No. 829,699. PATENTED AUG. 28, 1906.

W. H. DODGE.

CAP OR CLOSURE FOR BOTTLES, JARS, CANS, OR THE LIKE.

APPLICATION FILED APR. 23, 1906.

FIG. 1

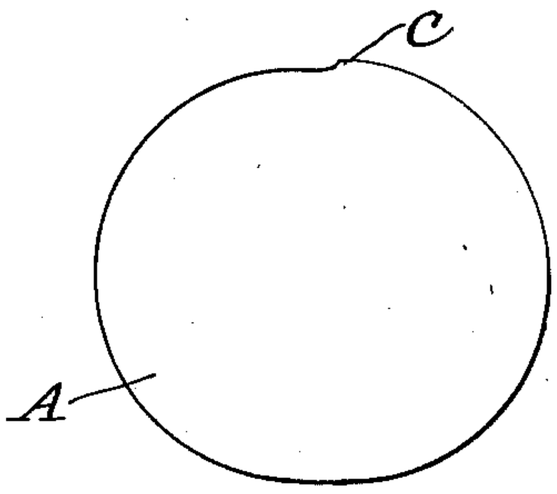


FIG. 2

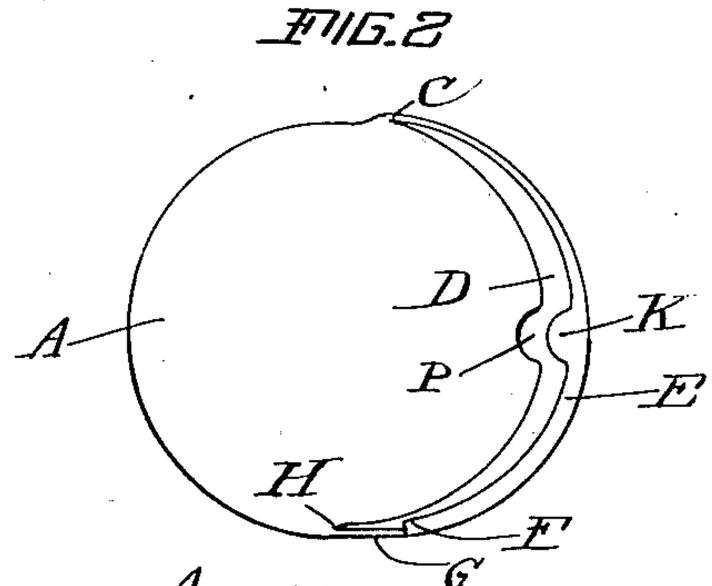


FIG. 3

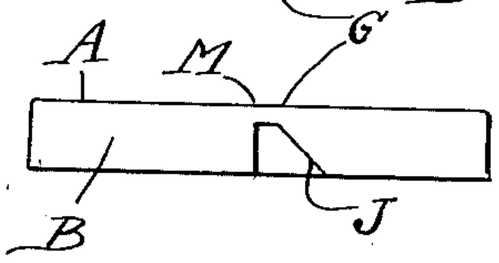


FIG. 4

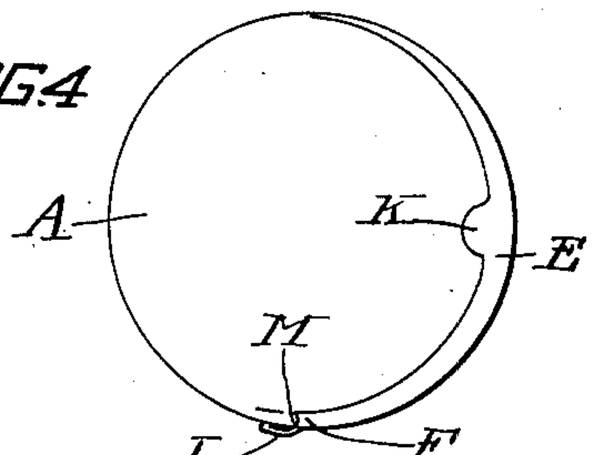


FIG. 5

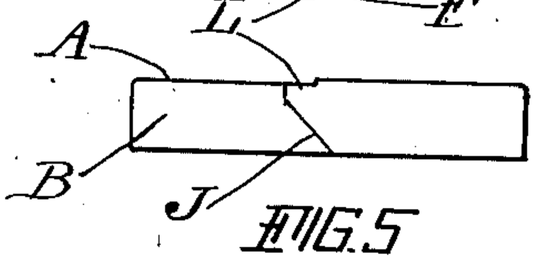
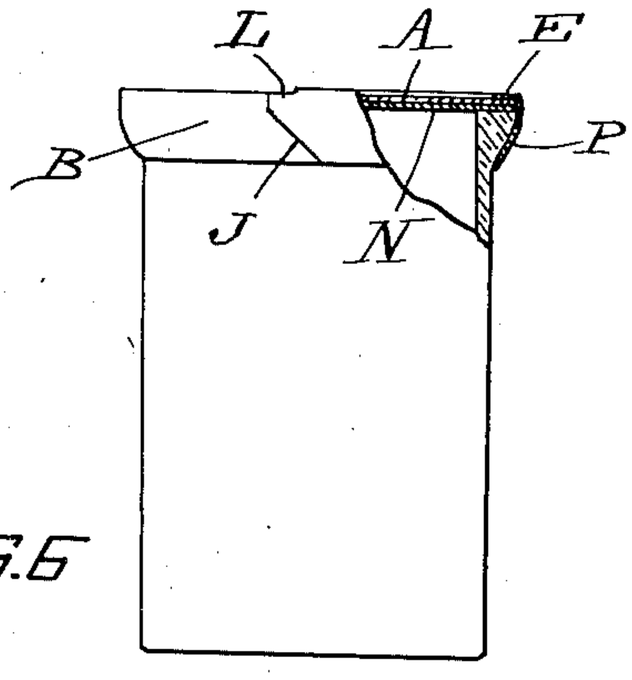


FIG. 6



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UNITED STATES PATENT OFFICE.

WILLIAM H. DODGE, OF MONTCLAIR, NEW JERSEY.

CAP OR CLOSURE FOR BOTTLES, JARS, CANS, OR THE LIKE.

No. 829,699. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed April 23, 1906. Serial No. 313,343.

To all whom it may concern:

Be it known that I, WILLIAM H. DODGE, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented a new and useful Cap or Closure for Bottles, Jars, Cans, or the Like, of which the following is a specification.

This invention relates to caps or closures for bottles, jars, cans, or the like.

The object of the invention is to provide a cap or closure for bottles, jars, cans, or the like which is simple in construction, economical in manufacture, efficient in operation and use, and capable of being readily and easily applied to and removed from the bottle, jar, can, or the like.

A further object of the invention is to form a cap or closure of the character referred to from a single sheet or plate of material in an expeditious and economical manner and to reduce the number of manipulations necessary to produce the finished article.

A further object is to provide means in a single-piece cap for accommodating the handle of a spoon or the like.

A further object is to provide a cap or closure of the character referred to wherein the gripping effect or action is closely adjacent the peripheral edge or mouth of the bottle, jar, can, or the like to which the cap or closure is applied, thereby enabling the same to be removed by the application of slight pressure exerted upon the lower edge of the flange of the cap and in the direction of length of the can, bottle, jar, or the like.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in plan of an eccentrically-shaped cup or shell produced by the initial operation in the production of a cap or closure embodying my invention. Fig. 2 is a similar view showing the eccentric cup or blank with a crescent-shaped strip removed therefrom to separate the flange thereof for a portion of its circumferential length from the base or top of the cup or shell. Fig. 3 is a view in side elevation of a cup or shell, showing a portion of the flange reduced in transverse width to form an integral connecting web in the separated portion of the flange. Fig. 4 is a plan view of a completed cap embodying my invention. Fig. 5 is a view in side elevation of the same. Fig. 6 is a view in side elevation, parts in longitudinal section, showing the application of a cap embodying my invention to the mouth of a bottle, jar, can, or the like.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

