

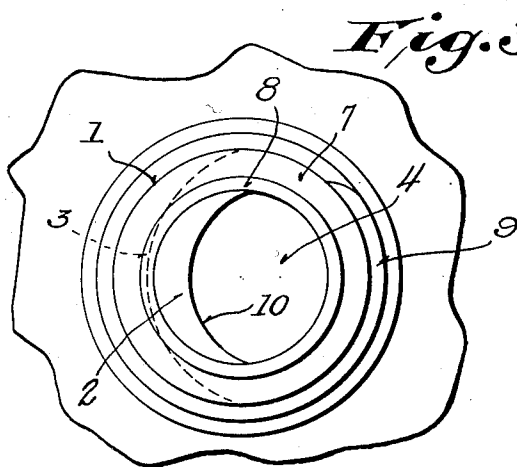
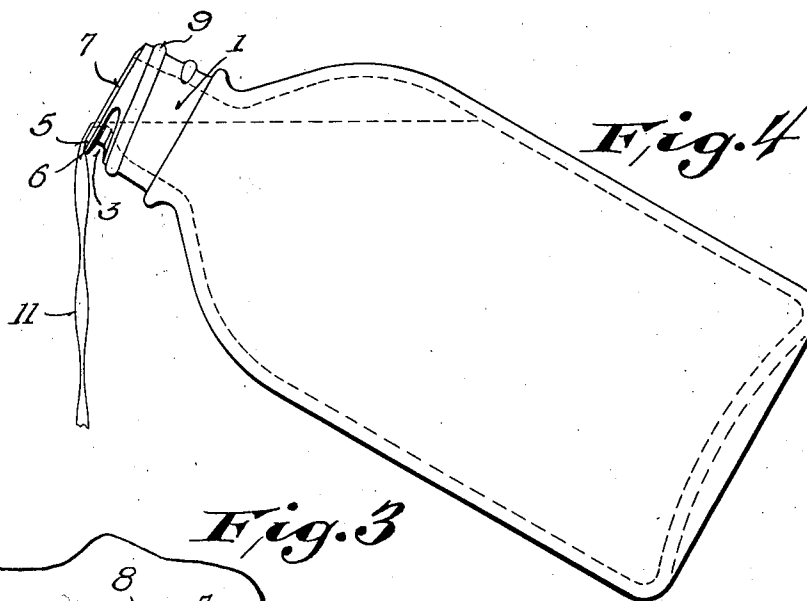
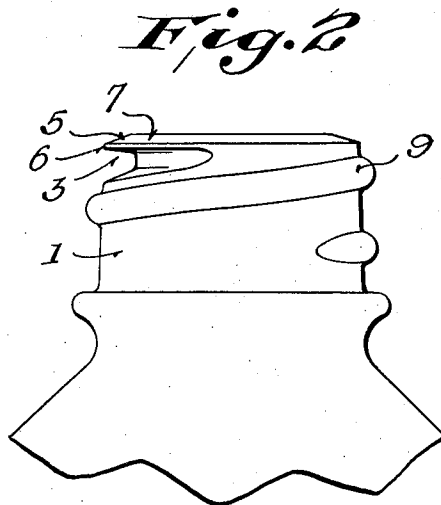
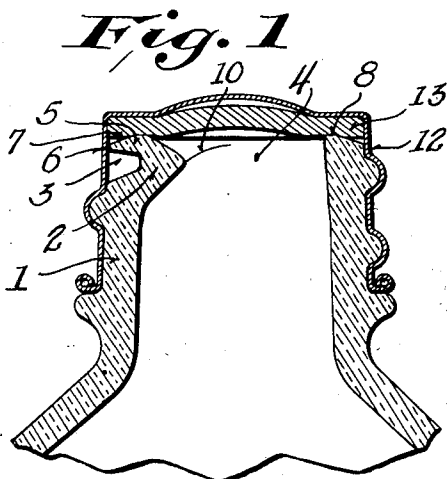
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BOTTLE MOUTH

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BOTTLE MOUTH

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2 Claims. (Cl. 215—31)

This invention relates to bottle mouths capable of being closed by drawn or molded caps of practical depths and diameters. It resides in a formation of mouth which provides for a pouring lip without materially reducing the area of the throat or increasing the diameter of the required cap, and without necessitating a lowering of fastening means on the neck to such a point that drawn or molded caps of impractical depths are required for closing.

In forming closures for bottles substantial economies may be effected through the use of cap closures instead of corks. The cap closure is ideal for bottles intended to contain dry or semi-dry substances, but for closing bottles intended to contain liquids, which are to be dispensed therefrom, cap closures known prior to this invention are open to very serious objections. The common screw cap closure is entirely devoid of any pouring lip and the stream emitted from such a bottle mouth breaks during pouring, spreads down the side of the bottle and is so erratic in behavior that it cannot be directed with any degree of certainty. The fluid which flows down the side of the bottle spreads in copious quantities into the threads or other fastening means on the neck and in many cases causes sticking of the cap. In the case of corrosive or poisonous fluids, the fluid on the outside of the bottle constitutes a real hazard; and in any case is decidedly disagreeable.

Attempts have been made to remedy the above difficulties but none of them has been acceptable. One of these attempts proposes the forming of a pouring lip at the top of the bottle, the threads for securing the cap being displaced a relatively long distance down the neck. This necessitates an exceptionally deep cap, which is so expensive to draw that any economy over the use of ordinary corks is impossible. Further, a substantial constriction of the throat of the bottle is involved in this construction which interferes with rapid pouring. In other constructions proposed a notch at the neck of the bottle is employed, the same producing a malformed lip of small effectiveness in producing a good stream and a clean cut-off. In this form the fastening means are placed entirely below the notch and here also a cap of excessive depth is required. In this form a very substantial constriction in the throat also is involved and prior to this invention no means of eliminating the same has been proposed.

