

May 19, 1925.

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RECEPTACLE AND CLOSURE THEREFOR

Filed June 6, 1924

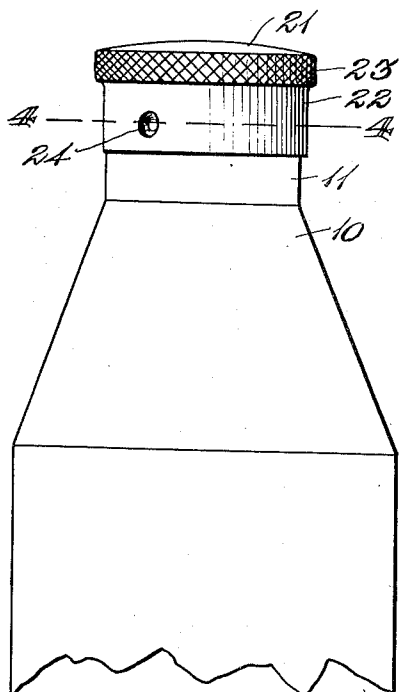


Fig. 1.

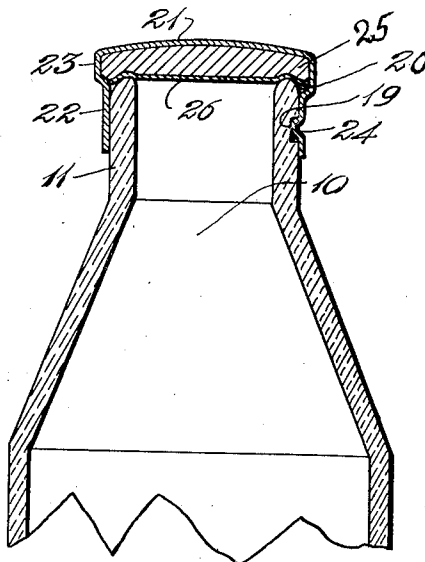


Fig. 2.

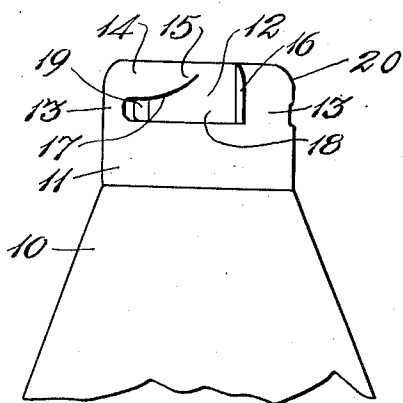


Fig. 3.

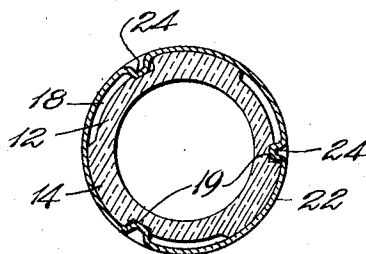


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN L. DUNNOCK, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO HARRY O. BRAUNER, OF BALTIMORE, MARYLAND.

RECEPTACLE AND CLOSURE THEREFOR.

Application filed June 6, 1924. Serial No. 718,216.

To all whom it may concern:

Be it known that I, JOHN L. DUNNOCK, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented certain new and useful Improvements in Receptacles and Closures Therefor, of which the following is a specification.

This invention relates to receptacles and closures therefor and has special reference to an interrupted screw cap closure for containers such as bottles and the like.

The principal objects of the present invention are to provide an improved construction of closures of this type wherein a novel form of interrupted screw is provided on a bottle, the screw being engageable by lugs on a cap and the bottle having special seats provided therein whereby to prevent accidental unscrewing and consequent disengagement of the cap from the bottle with resultant spilling or loss of the contents.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a side elevation of the upper part of a bottle constructed in accordance with this invention.

Figure 2 is a vertical median section therethrough.

Figure 3 is a view similar to Figure 1 with the cap removed.

Figure 4 is a section on the line 4—4 of Figure 1.