In the manufacture of caps or closures for bottles, jars, cans, or the like it is desirable to produce a device which is simple in construction, economical in manufacture, and capable of being readily, easily, and quickly applied to or removed from the mouth of the bottle, jar, can, or the like, while at the same time forming an efficient hermetic seal therefor. It is also desirable to provide means whereby the handle of a spoon or other similar article placed within the can or jar may be accommodated when the same extends beyond or above the top edge of the jar or can. In attaining these objects in the present instance I propose to avoid employing a plurality of parts and the consequent necessity for assembling such parts by hand. I also propose to provide a cap having a flange which is contractible in circumferential length, but which is circumferentially continuous and formed integrally with the top or base portion of the cap and wherein the gripping action exerted thereby upon the exterior surface of the neck of the bottle, jar, can, or the like is closely adjacent the peripheral edge or end thereof, whereby the cap may be readily removed when once applied by exerting pressure upon the lower edge of the flange in the direction of the length of the bottle, jar, can, or the like. I also propose to so form the integral connecting-web portion of the flange as to strengthen the same against danger of rupture at a point where it might present a roughened or sharp edge capable of inflicting injury to the fingers during the manipulation thereof for the removal of the same. I also propose to form an opening in the cap through which when desired the handle of a spoon or similar article may project and to provide means for closing such opening.

In carrying out my invention in the attain-

ment of the above-noted objects I form a sheet or plate of suitable material, preferably metal, such as tin, into a shell or cup of eccentric shape having a top or base portion A and an integral flange B. In the peripheral edge of the shell or cup I form a shoulder C. From the base or top A of the eccentric shell or cup I remove a crescent-shaped strip, as indicated at D, Fig. 2, the cut for the removal of such strip commencing at the shoulder or offset C and continuing for a desirable circumferential distance and adjacent the peripheral edge of the cup or shell, but sufficiently removed from such edge to leave a lip portion E attached to the portion of the flange, which thereby becomes separated throughout a portion of its circumferential length from the top or base. At the same time the eccentricity of the top or base A is reduced, leaving such top or base substantially circular, as clearly indicated in Fig. 2. In practice I prefer to terminate the lip portion E at a point F somewhat short of the length of the separated portion of the flange, leaving a portion G of the separated part of the flange without any such lip, the separating-cut continuing to the point H, as indicated in Fig. 2. In this manner I form the shell or cup with a circumferentially-continuous flange, which is integrally formed with the top or base of the cup or shell, but which is partially separated for a portion of its circumferential length from the top or base, the separated part of the flange being connected to the adjacent unseparated part of the flange by an integral connecting-web portion G. From the lower edge of the integral connecting web-portion G, I remove a piece of the material thereof of somewhat irregular shape, leaving a cut or opening having an upwardly-inclined edge J and a vertical edge, both edges terminating at the lower edge of the connecting web G. From this it will be seen that the integral connecting-web portion G along its upper edge forms a symmetrical continuation of the upper edge of the flange, and the flange is weakened at the portion G by the removal from the lower edge of the web portion G of a portion of the material which would otherwise constitute the transverse width of the flange at this point. With the blank or shell thus formed and produced the cup or closure is completed by folding or bending the integral connecting-web portion G into a fold or upon itself, as indicated at L, Figs. 4, 5, and 6, thereby contracting the effective diameter of the flange and drawing the separated portion thereof together upon the top or base with the lip E lapping over or past the adjacent edge of the top or base to close the opening produced in the top or base by the removal of the crescent-shaped strip therefrom, the shoulder F at the termination of the lip E lapping over the terminal H of the cut, as clearly indicated in Fig. 4. Thus it will be seen that the integral and foldable connecting-web portion G is formed along the upper edge of the flange, and hence at a point closely adjacent the peripheral edge or end of the bottle, jar, can, or the like to which the cap or closure is to be applied, and consequently the removal of the cap or closure may be effected by exerting a pressure upon the lower edge of the cap or closure and in the direction of the length of the bottle, jar, can, or the like. Moreover, the material of the flange by reason of the inclined edge J is of increasing width from one end of the web G until the entire transverse width of the flange is attained. Consequently the web portion, although of reduced width as compared with the width of the flange, is strengthened and braced by the increasing width of the material at that end of the web, and consequently when the web is bent or folded upon itself to complete the cap the weakened part thereof is at the point of fold or bend M, inside the loop or fold, so that in case the web portion should be ruptured by unbending or unfolding the same for the removal of the cap or closure the rupture will be at a point inside the fold or bend, thereby avoiding the formation of sharp or broken edges which might otherwise endanger the fingers during the manipulation of the web for the removal of the cap or closure.

In applying a cap or closure embodying my invention to a bottle, jar, can, or the like I prefer to employ a sealing-disk N, placed within the bottom of the cap or closure or over the mouth of the bottle, jar, can, or the like to which the cap or closure is to be applied. If desired, the cap or closure may be secured to the mouth of the bottle, jar, can, or the like by spinning or bending the edge of the cap or closure under a shoulder P, formed on the bottle, jar, can, or the like.

