

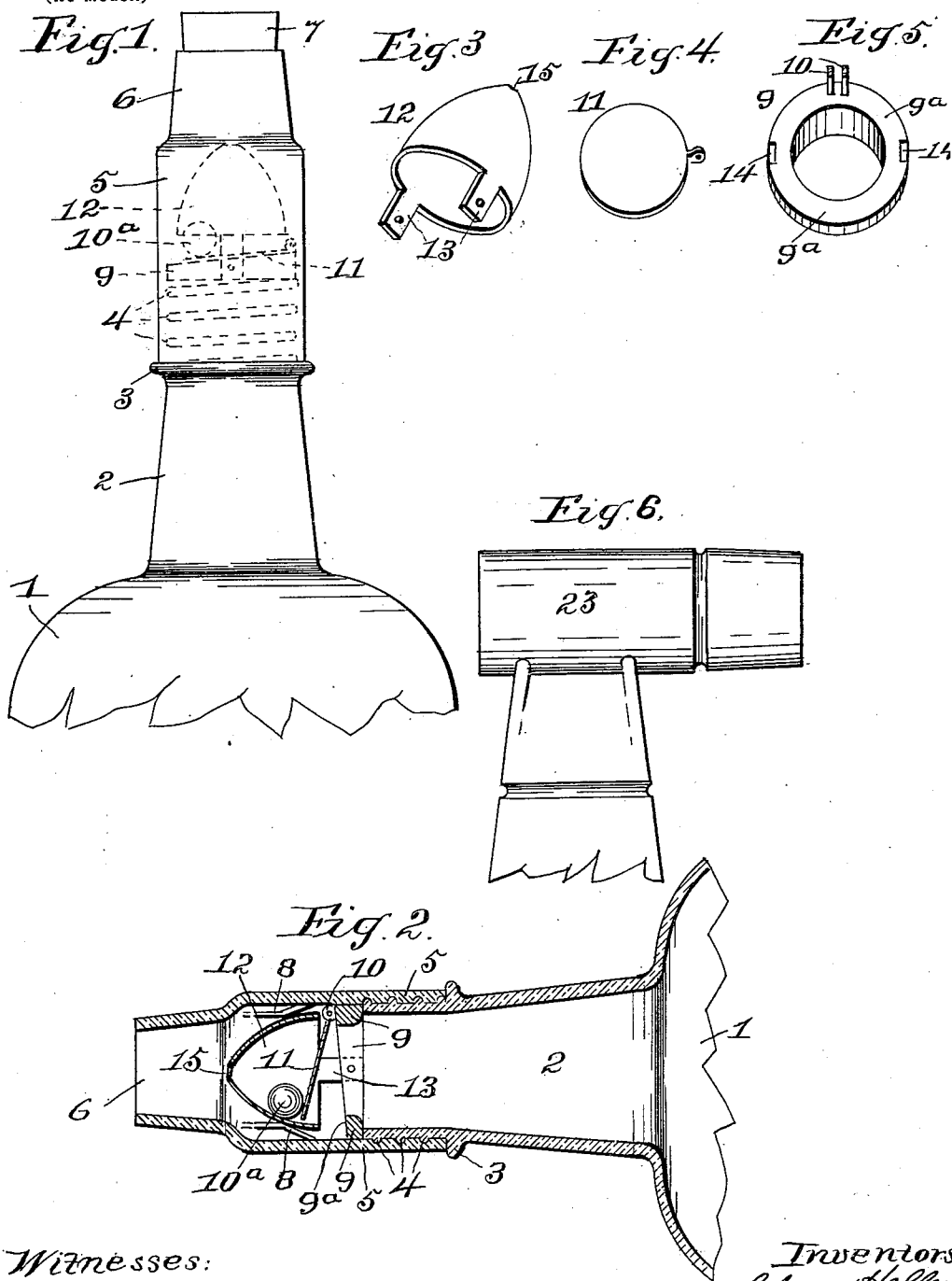
No. 674,441.

Patented May 21, 1901.

A. HELLER & W. M. IVES.  
NON-REFILLABLE BOTTLE ATTACHMENT.

(Application filed Sept. 7, 1900.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

ADAM HELLER AND WILLIAM M. IVES, OF BALTIMORE, MARYLAND.

## NON-REFILLABLE-BOTTLE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 674,441, dated May 21, 1901.

Application filed September 7, 1900. Serial No. 29,331. (No model.)

*To all whom it may concern:*

Be it known that we, ADAM HELLER and WILLIAM M. IVES, citizens of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Non-Refillable-Bottle Attachments, of which the following is a specification.

This invention relates to non-refillable bottles, and particularly to the class of weight-controlled bottle-valves.

One object of the invention is to provide a new and novel valve attachment for bottles of any character, size, and shape which may be readily applied to bottle-necks without having the bottles specially constructed, but which is adaptable to the neck of any bottle and which shall constitute a complete article of manufacture in itself independent of the bottles.

