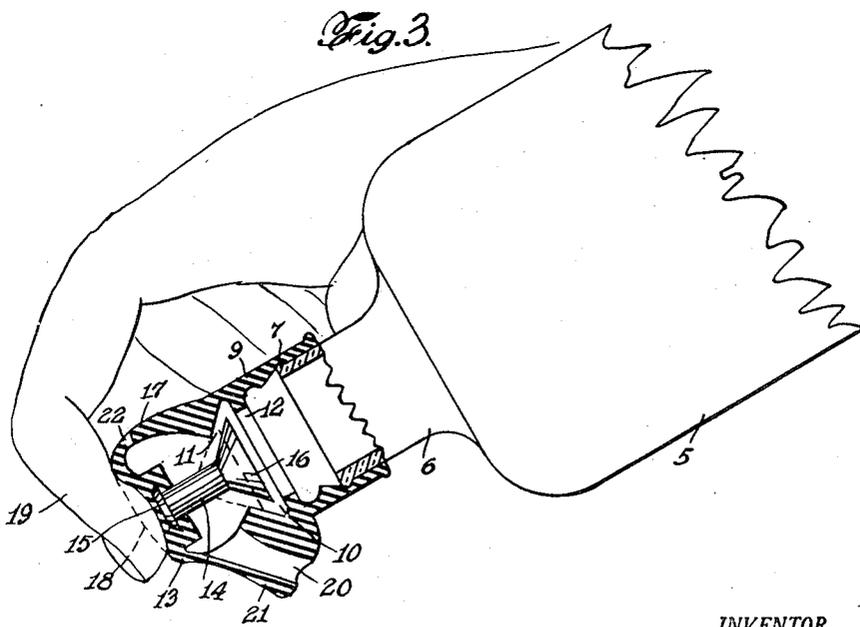
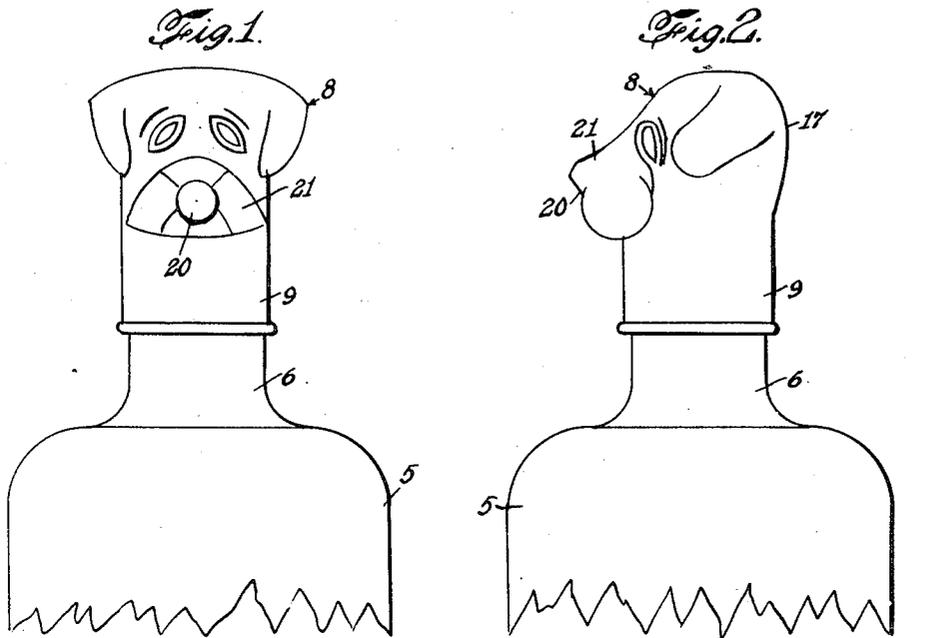


March 6, 1951

V. HENRICSON
RESILIENT CLOSURE FOR THE NECK OF A BOTTLE,
HAVING A VALVE OPERABLE BY FLEXURE
OF A WALL OF SAID CLOSURE
Filed July 23, 1947

2,543,850



INVENTOR.
VALENTINE HENRICSON
BY *Marvin Camp*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,543,850

RESILIENT CLOSURE FOR THE NECK OF A BOTTLE, HAVING A VALVE OPERABLE BY FLEXURE OF A WALL OF SAID CLOSURE

Valentine Henricson, New York, N. Y.

Application July 23, 1947, Serial No. 762,985

2 Claims. (Cl. 222—518)

1

The present invention relates to a manually operable bottle cap and dispensing valve normally serving as a closure for the bottle to which it is applied.

The main object of my invention is to provide a bottle with a dispensing cap having a valve member engaging a seat within the same, and being capable of distortion to remove the valve member from the seat to allow contents from the bottle to issue through a duct in said cap.

Another object is to provide a cap of the mentioned character which is made of resilient plastic material such as live rubber or the equivalent.

A further object is to produce a dispensing cap and self-contained valve which is simple in construction and consists of but two parts, one of which is entirely concealed within, and protected by, the other which forms the outer casing.

