No. 829,916. PATENTED AUG. 28, 1906.

W. H. DODGE.

CAP OR CLOSURE FOR BOTTLES, JARS, CANS, AND THE LIKE, AND METHOD OF MAKING THE SAME.

APPLICATION FILED FEB. 12, 1906.

FIG. 1

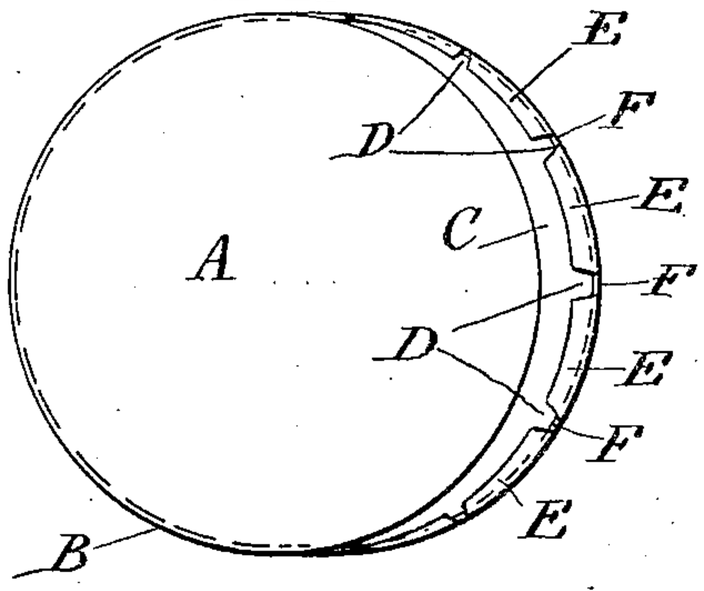


FIG. 2

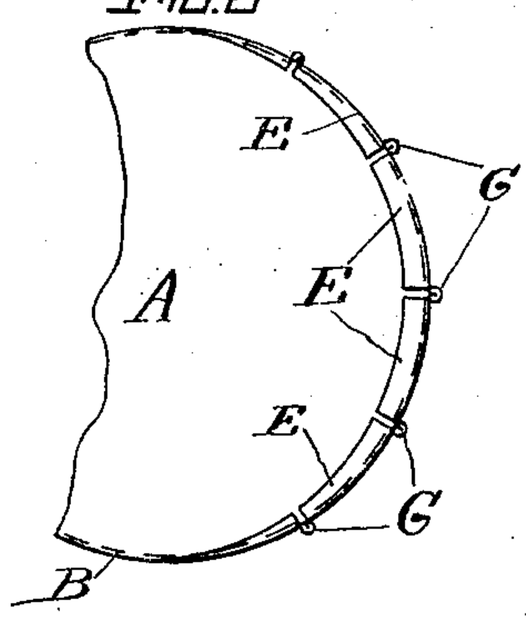
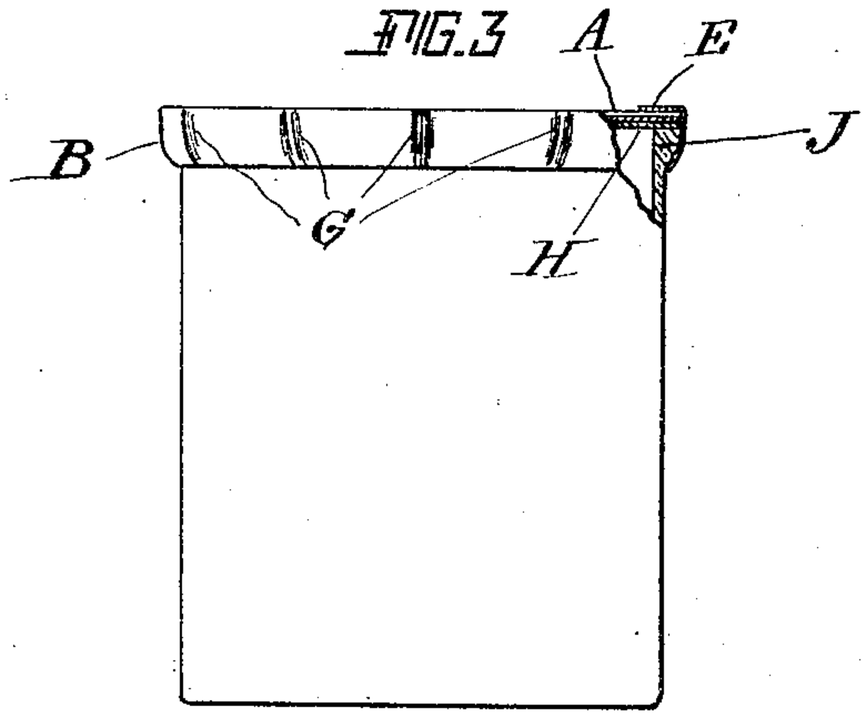