A further object of the invention is to provide a valve attachment for bottles adapted to be applied to the mouth of an ordinary bottle and special means for holding the valve upon the bottle-mouth, so that the contents of the bottle may be removed by simply tilting the bottle, yet proof against entrance being made to the bottle with any article or instrument or its being refilled with any substance.

A still further object of the invention is to provide a bottle-valve having a hinged gate automatically closed by a weight and novel means for confining the weight, so that it will permit the gate to open for the purpose of discharging the contents of the bottle or any quantity thereof and to automatically operate the gate to close the bottle and to prevent the refilling of the same.

In the accompanying drawings, forming part of this application, Figure 1 is an elevation of an ordinary bottle, partly broken away, showing the valve attachment applied. Fig. 2 is a sectional view showing the bottle tilted and the valve in position for pouring. Fig. 3 is a perspective view of the cone. Fig. 4 is a perspective view of the gate. Fig. 5 is a perspective view of the valve-ring. Fig. 6 is an elevation of a further modification.

The same numeral references denote the same parts throughout the several views of the drawings.

The bottle 1, herein shown simply for the purpose of illustrating our invention, is of ordinary type having a neck 2, provided with a shoulder 3 and a screw-thread 4 above the shoulder.

The casing for carrying and attaching the valve mechanism to the bottle-neck consists of a glass tube or sleeve 5, having a female thread to mesh with the neck-thread 4, whereby the sleeve is sealed to the neck, and it is provided with a suitable mouth 6 and stopper 7. The sleeve 5 has interior ribs or projections 8, the function of which will be hereinafter disclosed.

The bottle-valve comprises a ring 9, adapted to fit upon the top of the bottle-mouth, the top surface 9<sup>a</sup> of the ring being beveled or inclined from the hinge-lugs 10 thereof and fitting loosely in the sleeve 5; a disk gate 11, hinged or pivoted to the lugs 10, a ball-weight 10<sup>a</sup> playing on the gate, and means to confine the ball in operative position, which consists of a shell or cone 12, having ears 13 secured in notches 14 of the ring 9, flush with the periphery of the latter, so as to leave a space or liquid-passage between the cone and the ring. The cone has a vent 15 and fits against the sleeve ribs or projections 8 when the sleeve is sealed to the bottle-neck, so as to clamp the ring to the bottle-mouth and leave the ball free to operate the valve-gate. The diameter of the cone-base is less than that of the sleeve, so that a space or passage is formed between the cone and sleeve. The cone-vent is simply for the purpose of draining off any substance which may lodge in the cone.

It is obvious that the bottle is filled first and then the sleeve containing the valve mechanism is attached and that it is only necessary to tilt the bottle-neck downwardly, according to the quantity of liquid to be poured, which tilting will relieve the gate of the ball-weight, rolling the latter into the cone, and the fluid flowing through the ring will open the gate and pass out the sleeve-mouth, the sleeve-stopper of course being removed. Any slight raising of the bottle-neck will operate the ball to gradually close the gate or to suddenly do so, according to the character or extent of such raising.

In the modification shown in Fig. 6 the

sleeve 23 is attached at right angles to the bottle-neck across the bottle-mouth, or the sleeve may be blown onto the bottle-mouth, and the sleeve may be formed into an elbow extending from the mouth of the bottle. In both forms as well as any other arrangement the sleeve carries the valve mechanism, so that the bottles have not to be specially manufactured.

10 We do not wish to be understood as limiting ourselves to any particular size, material, or shape of the valve parts, to the position of the sleeve relative to the bottle, to the manner of connecting the sleeve to the bottle, nor to a cone of any special size, shape, or material for confining the ball-weight; but,

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

20 1. A bottle-valve comprising a ring, a disk gate hinged or pivoted to the ring, a weight operating on the gate, and a cone attached to the ring to confine the movement of the weight and to leave a passage between the ring and the cone.

25 2. A bottle-valve comprising a ring, a gate hinged to the ring, a ball-weight operating on the gate, and a cone having ears attached to the ring to confine the movement of the ball and to leave a space or passage between the

cone and the ring, and a space or passage around the exterior of the cone.

3. A non-refillable attachment for bottles comprising a sleeve having a stopper end and the other end adapted to be secured to a bottle-neck and provided with interior ribs or projections, a ring loosely fitted in the sleeve and engaging the bottle-mouth, a gate hinged to the ring, a ball-weight playing on the gate, and a cone secured to the ring and engaging said ribs or projections to confine the movement of the ball and to leave a passage between the ring and the cone and between the latter and the sleeve, substantially as set forth.

4. A bottle-valve comprising a ring, a shell above the ring with a passage between the ring and the shell, a gate hinged or pivoted to swing between the shell and the ring, to open and close the ring-passage, and a weight confined by the shell and operating on the gate to close it.

In witness whereof we hereunto set our hands in the presence of two witnesses.

ADAM HELLER.  
WILLIAM M. IVES.

Witnesses:

CHARLES H. MILLIKIN,  
JAMES F. JOHNSON.

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