

(No Model.)

W. W. DIXON.
DEVICE FOR CLOSING BOTTLES.

No. 524,632.

Patented Aug. 14, 1894.

Fig. 1.

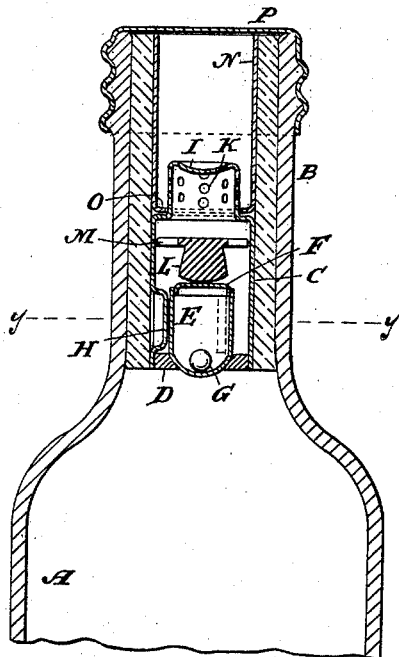


Fig. 3.

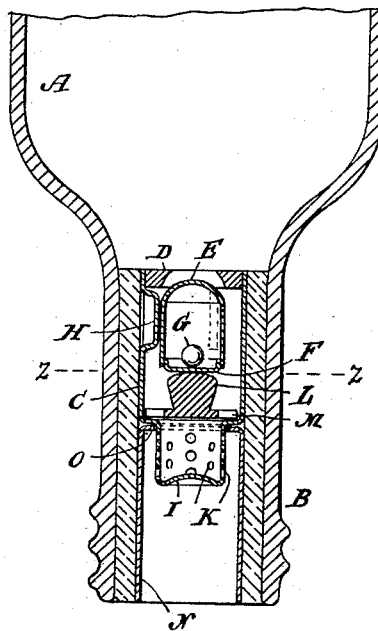


Fig. 2.

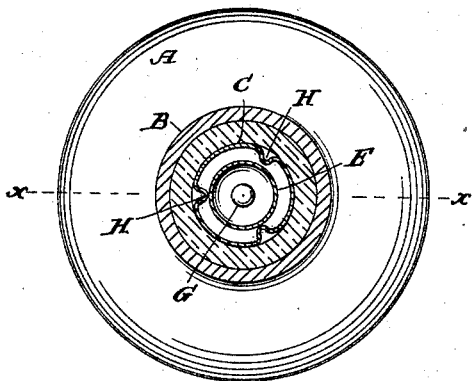


Fig. 4.

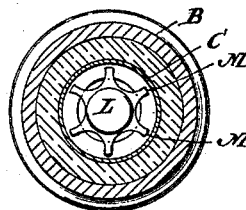
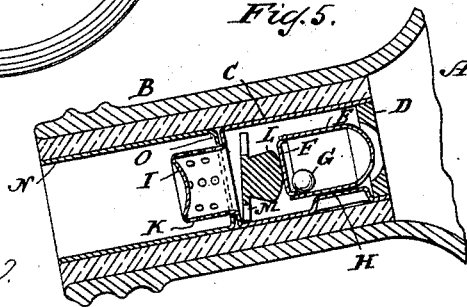


Fig. 5.



WITNESSES:

E. Hoff.
Chas. E. Densgen.

INVENTOR:

William W. Dixon.

BY

Hoff & Hoff
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM W. DIXON, OF BROOKLYN, NEW YORK.

DEVICE FOR CLOSING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 524,632, dated August 14, 1894.

Application filed December 26, 1893. Serial No. 494,779. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. DIXON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Devices for Closing Bottles, of which the following is a specification.

This invention relates to certain improvements in that class of devices for closing bottles which are intended to prevent the fraudulent refilling of the bottle with a liquid of inferior quality to that which it originally contained.

