

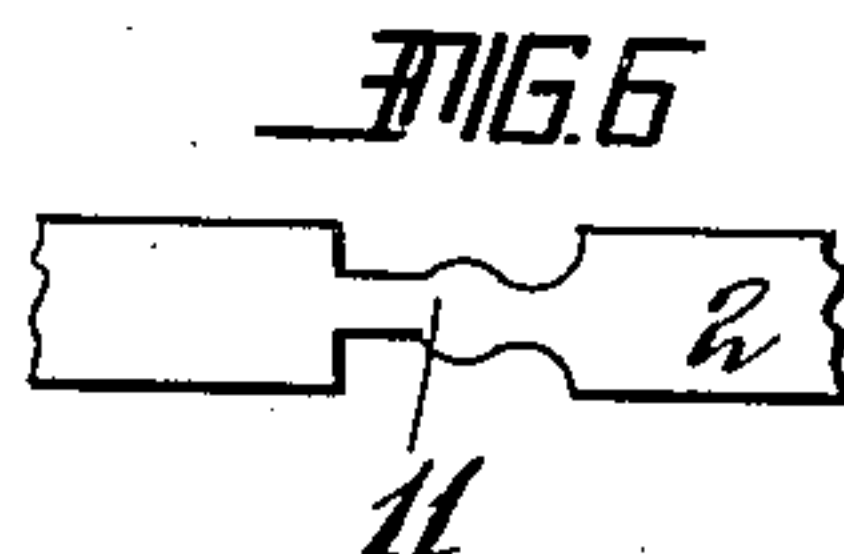
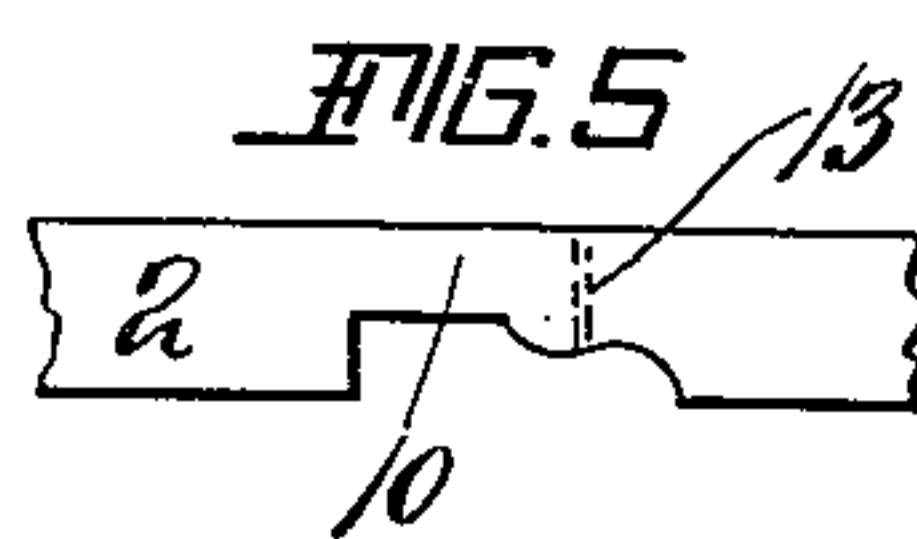
