C. D. BOWYER.

BOTTLE CLOSURE.

APPLICATION FILED JAN. 28, 1913.

1,077,328. Patented Nov. 4, 1913.

Fig. 1.

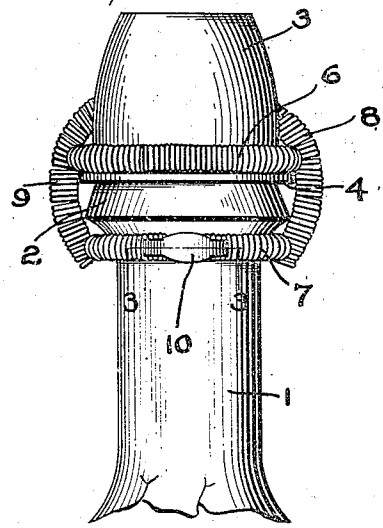


Fig. 2.

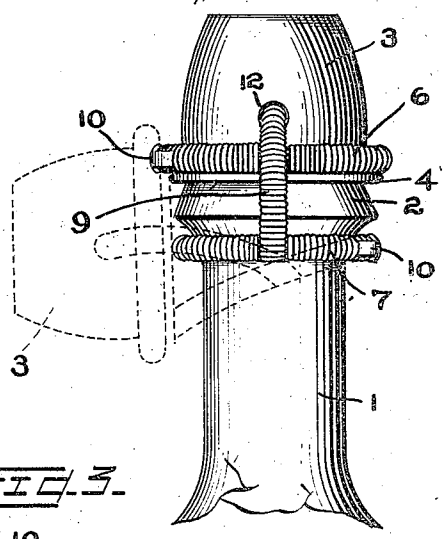


Fig. 3.

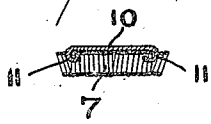


Fig. 4.

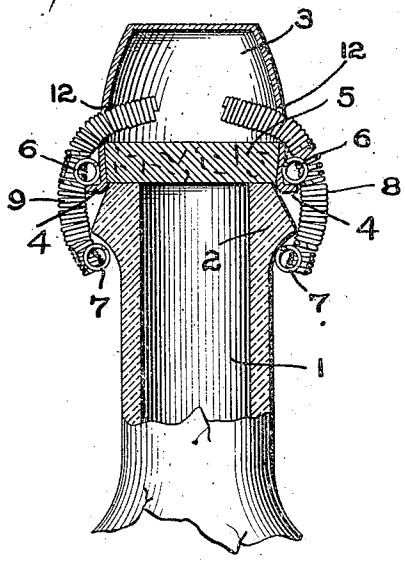
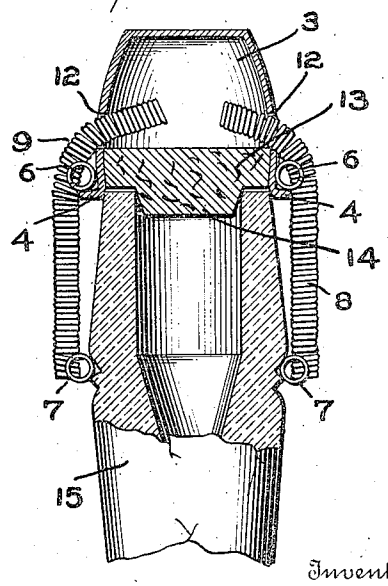


Fig. 5.



Witnesses

L. P. Bowyer

R. A. Krenkel

Inventor

Charles D. Bowyer

By Joshua R. H. Potts.

Attorney

UNITED STATES PATENT OFFICE.

CHARLES D. BOWYER, OF CAMDEN, NEW JERSEY.

BOTTLE-CLOSURE.

1,077,328. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed January 28, 1913. Serial No. 744,610.

To all whom it may concern:

Be it known that I, CHARLES D. BOWYER, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Bottle-Closures, of which the following is a specification.

My invention relates to improvements in bottle closures, the object of the invention being to provide improved elastic means which will elastically connect a stopper to the neck of a bottle or similar article, which will permit the stopper or closure to be moved to a position to pour out the contents of the bottle, and which will elastically hold the stopper in closed position and center the same against the end of the bottle neck.

A further object is to provide a bottle closure of the character above described composed of a plurality of coiled springs, the convolutions of the several springs interlocked, whereby they are held in proper formation relative to each other and connected in an improved manner with a stopper or cover so as to effectually hold the latter in closed position, yet allow it to be moved to open position whenever desired.