In order to accommodate the handle of a spoon or similar article, I form a niche or opening P at a convenient point in the edge of the cut made by the removal of the crescent-shaped strip D, and in a corresponding point of the edge of the lip E, I form a projecting tongue K. When the cap is completed by contracting the circumferential length of the flange and drawing the same into position for the lip E to engage over the adjacent edge of the top or base A of the cap, as clearly shown in Fig. 4, the tongue K serves to form a cover for the niche P. By turning or bending the tongue K back upon itself the niche P is uncovered, thereby enabling the handle of a spoon, fork, or other similar article to pass therethrough, and even if the separated portion of the flange should be entirely removed or broken off still there would be a sufficient length of flange left integral with the top or base to form a removable cover for the can or jar, while at the same time the niche P in the edge of the top or base would serve to accommodate the han-

dle of a spoon or similar article. In this manner I make provision in a single-piece cap for the accommodation of the handle of a spoon or other similar article, and this I regard as a valuable feature of my invention.

It is obvious that many variations and changes in the details of construction and arrangement would readily occur to persons skilled in the art and still fall within the spirit and scope of my invention.

I do not claim herein the broad idea of a cap or closure for bottles, jars, cans, or the like, formed from a single piece of material and having a continuous partially-separated flange provided with a contractible portion, as the same is claimed in my pending application Serial No. 285,255, filed October 31, 1905.

Having now set forth the object and nature of my invention, and a construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. A cap or closure for bottles, jars, cans or the like, formed from a single piece of material having a continuous flange provided with a portion partially separated from the base of the cap or closure, the partially-separated portion being connected to the adjacent portion of the flange by an integral connecting web forming a continuation of the upper edge of the flange.

2. A cap or closure for bottles, jars, cans or the like, formed from a single piece of material, and having a continuous flange provided with a portion partially separated from the base of the cap or closure, the partially-separated portion of the flange being connected to the unseparated portion of the flange by an integral web of less width than the flange, said web being formed in substantial continuation of the flange at its point of juncture with the top or base.

3. A cap or closure for bottles, jars, cans or the like, formed from a single piece of material and having a continuous flange provided with a portion partially separated from the base of the cap or closure, the separated portion of the flange having a portion of its material removed from the lower edge thereof to form an integral connecting web along its upper edge.

4. A cap or closure for bottles, jars, cans or the like, having a base or top and a continuous flange formed intergally therewith, said flange being separated from the base or top for a portion of its circumferential length, the separated portion of the flange being connected to the unseparated portion by an integral, foldable web portion of less width than the width of the flange, but increasing in width at one end thereof.

5. A cap or closure for bottles, jars, cans or the like, formed from a single piece of material and having a continuous flange provided with a portion partially separated from the base of the cap or closure, the partially-separated portion of the flange being connected to the unseparated portion by an integral foldable web, the transverse width of the web increasing in width at one end thereof to the full width of the flange.

6. A cap or closure for bottles, jars, cans or the like, formed from a single piece of material and having a continuous flange provided with a portion partially separated from the base of the cap or closure, the separated part of the flange being connected to the unseparated part by an integral web, the upper edge of the web forming a continuation of the upper edge of the flange, and the lower edge of the web increasing in width at one end thereof.

7. A cap or closure for bottles, jars, cans or the like having a top or base and a flange formed integrally therewith, said flange being separated from the top or base for a portion of its circumferential length, said top or base and the separated portion of the flange being respectively provided with a niche and a coöperating tongue.

8. A cap or closure for bottles, jars, cans or the like having a top or base and a flange formed integrally therewith, said flange being of greater circumferential length than the peripheral length of the top or base and having a foldable portion to contract the circumferential length thereof, a niche being formed in said top or base and a tongue on said flange to cover the same when said flange is contracted in length.

9. A cap or closure for bottles, jars, cans or the like having a top or base and a flange formed integrally therewith, but separated therefrom for a portion of its length, said flange having a lip to engage over the edge of the top or base, the edge of the top or base having a niche formed therein and the lip on the flange having a tongue to cover the niche, said flange having a foldable portion to contract the length thereof.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 18th day of April, A. D. 1906.

WILLIAM H. DODGE.

Witnesses:
HENRY BEST,
S. E. DARBY.