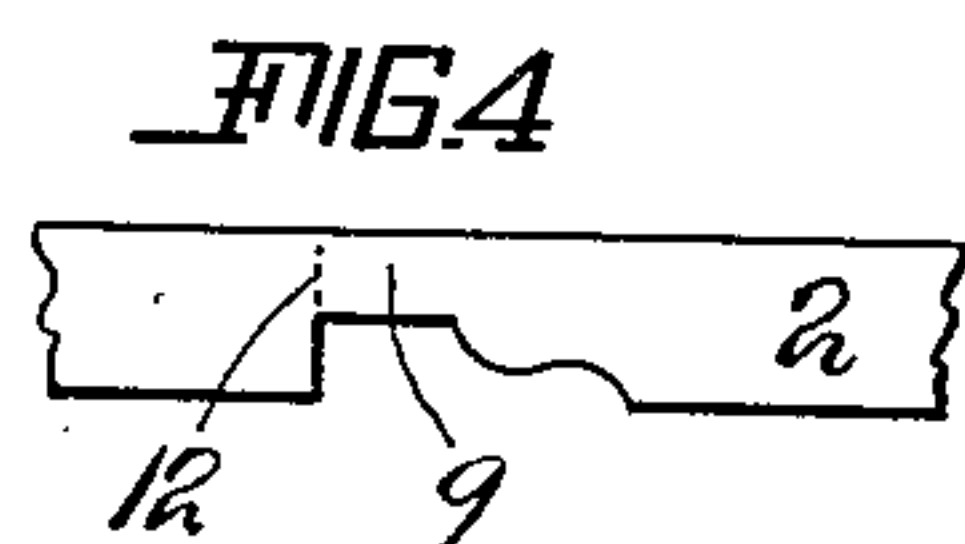
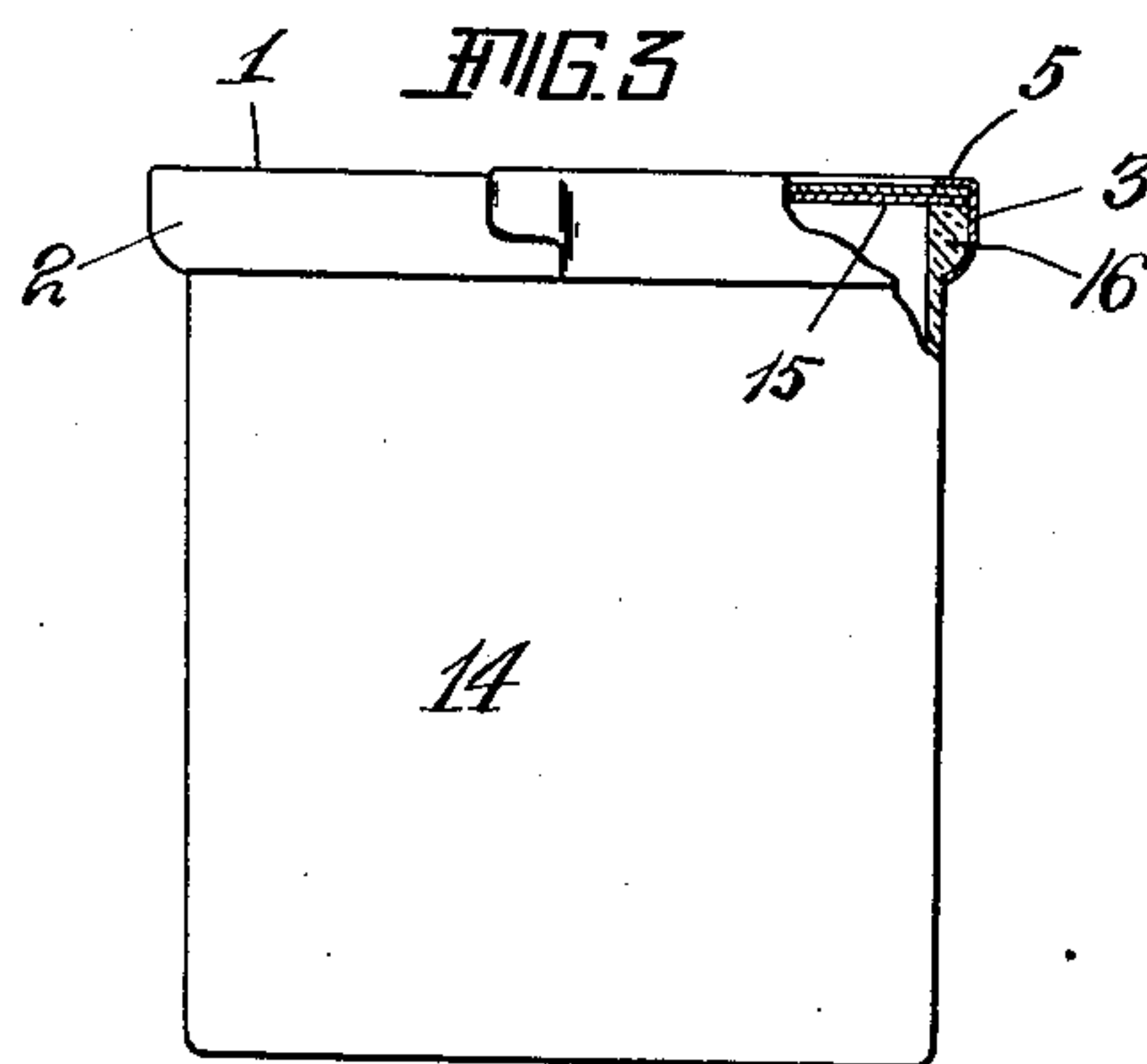