The peculiar and novel construction of my device is pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section when the bottle is in an upright position, the line $x-x$ Fig. 2 indicating the plane of section. Fig. 2 is a transverse section in the plane $y-y$ Fig. 1. Fig. 3 is a vertical central section when the bottle is inverted for pouring out its contents. Fig. 4 is a transverse section in the plane $z-z$ Fig. 3. Fig. 5 is a longitudinal section of the bottle in a downwardly inclined position.

In the drawings the letter A indicates the body of a bottle and B is the neck. In the neck is secured a tubular sheath C having near or at its inner end a valve seat D the opening in which seat is adapted to be closed by a valve E. This valve E is shown as a hollow cylindrical metallic float valve which can be readily drawn or formed of sheet metal and closed by a cap or closure F soldered or secured to the valve. Within the valve E is shown placed a weight or ball G for a purpose to be presently explained.

When the bottle is in upright position as in Fig. 1, the valve E drops onto or closes the seat D, being led to its place by guides or arms H which can be readily formed by bending or flanging the sheath C inward at suitable parts, or the guides or arms H can manifestly be formed on the valve E and the sheath C left cylindrical.

At the top of the tubular sheath C is a guard I closed at the top but having lateral openings K which allow the contents of the bottle to flow out but said guard prevents the

introduction of a wire or tool down into the neck B for the purpose of tampering with or improperly manipulating the valve E.

In the sheath C above the float valve E is a weight L having a flange which is segmental or partly cut away so as to form arms or teeth M which slide or are guided along the sheath C, but the contents of the bottle can be poured out through the spaces between the arms M.

When the bottle is tilted to pour out the contents as in Fig. 5 the weight L will drop toward the guard I and the valve E will drop away from the seat D so as to allow the contents to flow out of the bottle. Should the valve E stick or adhere somewhat to seat D as may occur for example when the bottle contains saccharines or sticky liquids the ball or weight G dropping or rolling toward the cover F will produce a blow or jar which will cause the valve E to drop off seat D. When the bottle is turned to the upright position as in Fig. 1 the valve E drops onto seat D and the weight L comes to rest on valve E. Should it be now attempted to pour liquid into the bottle, such liquid will be prevented by valve E from passing through seat D as the weight L on valve E is sufficient to overcome the power of flotation of valve E. If the bottle is reversed as in Fig. 3 and it is now attempted to force liquid up through neck B into the bottle, the liquid rising in neck B will float the valve E against seat D to close the latter, the power of weight G not being sufficient to overcome the power of flotation of valve E.

The sheath C can be secured or cemented in the neck B so as to be incapable of removal without breaking the neck or the bottle, and said sheath can be further secured by a tubular lining N having a flange O and secured in neck B. The bottle is filled before the sheath C is inserted and said bottle is intended for use only once. When filled and to be shipped or transported the neck can have a screw cap or a seal or tin foil P applied at its mouth in well known way.

The device can not only be applied to bottles but also to other vessels as carboys, demijohns, and the like.

It is also to be noticed that in case the bot-

tle is placed in horizontal position the weight L resting on its flange M will drop or tilt toward the seat D so as to force the valve E to its closing position.

5 What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a sheath adapted to be inserted into the neck of a bottle, and provided at its inner end with a valve-seat D,
10 of a float-valve E composed of a hollow cylinder provided with closed ends and adapted to seat on the valve-seat of the sheath, a perforated cup-shaped guard I fixed within the sheath, and a loose gravitating weight L play-
15 ing between the hollow cylinder and the perforated guard, and provided with separated flanges M, said weight operating to overcome the power of flotation of the hollow cylinder

and to hold the latter down on the valve-seat of the sheath, substantially as described. 2c

2. In a device for preventing the fraudulent filling of a bottle or other vessel, the combination with a sheath having a valve seat, of a hollow float valve adapted to close the valve seat, a guard for preventing tampering with
25 the valve, a weight made to act on the exterior of the valve, and a second weight placed in the interior of the valve, substantially as described.

In testimony whereof I have hereunto set
30 my hand in the presence of two subscribing witnesses.

WILLIAM W. DIXON.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.