It is also an object to have a combined cap and valve for bottles which is readily applied and is absolutely tight and reliable in operation to fully close the bottle in normal state.

Other objects and the various advantages of the invention will appear more fully in detail as the specification proceeds.

In order to facilitate clear comprehension of the features of my invention and realize its contribution to the art, it is illustrated in the accompanying drawing forming part hereof, and in which:

Figure 1 is a front elevation of a dispensing cap and valve embodying the invention in a practical form as applied to the neck of a bottle;

Figure 2 is a side elevation of the same cap and valve;

Figure 3 shows the cap and valve device in use for dispensing a liquid from the bottle, the device being shown with a portion of the bottle neck in section to disclose detail.

Throughout the views, the same reference numerals indicate the same parts.

There are various known types of dispensing closures for bottles, and usually these are made of metal or some rigid material, and of several parts with a spring included for actuating the parts when released by the hand. These closures are also usually permanently fixed upon the bottle at the factory and are more or less complicated and expensive.

I have now found that a simple design of dispensing valve and cap or closure made of resilient material will serve perfectly to close a bottle and allow liquid to be conveniently dispensed therefrom at will, reducing costs and simplifying operations to a minimum.

2

Hence, in the practice of my invention, and referring now again to the accompanying drawing, a bottle 5 has a more or less conventional neck 6 with a retaining lip 7 (Figure 3) to form the basis of attachment for the device about to be described. The dispensing device primarily consists of a resilient valve or cap casing, generally indicated at 8, having an attachment portion of cylindrical form at one end 9 adapted to engage upon the neck 6 to hold the device in place upon the bottle, the resilient nature of the casing facilitating ready application thereof to said bottle. Within the casing is a valve chamber 10 having a valve seat 11 and spaced therefrom, a valve stop 12. This valve stop 12 is formed as an annular ridge integral with and located inside of the neck portion, concentrically thereto and substantially halfway of the neckgripping extension of the cap. It has the function of providing a seat arrest for cap 8 and also a seal to abut against the upper rim of the bottle neck; furthermore it provides a ring-shaped buffer to prevent a valve stem head 15 from being depressed too far into the bottle neck or being otherwise displaced. In the upper portion or head 13 of the casing is engaged a valve stem 14 having a stem head 15 seated therein to prevent accidental removal thereof, a valve member 16 being disposed upon the other end of said valve stem in valve chamber 10, already referred to above.

The sides 17 of the casing just below the top 13 are thin and therefore rather resilient and capable of distortion upon manually pressing upon the top portion as upon a button. Normally the valve member 16 is held up against valve seat 11 in the casing by the normally elevated position of top 13, as indicated in broken lines at 18, but when the mentioned top portion is depressed by a finger 19, the stem 14 is pushed down with valve member 16, so that the latter leaves seat 11 and is located down in chamber 10, allowing liquid to pass from the neck 6 past said valve member to a spout passage or duct 20 within spout 21 of said casing and out through the latter as long as the finger is held on the top portion 13 of the device. In order to release the air to prevent air lock within the casing, a rear air vent 22 is provided, so that the liquid may flow freely from spout 21, once the valve member is open. As may be seen especially in Figures 1 and 2, the device may be made up in the form of a dog's head, with the nose forming the spout 21 and the top of the head the depressible top portion or operating button 13. Any other form may of course be used.

As soon as the finger is released from the top

3

portion 13, it again springs up into position and draws the valve member against seat 11 and thus closes the bottle. The device is preferably made of live rubber or other resilient plastic, while the valve member and its stem may be made of somewhat stiffer rubber or plastic, or even of metal, if desired.

Manifestly, variations may be resorted to and parts and features modified or used without others within the scope of the appended claims.

Having now fully described my invention, I claim:

1. A dispensing device for bottles and the like, including a resilient valve casing having a neck engaging portion for engaging the neck of a bottle, a spout portion upon one side of the casing having an interior duct leading to the interior of said casing, a valve seat within said casing, valve abutting means in said neck, closure means normally holding the valve portion against said valve seat and thereby closing the bottle, and a resiliently depressible portion upon, and forming an integral part of, said casing for displacing said valve portion from said valve seat, said valve portion including a distinct valve member held within the casing in effective closing position against the seat and, upon distortion of the casing, being displaced from said valve seat, the casing and valve member being made of different

4

grades of resilient material, said abutting means being an annular valve stop ridge integral with said neck-engaging portion located on the inside thereof, said ridge abutting against the upper rim or the neck of the bottle.

2. A dispensing device according to claim 1, in which said casing consists of a unitary member of resilient material, said valve portion including a second member forming a valve of resilient material having one portion engaged by a portion of the casing so as to be moved thereby when the casing is manually pressed, said abutting means being a circular ridge on the inside of said neck engaging portion, said ridge projecting inwardly over the top edge of a bottle neck, and being adapted to block the downward course of said valve portion so as to prevent it from entering said bottle neck.

VALENTINE HENRICSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,992,067	Gun	Feb. 19, 1935
2,011,742	Weber	Aug. 20, 1935
2,185,323	Arnold	Jan. 2, 1940