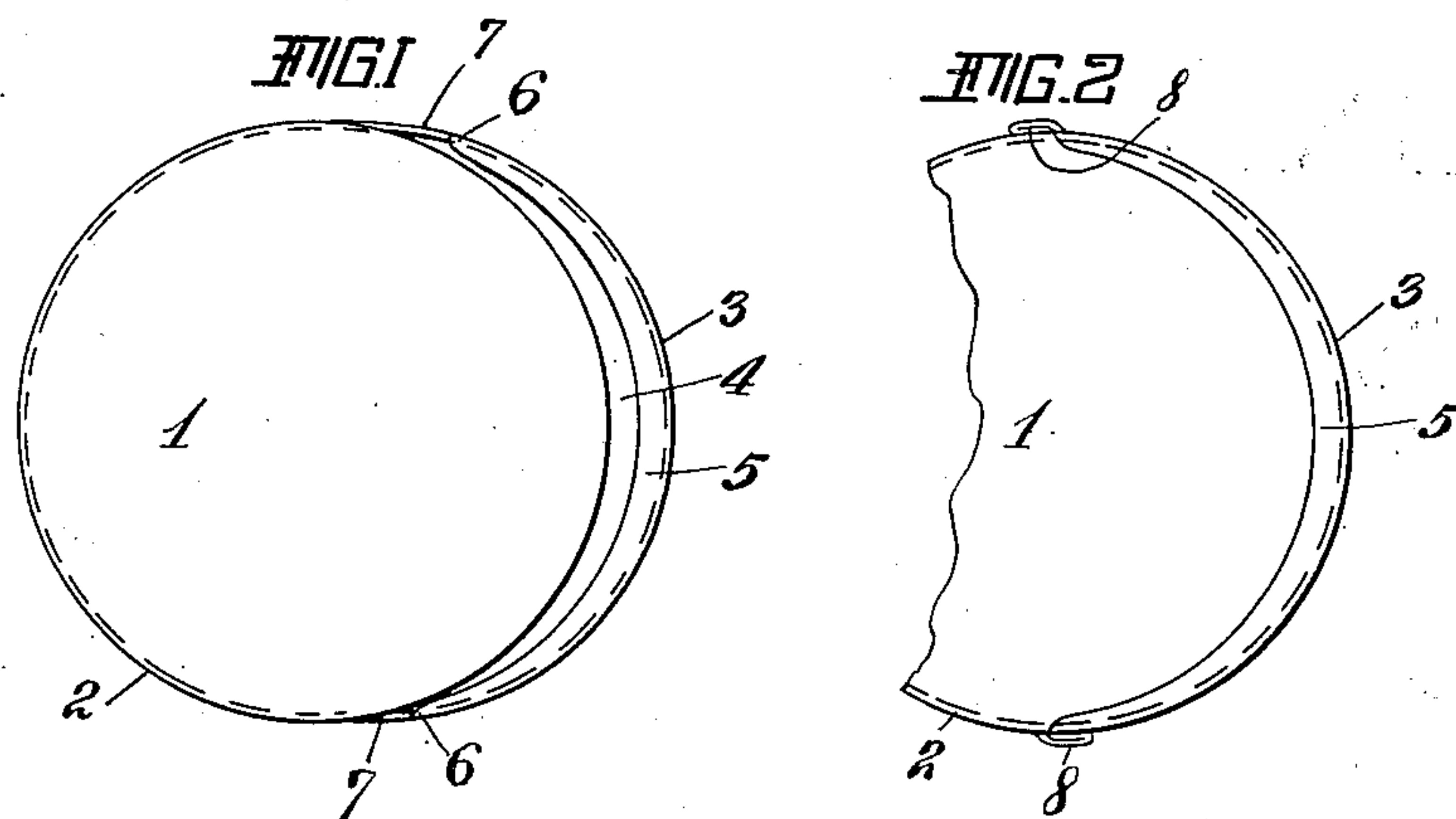
No. 829,915.