FIG. 3



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UNITED STATES PATENT OFFICE.

WILLIAM H. DODGE, OF MONTCLAIR, NEW JERSEY.

CAP OR CLOSURE FOR BOTTLES, JARS, CANS, AND THE LIKE, AND METHOD OF MAKING THE SAME.

No. 829,916. Specification of Letters Patent. Patented Aug. 28, 1906.

Original application filed October 31, 1905, Serial No. 285,255. Divided and this application filed February 12, 1906. Serial No. 300,803.

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, and the Like, and Methods of Making the Same, of which the following is a specification.

This invention relates to caps or closures for bottles, jars, cans, or the like, and method of making the same, and is divided from my pending application, Serial No. 285,255, filed October 31, 1905.

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, and efficient in operation.

A further object of the invention is to provide a cap or closure which may be readily, quickly, and easily applied to or removed from a bottle, jar, can, or the like and which is efficient in hermetically sealing the same.

A further object of the invention is to form a plate or sheet of suitable material into a shell to produce a cap or closure and which shell is provided with a top or base and a continuous flange formed integrally therewith, but separated therefrom for a portion of its circumferential length, the separated portion of the flange having a plurality of connecting-web portions formed therein at various points and adapted to be bent or folded into loops to contract the peripheral length of such flange.

Other objects of the invention will appear more fully hereinafter. The invention consists, substantially, in the construction, combination, location, and arrangement of parts and mode of operation, 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 top plan of a cap or closure embodying the principles of my invention, and showing the flange separated from the top or base of the cap or closure for a portion of the circumferential length thereof and of greater circumferential length than the peripheral length of the top or base. Fig. 2 is a broken view in plan, showing the construction of Fig. 1 after the flange has been contracted in its circumferential length. Fig. 3 is a view in side elevation of a bottle, jar, can, or the like, showing the application thereto of a cap or closure embodying the principles of my invention.

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 a bottle, jar, can, or the like, while at the same time efficient in hermetically sealing the bottle, jar, can, or the like when applied thereto. In attaining these desirable objects in my present invention I propose to form the cap or closure from a single piece or sheet of suitable material, preferably metal—such, for instance, as tin; but I do not desire to be limited or restricted in this respect. In carrying out my invention the sheet or plate of material is formed into an eccentric-shaped shell having a top or base and a continuous flange formed integrally therewith, the flange being separated from the top or base for a portion of its circumferential length by the removal of a strip from the base or top along and adjacent the peripheral edge thereof, thereby reducing the top or base to circular contour and leaving the flange of greater circumferential length than the peripheral length of the top or base, the separated portion of the flange having formed therein at suitable intervals weakened or reduced portions adapted to be bent or folded into loops in order to contract the circumferential length of the flange. In this manner it will be observed that I avoid employing a plurality of parts necessitating the assembling of the same by hand, while at the same time affording means for enabling the cap or closure to be applied to or removed from a bottle, jar, can, or the like quickly and readily.

