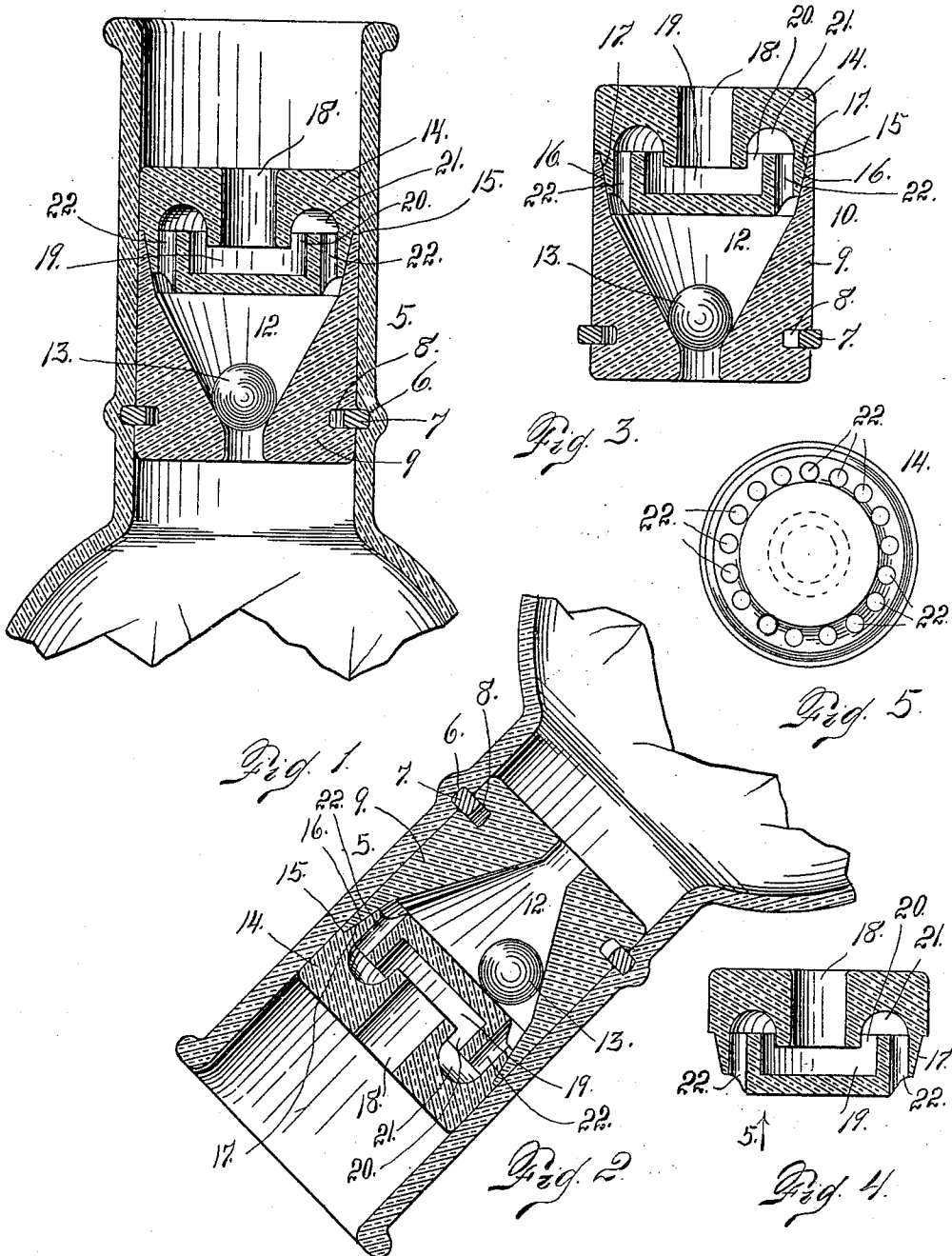


M. V. GRIFFIN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JULY 27, 1908.

932,422.

Patented Aug. 24, 1909.



Witnesses
Otto E. Hoddick.
Daisy F. Hughes.

Inventor
Maurice V. Griffin
By A. J. Brown
Attorney

UNITED STATES PATENT OFFICE.

MAURICE V. GRIFFIN, OF DENVER, COLORADO.

NON-REFILLABLE BOTTLE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAURICE V. GRIFFIN, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in non-refillable bottles, my object being to provide an article of this class which shall be of simple and economical construction, and which shall effectually perform the function of a bottle of this character.