PATENTED AUG. 28, 1906.

W. H. DODGE.

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

APPLICATION FILED FEB. 12, 1906.



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UNITED STATES PATENT OFFICE.

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

No. 829,915.

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. 300,802.

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, and Method 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 and use.

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.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, 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 plan of a cap or closure embodying the principles of my invention and showing the same before contracting the circumferential length of the flange thereof. Fig. 2 is a broken view in plan, showing the cap or closure of the form disclosed in Fig. 1 after the contraction in the length of the flange. Fig. 3 is a view in side elevation, parts in section, showing the application of a cap or closure embodying the principles of my invention to a bottle, jar, can, or the like. Figs. 4, 5, and 6 are broken detail views showing various forms of integral connecting-web portions of the flange and which are adapted to be bent or folded into loops to contract the circumferential length of the flange.

The same part is designated by the same reference-numerals wherever they occur 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 con-

struction, 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. In my pending application, Serial No. 285,255, filed October 31, 1905, of which the present application is a division, I have shown, described, and claimed generically various constructions of cap or closure where- in these various objects are accomplished.

In the present application I have shown and will now describe and claim one of the specific forms of construction and the method of making the same, shown, described, and claimed broadly and generically in my prior application. In attaining the desired objects in the present instance I propose to avoid employing a plurality of parts and the consequent necessity for assembling such parts by hand, and I propose to provide means whereby the effective inclosing or surrounding diameter of the cap or closure is contractible, and therefore in accordance with the principles of my invention I first form a blank sheet or plate of suitable material, preferably of sheet metal—such, for instance, as tin—though in this respect I do not desire to be limited or restricted into an eccentric-shaped shell having a top or base and a lateral continuous flange formed integrally therewith. I then remove a strip from the base or top to reduce the same to circular contour and to separate the flange from the top or base for a portion of the circumferential length of the flange, thereby reducing the peripheral length of the top or base without reducing the circumferential length of the flange, and I connect the separated portion of the flange at the ends thereof to the adjacent portions of the flange by means of integral connecting-web portions, which, if desired, may be reduced in transverse width or otherwise suitably weakened and which are capable of being folded into loops or bends, so as to contract the circumferential length of the flange for application of the cap to a bottle, jar, or the like and of being unfolded to extend the circumferential length of the flange to loosen the same in order that the cap may be removed. In separating the flange from the top or base I also propose to leave a portion of the base connected to the separated part of the flange for a portion of the length of such separated part,

thereby forming an engaging lip or rim to engage over or upon the adjacent edge of the top or base when the flange is contracted in its peripheral length.

5 Referring to the accompanying drawings, reference-sign 1 designates the top or base of the cap, and 2 the continuous flange formed integrally with the top or base. The flange is separated from the top or base 1 for a portion of the circumferential length of the flange, the separated portion of the flange being indicated at 3. The separation of the flange, as above indicated, is effected by cutting through the top or base 1, as indicated at 15 4, Fig. 1, thereby reducing the top or base to circular contour, leaving the flange of greater circumferential length than the peripheral length of the top or base. In practice the line of cut to effect the separation of the portion of the flange and the removal of the strip from the top or base extends along and adjacent the peripheral edge of the base or top, leaving, however, a portion 5 of the base or top connected to the separated portion of the flange in order to form a lip or rim to engage with or lap past or upon the adjacent edge of the top or base when the flange is contracted in the circumferential length thereof. In practice and in accordance with my present invention the engaging lip 5 does not extend the entire length of the separated portion of the flange, but the line of cut which produces the separated portion of the flange and the engaging-lip portion 5 thereof extends at each end thereof, as indicated at 6, Fig. 1, to the flange itself, thereby leaving an integral web portion 7 at each end of the severed portion of the flange and connecting such separated portion of the flange at its ends to the adjacent portions of the cap or flange. In forming the completed cap or closure these integral connecting-web portions 7 are bent or folded into loops 8, thereby contracting the circumferential length of the flange and enabling the lip 5 to engage over or lap upon or past the adjacent edge of the top or base, as clearly indicated in Fig. 3, thereby efficiently closing the slit or opening made by the cut which produces the flange 5 and separates the flange for a portion of its length, as above explained.

