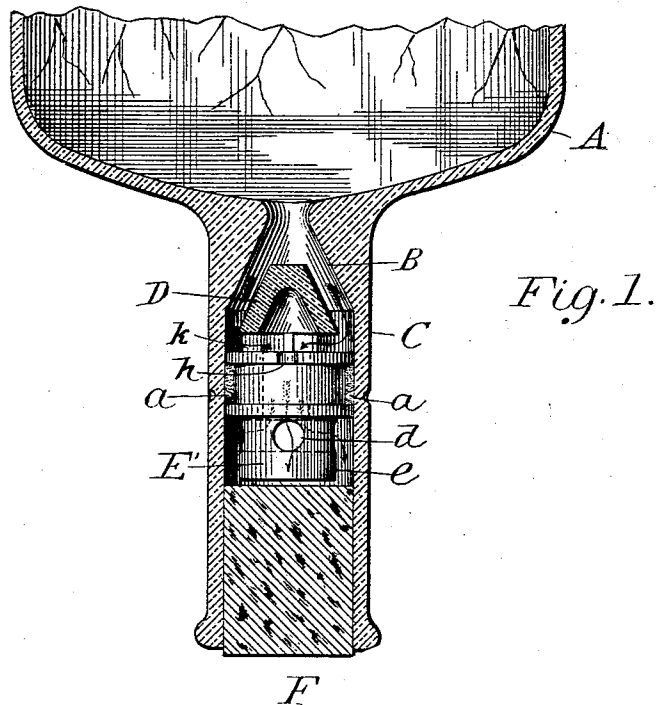
(No Model.)

A. D. COLE.

ATTACHMENT FOR PREVENTING REFILLING OF BOTTLES.

No. 571,967.

Patented Nov. 24, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANSON D. COLE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO BARCLAY S. SMITH, OF SAME PLACE.

ATTACHMENT FOR PREVENTING REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 571,967, dated November 24, 1896.

Application filed April 29, 1896. Serial No. 589,495. (No model.)

To all whom it may concern:

Be it known that I, ANSON D. COLE, a citizen of the United States, residing in Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Preventing Refilling of Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements, as hereinafter claimed, in that class of attachments for bottles in which valves are employed which admit of emptying the bottles but prevent the refilling thereof.

In the accompanying drawings, which show a suitable embodiment of my invention, Figure 1 is a central longitudinal section showing a portion of a bottle having my improvements applied to it with the valve open or in position for emptying the bottle. Fig. 2 is a view in elevation of the valve guard or protector; Figs. 3 and 4 show, respectively, a top view and a bottom view thereof; and Fig. 5, a transverse section on the line 5 of Fig. 2. Figs. 6 and 7 show, respectively, a top view and a bottom view of the valve.

Any appropriate bottle A, provided with a valve-seat B at the lower end of its neck C, is provided with a suitable valve D, adapted to fit tightly to the seat B. The gravitating valve shown is of inverted truncated-cone form and hollow or cup-shaped. The bottle-neck is provided with inward projections or lugs *a* at a suitable distance above the valve-seat, for a purpose in turn to be explained. The bottle-neck may be thus inwardly lugged in the process of making it, as will be readily understood.

The neck of the bottle is of a length such as to adapt it to receive a valve guard or protector E above the valve and a suitable stopper F, such as the ordinary cork, above the protector. This protector, which I prefer to make of porcelain, is adapted to be permanently secured in the bottle-neck after the bottle is filled, at a suitable distance above the valve to allow the valve to move away from its seat or open for emptying the bottle,

and serves to prevent access to the valve and guard against refilling the bottle.

The protector, as shown, is constructed with a solid or closed top *e*, and has a central longitudinal opening or passage *f* extending from its closed top to its lower end and communicating with or intersected by transverse openings or passages *d*, passing through the upper portion E' of the protector. This upper portion of the protector is of less diameter than its lower or body portion, which is formed with upper and lower shoulders or flanges *g g'*, between which is the groove or recess *G*. The lower flange or shoulder *g'* is cut away or provided with notches *h*, corresponding in number with the lugs *a* on the inner surface of the bottle-neck. There may be but one lug on the neck and one notch in the lower flange or shoulder instead of two or more of each, as desired, to serve the purpose farther on to be explained; and the upper and lower flanges or shoulders of the protector may extend but part way about it instead of all the way, thus providing the peripheral groove or recess (or two such grooves or recesses) of less extent than the circumference of the body of the protector. Feet or lugs *k* are provided upon the bottom of the valve-protector to constitute checks for limiting the movement of the valve away from the seat as well as preventing the valve from closing the opening of the protector at its bottom.

In operation the bottle is filled before the valve and its protector are placed in position. The valve is then dropped in place and the protector secured in position as follows: Suitable cement or plastic material which will harden after application (Portland cement answers the purpose well) is properly applied about the valve-protector in its groove or recess and the protector inserted by the aid of a suitable instrument into the bottle-neck and pushed down, so that the notches in the lower flange or shoulder register with the lugs on the bottle-neck and allow the lugs to enter to the protector-groove. The protector is then given a partial turn and pressed down until the lugs come in contact with the upper flange of the protector out of alinement with the notches in the lower flange. Upon

hardening or setting of the cement the protector becomes rigidly and inseparably secured in place. It will be understood that when the cork is removed and the bottle turned to empty it the valve moves away from its seat toward the valve-protector, from which it is offset by the feet or checks, so that the liquid in the bottle may pass through the protector-passages and out by the reduced upper portion of the protector. As will readily be seen, the peculiar construction of the protector, in connection with the internally-lugged neck of the bottle, provides for a most secure interlocking of the protector with the bottle-neck, as the cementing material fills the groove below and on opposite sides of the lugs of the neck.

I do not wish to be understood as confining my improvements to the precise details of construction shown and above specifically described, as some modifications may be made while still retaining novel features of my invention. For instance, the checks for limiting movement of the valve may be upon the valve itself instead of upon the protector, and the number of transverse passages of the liquid-outlet in the protector may be varied, as desired; or, instead of the longitudinal passage and series of communicating passages lateral thereto, a suitable liquid-outlet through the protector may be constituted by an inclined or angular passage extending from the bottom of the protector out at the side of its top portion, as will readily be understood, the upper and lower portions of such outlet constituting the equivalent of the before-de-

scribed and preferred longitudinal and lateral passages, which together make up a liquid-outlet extending from the bottom out at the side of the protector.

I claim as my invention—

1. The combination with a bottle having a valve-seat and internally-lugged neck, of the valve, and the valve-protector adapted to be permanently cemented in the bottle-neck and provided with a recessed or grooved periphery and notched and unnotched shoulders or flanges, a closed top, and the liquid-outlet extending from the bottom out at the side beneath the closed top, substantially as set forth.

2. The valve-protector for non-refillable bottles, having the peripheral groove or recess, the shoulder or flange above said groove, the notched shoulder or flange beneath said groove, and the liquid-outlet extending from the bottom out at the side above the groove, substantially as and for the purpose set forth.

3. The valve-protector for non-refillable bottles, having the peripheral groove or recess, the shoulder or flange above said groove, the notched shoulder or flange beneath said groove, the communicating longitudinal and transverse passages, the reduced upper portion and the closed top, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

ANSON D. COLE.

Witnesses:

BARCLAY S. SMITH,
BLANCHE R. DOBBINS.