In the form of the invention herein shown there is illustrated a bottle 10 having a neck with a circular base portion 11 and a reduced upper or mouth portion 12. On this upper portion is formed a series of spaced projections each of which consists of a main or body portion 13 extending longitudinally of the neck and a lateral portion 14 extending from one side of the mouth end of the respective body portion 13 circumferentially of the neck and terminating at 15 in spaced relation to the abruptly shouldered side 16 of the adjacent projection 13, the terminal end 15 merging by a gentle curve into the surface of the neck.

The under side of each circumferential portion 14 is curved as at 17 to form a cam surface. Thus the spaces between these projections serve to form a series of L-shaped grooves 18, one leg of the L being horizontal and the other vertical and at the inner end of each horizontal leg there is formed a locking depression 19 extending radially inward of the neck. Furthermore the outer edge of the bottle neck at the mouth is mounted off as at 20 for purposes which will be presently understood.

The cap consists preferably of a top portion 21 from the periphery of which depends a skirt 22 which, adjacent the top, is knurled as at 23. Below the knurled portion the skirt is contracted in diameter and depressions are struck inwardly from its outer face to provide lugs 24 of proper size, shape and position to pass into the L-shaped grooves 18 and drop into the recesses 19. In order that these lugs may properly engage in said recesses the lugs project inwardly of the cap to such an extent that a circle drawn within the cap tangent to the innermost points of the lugs will be of slightly less diameter than the reduced portion of the neck and for convenience of reference hereinafter this reduced diameter will be termed the lug circle diameter. Moreover, the cap is made of this metal or other resilient material so that the skirt may distort slightly upon the cap being pushed onto the neck over the rounded off mouth. Thus when the cap is pushed on and turned the lugs will spring into the recesses and hold the cap from accidental unscrewing. A packing disk 25 is preferably seated in the cap to prevent leakage from the bottle.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified. While the invention is shown as applicable to a bottle, it is to be understood that it is also applicable to any kind of a container regardless as to whether the container be made of glass, sheet metal or that of any other material.

Having thus described the invention, what is claimed as new, is:

1. The combination with a bottle cap having a skirt provided with a series of spaced lugs projecting inwardly of the skirt; of a bottle having a neck provided with a similar series of projections on its outer face, each of said projections consisting of a por-

tion extending longitudinally of the neck from the base of said neck to the mouth and a lateral portion extending from one side of the first portion circumferentially of the neck toward the adjacent projection and terminating in spaced relation to the adjacent projection whereby said projections form a series of substantially L-shaped grooves each having a vertical leg opening at the mouth of the neck to receive a respective lug and a horizontal leg into which said lug engages, the circumferential portion of each projection having the side toward the base of the neck curved to form a cap tightening cam; said groove being suddenly deepened at its inner end to provide a lug receiving recess at the inner end of the horizontal leg of each groove and extending radially of the neck into the material thereof.

2. The combination with a bottle cap having a skirt provided with a series of spaced lugs projecting inwardly of the skirt; of a bottle having a neck provided with a similar series of projections on its outer face, each of said projections consisting of a portion extending longitudinally of the neck from the base of said neck to the mouth and

a lateral portion extending from one side of the first portion circumferentially of the neck toward the adjacent projection and terminating in spaced relation to the adjacent projection whereby said projections form a series of substantially L-shaped grooves each having a vertical leg opening at the mouth of the neck to receive a respective lug and a horizontal leg into which said lug engages, the circumferential portion of each projection having the side toward the base of the neck curved to form a cap tightening cam, said groove being suddenly deepened at its inner end to provide a lug receiving recess at the inner end of the horizontal leg of each groove and extending radially of the neck into the material thereof, the lug circle diameter of the cap being slightly less than the diameter of the neck at the bottoms of the grooves and the mouth end of the neck being rounded off to permit the cap to be readily pushed onto said neck whereby, upon positioning of the cap on the neck the lugs of the cap will spring into said recesses.

In testimony whereof I affix my signature.

JOHN L. DUNNOCK.