In my improved construction a plug is inserted in the neck of the bottle containing a valve, the plug being so constructed that when the bottle is in the upright position, or in a position to allow liquid to flow thereinto, the valve will be seated to prevent the entrance of liquid; but when the bottle is tilted to allow the liquid to flow therefrom, the valve will be unseated and the liquid permitted to flow freely. Provision is also made to prevent the introduction of an instrument for the purpose of holding the valve in the unseated position.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a central, vertical section taken through the neck of a bottle equipped with my improvement. Fig. 2 is a similar sectional view showing the bottle tilted to allow the liquid to flow therefrom. Fig. 3 is a sectional view in detail of the non-refillable mechanism. Fig. 4 is a detail view of one member of the plug. Fig. 5 is an underneath view of the same.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the neck of a bottle which may be of ordinary construction except that it is provided with an interior circumferential groove 6 adapted to receive a spring ring 7 which also engages a similar groove 8 formed in the inner member 9 of a plug 10, which is inserted in the

neck of the bottle and held in place by the said ring. The member 9 of the plug is chambered, as shown at 12. This chamber is frusto-conical in shape, and in it is located a ball valve 13 which, when the bottle is in the upright position, is seated in the lower part of the chamber 12, thus preventing the entrance of liquid to the bottle. The plug 10 also includes an outer member 14, which is applied to the member 9 in such a manner that the two parts form substantially an integral device. As shown in the drawing, the member 14 is provided with an exteriorly located circumferential shoulder 15, which engages the upper extremity of the member 9. These two members are also provided with inclined faces 16 and 17 respectively, which are in contact with each other, forming a surface of considerable area and making it practicable to cement the two parts together as securely as may be desired. The member 14 is provided with a central opening 18, communicating directly with a chamber 19 whose outer portion extends upwardly, as shown at 20, and communicates with a groove 21 formed in the member 14 above the chamber 19. From the groove 21 a series of orifices 22 lead downwardly and communicate with the chamber 12 of the member 9. It will thus be seen that an irregular passage is formed from the central opening 8 of the chamber 12, making it impossible to introduce an instrument into the last named chamber for the purpose of holding the valve in the unseated position for filling purposes.

The plug 10 can be made of any suitable material, as porcelain or glass. This is also true of the valve 13.

Assuming that the plug is made in two parts, the valve 13 is placed in the chamber 12 before connecting the members 9 and 14 of the plug. These members are then connected in any suitable manner, as by a suitable cement, by fusion or otherwise, as may be found practicable or desirable. The spring ring 7 is then placed in the circumferential groove 8 of the plug member 9 and pressed therein, to allow the plug to be inserted in the neck of the bottle. The plug is then moved downwardly in the bottle neck until the spring ring reaches the interior groove 6. The ring then springs outwardly and occupies the two grooves 6 and 8 whereby the plug is locked within the bottle neck against removal. The plug is, of course, in-

serted in the neck of the bottle after the latter has been filled with whatever liquid it is desired to place therein. It will then be understood that when the bottle is in the upright position, or in any position that will allow the liquid to flow thereinto by gravity, the ball valve will be seated and prevent the entrance of the liquid. Again, when the bottle is tilted sufficiently to allow the liquid to flow therefrom, the ball valve will be unseated by gravity and allow the liquid to flow freely therefrom. The seated position of the valve is shown in Fig. 1, while its unseated position is shown in Fig. 2.

The desirability of a bottle of this character is well understood by bottlers of high class goods, since without a non-refillable attachment, it becomes practicable for the manufacturers of goods of inferior quality, to refill bottles bearing the labels of the superior goods, thus enabling the manufacturer of the inferior article to palm off his goods upon the public for those of superior quality. This not only injures the manufacturer of the original contents of the bottle, but also imposes upon the public. The object of my improved construction is to provide a bottle which will make such frauds impracticable.

Having thus described my invention, what I claim is:

1. A non-refillable bottle, comprising a bottle, a plug fixedly inserted therein, the said plug containing a valve chamber, a ball valve inserted in said chamber, the latter being frusto-conical with its smaller extremity lowermost, whereby the valve is caused to seat when the bottle is in the filling position

and to unseat when it is in the discharge position, the upper part of the plug having a central opening and a second chamber interposed between said opening and the valve chamber, the plug having an irregular passage whereby the two chambers are placed in communication with each other.

2. A non-refillable attachment for bottles, comprising a plug having an interior valve chamber frusto-conical in shape, the upper part of the plug having a central opening and a second chamber interposed between the valve chamber and said opening, the plug having also an irregular passage connecting the two chambers the second of which is in direct communication with the central opening, and a ball valve located in the valve chamber, the latter having its smaller extremity lowermost to allow the valve to seat when the bottle is in the filling position.

3. A non-refillable attachment for bottles, comprising a plug adapted to be inserted in the neck of the bottle and provided with an interior chamber, and a ball valve located therein, the said chamber being frusto-conical, the upper part of the plug having a central opening communicating with a chamber formed between the said opening and the valve chamber, and an irregular passage forming a communication between the two chambers, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MAURICE V. GRIFFIN.

Witnesses:

DAISY F. HUGHES,
ALODIA HUTCHISON.