According to this invention, however, a good pouring lip is provided without constricting the throat to a substantial degree, the same being

accomplished without requiring a lowering of the fastening means on the outside of the neck. With the mouth of this invention a cap of ordinary depth may be employed, the same being substantially no deeper nor more expensive than caps used with ordinary closures. There is also provided in this invention a crest concentric with the exterior of the neck so that a gasket in the cap will repeatedly seat to form a good seal.

This invention is best described in conjunction with the accompanying drawing in which:—

Fig. 1 represents a sectional side view of the bottle mouth of this invention, with a typical cap and gasket in place,

Fig. 2 represents a side view in full of the bottle mouth of this invention,

Fig. 3 represents a top view of the bottle mouth of this invention, and

Fig. 4 represents a bottle mouth of this invention illustrating the action during pouring.

As shown in Fig. 1, the wall of the neck 1 is thickened at 2 to accommodate the depression 3. Depression 3 extends only part way around the neck, as shown clearly in Fig. 2, requiring the thickening of the wall 1 at point 2 to intercept only a portion of the throat 4, as shown clearly in Fig. 3. This construction results in the formation of the lip 5 extending part way around the outlet of the bottle. The depth and width of depression 3 and lip 5 are carefully proportioned.

For favorable results the opening of depression 3 should be of substantial size to prevent the pouring stream from jumping across the depression during the pouring action. The width at the base of the depression should also be substantial for the same reason. A V notch is not as effective as a depression of substantial width at the base. The upper side of the depression 3 is advantageously formed as nearly horizontal as draught from the mold will permit. The lip is preferably brought down nearly to a point at 6, and kept throughout as thin as the requirements of strength will permit. One result of these precautions is that during the pouring operation the underside of the pouring stream makes as large an angle as possible with the upperside of depression 3, thus minimizing the tendency of the pouring stream to run back down the side of the bottle. Other results of these precautions are that the pouring stream is kept thin and in the same position relative to the bottle during both rapid and slow pouring, thus making it easy to direct the pouring stream into a small opening. The upper face of the lip is part of a relatively flat miter 7 which extends uniformly around the

rim of the mouth of the bottle. The miter rises to a crest 8 which is an annular surface in a plane normal to the axis of the neck, the crest being concentric with respect to the exterior of the neck.

A helical, projecting thread 9 rises close to the miter 7 at a point approximately diametrically opposed to the lip 5 and descending uniformly makes approximately one turn about the neck of the bottle.

The thickened portion 2 of wall 1 is shown as having a sharp inner edge 10. This facilitates a sharp cut-off of the stream, but the same is not essential, the mouth functioning quite well when the edge 10 is rounded.

From the above description it may be observed that this invention provides a pouring lip without necessitating a deep cap because the thread 9 starts high up on the neck and depression 3 is located between the mouth and the lower portion of thread 9. It may also be observed that the lip 5 in extending only part way around the bottle makes necessary only a minor restriction in the throat of the bottle at 2, greatly facilitating fast pouring. These two important advantages arise simultaneously out of the novel association of the elements of the mouth. In spite of the thickening of one side of the neck at 2 the crest 8 of the mouth, according to this invention, is concentric with the exterior of the neck and when the cap is screwed down the gasket seats smoothly to a good seal.

As indicated in Figure 4, the stream 11 makes the smallest angle with the axis of the bottle neck when the bottle is fullest. The formation of the upper side of depression 3 according to this invention, however, provides a perfectly safe angle at the point of departure even when the bottle is quite full. Further the thin edge 6 of the lip 5 prevents appreciable static accumulations which might creep by capillarity into the depression 3 and spoil its effectiveness or soil the outside of the neck upon cessation of pouring.

In Figure 1 a suitable cap 12 is shown in section attached to the neck. The formation of the cap, of course, may be varied to suit the purpose. The

formation of the same is not considered a part of this invention aside from the fact that it need be no deeper than a cap for a conventional closure. In like manner the use of gasket 13 is optional.

Fastening means other than threads may, of course, be employed with this invention, the space for the accommodation of the same close to the rim of the neck as well as the large throat still being retained as important advantages.

While above has been described the details concerning one specific embodiment of this invention, it is desired that it be understood that the protection obtained hereunder is not to be limited by any particular form or arrangement of parts described above, but only by the limitations of the claims annexed hereto.

I claim as my invention:

1. A ready pouring bottle of the nature described, comprising a neck upon said bottle, fastening means upon said neck describing a descending helical path about said neck, and an inwardly deflected portion of said neck lying within an area defined by the top of said neck and the latter portions of the first turn of fastening means forming a depression a substantial portion of which lies between the level of the upper extremity of the fastening means and the latter portion of the first turn of the fastening means, said depression forming a lip, the underside of which lies in a surface substantially perpendicular to the axis of said neck.

2. A ready pouring bottle of the nature described, comprising a neck upon said bottle, fastening means upon said neck positioned at varying levels downwardly from the top of said neck, and an inwardly deflected portion of said neck lying within an area defined by the top of said neck and the more downwardly displaced fastening means, said inwardly deflected portion forming a depression on one side of the exterior of said neck, a substantial portion of which depression lies below the uppermost fastening means, said depression forming a lip, the underside of which lies in a surface substantially perpendicular to the axis of said neck.

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