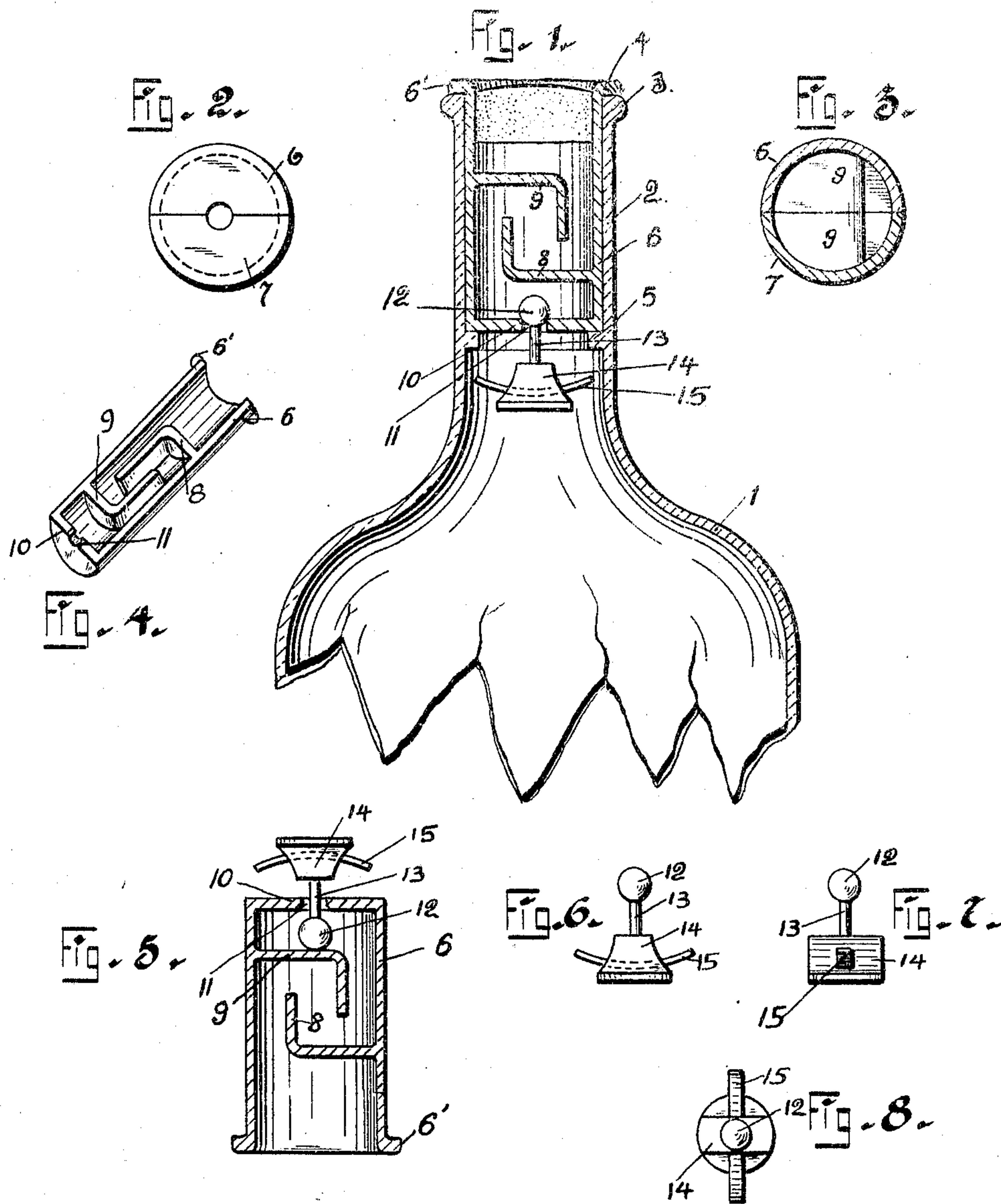


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PATENTED NOV. 29, 1904.

G. ANGER & C. BONGARTZ.
NON-REFILLABLE BOTTLE.
APPLICATION FILED APR. 12, 1904.

NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

GOTTLIEB ANGER AND CHRISTIAN BONGARTZ, OF McKEES ROCKS,
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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 776,286, dated November 29, 1904.

Application filed April 12, 1904. Serial No. 202,727. (No model.)

To all whom it may concern:

Be it known that we, GOTTLIEB ANGER and CHRISTIAN BONGARTZ, citizens of the United States of America, residing at McKees Rocks, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to non-refillable bottles, and has for its object to produce a bottle of that class in which simple and effective means are provided for preventing the bottle from being refilled and for securing the devices by which the refilling is prevented in the bottle, so that they cannot be removed therefrom. The devices which we employ for preventing the bottle from being refilled are of such character that the bottle requires but a very slight alteration in form from bottles of the ordinary character, such alteration consisting merely in forming an annular flange on the inside of the neck of the bottle, which flange can be very readily produced when the bottle is being made by means of a suitable tool without involving any additional expense or labor.