A further object is to provide improvements of the character stated which are adapted for use in connection with any ordinary bottle neck or receptacle having a relatively small outlet such as used to hold condiments, and which may be manufactured and sold at a reasonably low price.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1 is a view in side elevation illustrating my improvements in connection with one form of bottle neck. Fig. 2 illustrates in full lines, a side elevation at right angles to Fig. 1, and in dotted lines illustrates the cover in open position. Fig. 3 is a fragmentary view in section on the line 3—3 of Fig. 1. Fig. 4 is a view in longitudinal section partly in elevation illustrating the construction shown in Figs. 1, 2, and 3, and Fig. 5 is a view partly in section and partly in elevation illustrating a modification.

1 represents a bottle neck having an enlarged outlet end 2. My improved closure comprises a cap 3 having a flange 4 at its lower end and adapted to contain a cork or other block 5 which fits against the end of the bottle neck and acts as a complete stopper or closure for the same when the cap is in position. To hold the cap and stopper in operative relationship to the bottle neck, I employ four coiled springs 6, 7, 8, and 9, respectively. The springs 6, and 7, are located in parallelism with the ends of each spring 6 and 7 connected by a coupling 10. Each coupling 10 is composed of a strip of sheet metal having its ends bent in circular formation constituting eyes 11.

In assembling the parts, one spring is screwed or turned with its wire in one of the eyes 11 until the end of the spring is moved the entire length of the coupling. The other end of the spring is then positioned in the eye 11 at the other end of the coupling, and the spring turned or screwed in the reverse direction, so that the ends of the spring will be together at a point centrally between the ends of the coupling as indicated in Fig. 3.

In constructing the device, the two springs 6 and 7 are first secured in circular formation by means of their couplings, and then the side springs 8 and 9 are connected to the springs 6 and 7. It will be noted that the springs 8 and 9 are connected to the springs 6 and 7 by intertwining or interlacing the convolutions of the springs. In other words, the wires forming the springs 8 and 9 are positioned around several convolutions of the spring 6, and then the springs 8 and 9 are turned so that they will be moved longitudinally, yet remain firmly coupled to the spring 6, and when moved an appreciable distance with relation to the spring 6, their ends are intertwined or coupled with the convolutions of the spring 7, and the springs 8 and 9 turned until there is an effectual coupling or interlacing as indicated most clearly in Fig. 4. The four springs will thus be coupled together without employing any third part, but relying solely upon the intertwining or interlacing of the convolutions of the springs. The upper ends of the springs 8 and 9 are projected through openings 12 in the cap 3, and are hid from view. Furthermore, they perform the useful function of limiting the movement of the block or plug 5 in the cap.

As the springs 8 and 9 are located at diametrically opposite sides of the bottle neck, they will elastically center the stopper on the end of the bottle neck as seen in the draw-

ings. When it is desired to pour out the contents of the bottle, it is simply necessary to force the stopper to one side as indicated in Fig. 2, when the several springs will take the shape indicated in dotted lines and hold the closure in this position until it is forced over the enlargement 2, when the springs will return it to its nor position on the end of the bottle neck.

In Fig. 5, I have illustrated a modification which is designed primarily for use on liquor bottles. In this form of my invention, I provide a block or plug 13 within the cap 3 having a depending enlargement 14 to be projected into the bottle neck 15, but in all other respects the construction is the same.

While I have shown my improvements in connection with two styles of bottle neck and two styles of plug or stopper, I would have it understood that the invention is capable of a wide range of usefulness in connection with various forms of dispensing apparatus, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the character described, comprising two coiled springs held in circular formation, other coiled springs located at opposite sides of the first-mentioned springs, and having their convolutions interlocked with the convolutions of the first-mentioned springs, one of said first-mentioned springs adapted to surround a bottle neck, and the other of said first-mentioned springs adapted to surround a closure, substantially as described.

2. A device of the character described, comprising two coiled springs held in circular formation, other coiled springs located at opposite sides of the first-mentioned springs, and having their convolutions interlocked with the convolutions of the first-mentioned springs, one of said first-mentioned springs adapted to surround a bottle neck, and the other of said first-mentioned springs adapted to surround a closure, said closure comprising a cap having a flange at its lower edge, against which said first-mentioned spring bears, and openings in the opposite sides of said cap into which the last-mentioned springs are projected, substantially as described.

3. A device of the character described, comprising two coiled springs held in circular formation, other coiled springs located at opposite sides of the first-mentioned springs, and having their convolutions interlocked with the convolutions of the first-mentioned springs, one of said first-mentioned springs adapted to surround a bottle neck, and the other of said first-mentioned springs adapted to surround a closure, said closure comprising a cap having a flange at its lower edge, against which said first-mentioned spring bears, openings in the opposite side of said cap into which the last-mentioned springs are projected, and blocks located within the caps and against the inwardly projecting ends of said springs limiting the movement of the blocks in the caps, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES D. BOWYER.

Witnesses:
C. R. ZIEGLER,
S. W. FOSTER.