

(No Model.)

H. STILL.
BOTTLE CLOSURE.

No. 576,417.

Patented Feb. 2, 1897.

Fig 1.

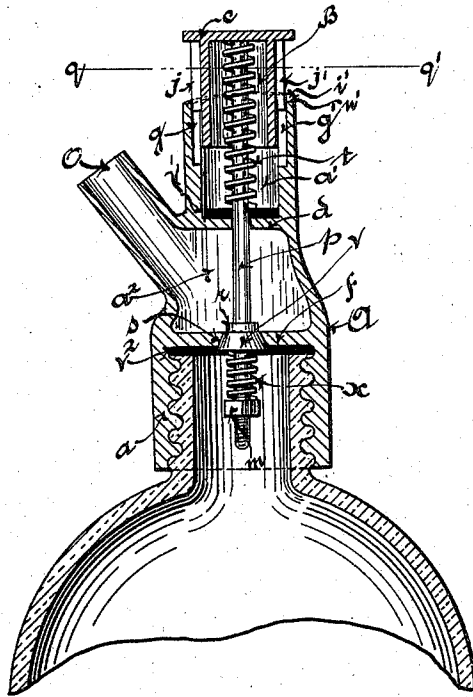


Fig 2.

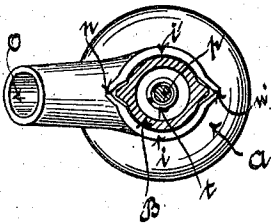


Fig 4.

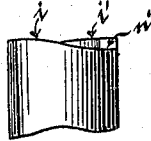
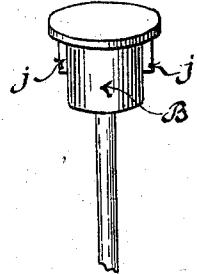


Fig 3.



WITNESSES:

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HENRY STILL, OF BALTIMORE, MARYLAND.

BOTTLE-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 576,417, dated February 2, 1897.

Application filed June 14, 1895. Serial No. 552,842. (No model.)

To all whom it may concern:

Be it known that I, HENRY STILL, a citizen of the United States, residing in the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Bottle-Closures, of which the following is a specification.

The object of my invention is to provide a closure for aerated beverages that will on drawing the contents of the bottle prevent the escape of gas in the bottle not contained in the volume of liquor, thus preserving the purity of the contents and delivering the last drop as fresh and sparkling as when first put in. I obtain this by the arrangement of parts hereinafter set forth and claimed, reference being had to the accompanying drawings, forming part of this specification, similar letters of reference indicating corresponding parts of the several figures.

Figure 1 is a vertical sectional view through the center of the closure and nozzle of a bottle to which the closure is attached. Fig. 2 is a plan view of the closure, taken on line $q q'$ of Fig. 1. Fig. 3 is a perspective view of the cylinder B, showing the lugs $j j'$. Fig. 4 is a view of the upper part of the closure, showing the inclines $i i'$ and stops $n n'$ upon its upper surface.

Referring to Fig. 1, the body of the closure is cylindrical, having three compartments, the lower one, a , being threaded to form a screw fitting properly-constructed threads on the nozzle of the bottle. The diaphragm d separates the upper compartment a' of the body A from the middle compartment a'' .

B is a hollow cylinder (shown in detail in Fig. 3) which moves telescopically in the upper division a' , having a cap or thumb-piece c fixed on its upper end. Upon the outside of the cylinder B and opposite each other are lugs $j j'$, said lugs $j j'$ extending downward from said cap c about two-thirds the length of said cylinder B, the remainder of said cylinder being used to give steadiness to its movement within said chamber a' . The middle chamber a'' is between the upper diaphragm d and the lower one, f , to which chamber is connected the nozzle O. Diaphragm f also forms the valve-seats of the valve v . Lugs $j j'$ move in corresponding grooves $g g'$, said grooves being formed on the inside surface

of the upper compartment a' . These grooves extend downward the full length of the lugs $j j'$ and should be in line with the nozzle O. Inclines $i i'$ are of equal length formed on the top edge of the body of the closure, (shown more fully in Fig. 4,) and should be inclined at an angle of about five degrees, having shoulders $n n'$ at the lowest points. Said shoulders form stops for lugs $j j'$ when rotating the cylinder B, enabling the operator to readily find the grooves $g g'$. The valve-rod p is attached to cap c and passes downward through the diaphragms d and f , and should be of sufficient length below diaphragm f to attach thereto the valve v , nut m , and spiral spring x , which surrounds the rod p . The nut m supports said spring x below the shoulder r . The valve v is so constructed as to allow the rod p to move freely through it. The spring x is used to counteract the effect of spring t , which encircles the rod p in said cylinder B and to force the valve v back to its seat when the valve has been opened to draw the contents of the bottle. Spring t rests on a gasket v' and extends to the under side of cap c . The lengths of these springs x and t depend on the length of the closure and must be adapted thereto.

v^2 is a gasket placed between the bearing-surfaces of the nozzle of the bottle and the closure A.

In operating the locking device the lugs $j j'$ are raised out of the grooves $g g'$ by the cap c and the cylinder B turned to the right, which forces the lugs $j j'$ on the inclines $i i'$, thereby locking the valve v on its seat. The cylinder B, and consequently the rod p , cannot be depressed while the lugs $j j'$ are on the inclines $i i'$. To unlock the valve v for the purpose of drawing the contents of the bottle, turn the cylinder B backward or to the left until lugs $j j'$ reach the lowest points of the inclines $i i'$, where they are stopped by the shoulders $n n'$ and intersect and fall into grooves $g g'$.

I am aware that bottle-closures secured to the nozzles of bottles by means of threaded rims have been made prior to my invention, and I do not claim the same; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a bottle-closure the combination of a

cap provided with a diaphragm closing the mouth of the bottle, said diaphragm being provided with an aperture, a reception-chamber above the diaphragm, which is provided
5 with an opening for pouring the liquid out and a valve for closing the aperture in the diaphragm mounted upon a rod which is provided with a spring for seating the valve and a locking device upon its upper end to lock
10 the valve upon its seat.

2. In a bottle-closure the combination of a cap provided with a diaphragm closing the mouth of the bottle said diaphragm being provided with an aperture, a reception-chamber above the diaphragm, which is provided
15 with an opening for pouring the liquid out and a valve for closing the aperture in the diaphragm mounted upon a rod which is provided with a spring for seating the valve and
20 having a thumb-piece secured to the top of

the rod provided with projecting lugs, and inclines upon the cap with which said lugs engage to lock the valve.

3. In a bottle-closure the combination of a cap provided with a diaphragm closing the
25 mouth of the bottle, said diaphragm being provided with an aperture, a reception-chamber above the diaphragm which is provided with an opening for pouring the liquid out, a valve for closing the aperture in the dia-
30 phragm mounted loosely upon a rod and having a spring below it surrounding the rod and pressing the valve upward and a locking device upon the upper end of the closure to lock the valve upon its seat.

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Witnesses:

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