In the accompanying drawings, illustrating our invention, Figure 1 is a vertical sectional view of the upper part of the neck of a bottle constructed according to our invention. Fig. 2 is a bottom view of the attachment for preventing the refilling of the bottle. Fig. 3 is a transverse sectional view of the same. Fig. 4 is a perspective view of one-half of the part shown in Fig. 2 on a reduced scale. Fig. 5 is a side elevation of the part shown in Fig. 4 inverted with a valve in position therein. Figs. 6 and 7 are respectively side and end views of the valve shown in Fig. 5, and Fig. 8 is a top view of the same.

The body 1 of the bottle and the neck 2 thereof are of any desired form, the latter being provided with the usual bead 3 around its mouth 4. Within the neck 2 we form during the operation of making the bottle an annular flange 5, which is located some distance below the mouth 4 and projects but a short distance

into the neck of the bottle, so as not to materially interfere with the filling of the bottle or the application thereto of the devices for preventing the bottle from being refilled. Within the neck 2 of the bottle and above the flange 5 after the bottle has been filled for the first time we place a hollow cylinder composed of two semicircular half-sections 6 7, each of which is formed with a semicircular flange 6', with two overlapping L-shaped abutments 8 9 and with a half-round head 10, each head having one-half of a valve-seat 11 at its center, the two half-sections when joined together constituting a cylinder closed at one end by a head having a valve-seat at its center and having a tortuous passage formed by the overlapping abutments 8 9, the abutments 8 9 of the two sections constituting when the sections are joined together to form the cylinder partitions which extend part way across the opening through the cylinder and overlap one another, as shown. A valve 12 is located in the head of the cylinder, resting in the seat formed by the juncture of the two half-seats 11, and the said valve has a stem 13, that carries a head 14, which is pierced for the reception of a curved spring 15, that is of such length that when the parts are in position in the bottle its ends will extend beneath the flange 5.

After the bottle has been filled in the usual manner the valve 5 is placed in position between the half-sections of the cylinder, and the cylinder is then introduced into the neck of the bottle and pressed down until its lower end meets the flange 5 and the flanges 6' rest on the top edges of the neck, the spring 15 being compressed and passing the flange 5 as the cylinder is forced into position and then expanding, so as to extend beneath the same. After the cylinder and the valve have been inserted in position (shown in Fig. 1) the mouth 4 of the bottle is closed by a cork 16 and the bottle thereby secured against evaporation or accidental spilling of its contents. To remove the contents from the bottle, the cork 16 is drawn and the bottle turned over, whereupon its contents will flow past valve 12, through the tortuous passage in the cylinder,

and out of the mouth. When the bottle is restored to its upright position, the valve 12 will seat in the head of the cylinder and prevent the contents from evaporating, and it
5 will also prevent any liquid from being poured into the bottle, so that when the bottle has been once emptied it cannot be refilled.

The cylinder is preferably made of metal, although it may be made of any other suitable material, and any attempt to withdraw
10 the cylinder after it has been introduced will be frustrated by the engagement of the spring 15 with the flange 5. The overlapping partitions formed by the meeting of the abutments 8 9 of the half-sections of the cylinder effectually prevent any tampering with the valve 12 and prevent the introduction of
15 siphoning appliances into the bottle when the latter is in inverted position and the valve
20 open, such appliances being the means usually resorted to where the bottle is merely provided with a valve in its neck to prevent refilling. The devices which we employ for preventing refilling of bottles are, it will be
25 seen, of an extremely simple character, add but little to the cost of the bottle, and can be very readily applied without the use of tools or machinery of any character and when in

position effectually guard against the refilling of bottles. 30

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

1. In combination with a bottle having a neck and an annular flange within the neck, 35 of a hollow cylinder fitted within the neck above said flange, a valve seated in said cylinder, and a spring carried by said valve and adapted to engage with said flange.

2. In a non-refillable bottle, the combination with a bottle having a neck, and an annular flange in said neck, of a two-part cylinder having a head formed with a valve-seat, a valve seating in said head, and a spring carried by said valve and adapted, when the cylinder is placed in the neck of the bottle, to
40 expand below said flange and prevent the cylinder from being removed. 45

In testimony whereof we affix our signatures in the presence of two witnesses.

GOTTLIEB ANGER.
CHRISTIAN BONGARTZ.

Witnesses:

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