Referring to the accompanying drawings, reference-sign A designates the top or base of the cap or closure, and B the continuous flange formed integrally with the top or base. In accordance with the principles of my in-

vention I separate the integral continuous flange for a portion of the circumferential length thereof from the top or base by removing a strip from the top or base, as indicated at C, Fig. 1, thereby reducing the diameter of the top or base without reducing the diameter of the flange. In practice this slit or cut is somewhat crescent-shaped and extends along and adjacent to the flange B, thereby leaving attached to the separated part of the flange a portion of the top or base to form a lip or rim to engage or lap over past or upon the adjacent edge of the top or base when the flange is contracted in the circumferential length thereof. At suitable intervals throughout the length of the separated part of the flange the engaging lip connected thereto is cut out or away, as indicated at P, thereby forming a plurality of consecutive lip portions E, with intermediate integral connecting-web portions F formed in the flange. In order to contract the circumferential length of the flange, these intermediate integral connecting-web portions F are bent or folded into loops or folds, (indicated at G,) and when the circumferential length of the flange is thus contracted the engaging lip portions E engage with or lap over or upon the adjacent edge of the top or base, as clearly indicated in Fig. 3, to close the cut made in the top or base when the cap or closure is applied for use. To remove the cap or closure, it is only necessary to rupture one or more of the loops or folds G.

In applying a cap or closure embodying my invention I prefer to place a sealing-disk H over the top of the bottle, jar, can, or the like or in the bottom of the shell of the cap or closure, and in order to secure the cap or closure in place the edge of the flange thereof is crimped under the shoulder J, which is formed around the mouth of the bottle, jar, can, or the like, as clearly shown in Fig. 3.

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, above referred to.

Having now set forth the object and nature of my invention and the mode of operation involved in the production of the cap or closure, 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, having a base or top and a continuous flange formed integrally therewith, said flange being separated from the top or base for a portion of its circumferential length, the separated portion of the flange having a plurality of integral web portions intermediate the ends thereof, adapted to be bent or folded into loops to contract the circumferential length of such flange.

2. A cap or closure for bottles, jars, cans or the like, having a base or top and a continuous flange formed integrally therewith, said flange being separated from the base or top for a portion of the circumferential length of such flange, the separated portion of the flange having an engaging lip, said lip being interrupted at various points in the length thereof to form integral connecting-web portions in the separated part of the flange, said web portions adapted to be bent or folded into loops to contract the circumferential length of the flange, said lip engaging or lapping over or upon the adjacent edge of the top or base when said flange is contracted in the circumferential length thereof.

3. A cap or closure for bottles, jars, cans or the like, formed from a single piece or sheet of material, and having a top or base and a continuous flange formed integrally therewith, said flange being separated from the top or base for a portion of its circumferential length, the separated portion of the flange having alternating integral connecting-web portions and engaging lips, the web portions adapted to be bent or folded into loops to contract the circumferential length of such flange.

4. In the manufacture of caps or closures for bottles, jars, cans or the like, the method which consists in forming a sheet or plate of suitable material into an eccentric-shaped shell having a top or base and a continuous flange formed integrally therewith, then removing a strip from the top or base to reduce the same to circular contour thereby leaving the flange of greater circumferential length than the peripheral length of the top or base and separating the flange from the base or top for a portion of its circumferential length, then bending or folding the separated portion of the flange into loops at various points throughout the length thereof to contract the circumferential length of such flange.

5. In the manufacture of caps or closures for bottles, jars, cans or the like, the method which consists in forming a sheet or plate of suitable material into an eccentric-shaped shell having a top or base and a continuous flange formed integrally therewith, then removing a strip from the top or base for a portion of its circumferential length and along a line adjacent the flange to reduce the top or base to circular contour thereby leaving the flange of greater circumferential length than the peripheral length of the top or base and separating the flange from the base or top for a portion of its cirucmferential length, and leaving a portion of the top or base connected to the separated part of the flange to form

an engaging lip, and then removing portions of the lip at various points intermediate its length, to form integral web portions in the separated part of the flange, and finally bending or folding the web portions into loops to circumferentially contract the flange.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 5th day of February, A. D. 1906.

WILLIAM H. DODGE.

Witnesses:

HENRY BEST,

S. E. DARBY.