It is obvious that the integral connecting portions 7 may be of any suitable shape or design. In Figs. 4, 5, and 6 I have shown at 55 9, 10, and 11 various shapes and styles of integral connecting-webs which are equally well adapted for my purposes. Should it be desired to effect the rupture or breakage of the integral connecting-webs in removing the cap or closure for a bottle, jar, can, or the like, the webs may be suitably weakened—as, for instance, by providing therein or thereacross, at one or more suitable points, grooves or scores, (indicated by dotted lines at 12, Fig. 4, 65 and 13, Fig. 5.)

In the application of a cap or closure embodying the principles of my invention to a bottle, jar, can, or the like (indicated at 14, Fig. 3,) I prefer to employ a sealing-disk 15, which is applied to the top of the bottle, jar, can, or the like, or which may be placed in the bottom of the shell of the cap or closure. When the flange is contracted in its circumferential length, the lip 5 engages with or laps past or upon the adjacent edge 75 of the base or top of the cap, as clearly shown, and in order to secure the cap or closure upon the mouth of the bottle, jar, can, or the like the edge of the flange 2 may be crimped under the shoulder 16, formed on or surrounding such mouth, as clearly shown in Fig. 3.

Having now set forth the object and nature of my invention, and a construction embodying the principles thereof, and the mode of operation involved in the manufacture, 85 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 base or top for a portion of the circumferential length of such flange, the separated portion of the flange having a fold or loop formed therein at each end thereof to contract the circumferential length of such flange. 95

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 its circumferential length, the separated portion of the flange being connected to the unseparated portion of the flange at the ends thereof by means of integral connecting-webs, said webs adapted to be bent into folds or loops to contract the circumferential length of such flange. 105

3. A cap or closure for bottles, jars, cans or the like, having a top or base 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 being connected at its ends to the unseparated portion of the flange by integral weakened webs adapted to be folded or bent into loops to contract the circumferential length of such flange. 115

4. A cap or closure for bottles, jars, cans or the like having a top or base 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 having a lip to engage over or lap past or upon the adjacent edge of the top or base, the separated portion of the flange being connected at the ends thereof with the unseparated portion of the flange by means of integral webs adapted to be 130

bent or folded into loops to contract the circumferential length of the flange.

5. A cap or closure for bottles, jars, cans or the like having a top or base and a continuous flange formed integrally therewith, said flange being separated from the base or top for a portion of the length of such flange, the separated portion of the flange having an engaging lip, said engaging lip terminating short of the ends of the separated portion of the flange, thereby forming integral web portions for connecting the separated part of the flange at the ends thereof to the unseparated part of the flange, said connecting-web portions adapted to be formed into loops or folds to contract the circumferential length of the flange.

6. In the manufacture of caps or closures for bottles, jars, cans, or the like, the method which consists in forming a plate or sheet 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 base or top to separate said flange from the base or top for a portion of the length of such flange, and to reduce the base or top to circular contour leaving the flange of greater circumferential length than the peripheral length of the base or top and finally bending or folding the separated part of the flange at the ends thereof into loops to contract the circumferential length of such flange.

7. In the manufacture of caps or closures for bottles, jars, cans or the like, the method which consists in forming a plate or sheet 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 separate said flange from the base or top for a portion of the circumferential length of such flange, thereby reducing the base or top to circular contour leaving the flange of greater circumferential length than the peripheral length of the base or top then reducing the width of the separated portion of the flange at the ends thereof, and finally folding the reduced portions into loops to contract the circumferential length of the flange.

8. 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 base or top to separate the flange from the base or top for a portion of the circumferential length of such

flange, thereby reducing the base or top to circular contour, leaving the flange of greater circumferential length than the peripheral length of the base or top then weakening the separated portion of the flange at the ends thereof, and finally bending or folding the weakened portions of the flange into loops to contract the circumferential length of the flange.

9. 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 along a line adjacent the peripheral edge thereof to reduce the top or base to circular contour and to separate the flange from the base or top for a portion of the length of such flange, thereby leaving the flange of greater circumferential length than the peripheral length of the base or top and also leaving a portion of the base or top connected to the separated part of the flange to form a lip thereon, and finally bending or folding the ends of the separated portion of the flange into loops to contract the circumferential length of the flange.

10. In the manufacture of caps or closures for bottles, jars, cans or the like, the method which consists in forming a plate or sheet of suitable material into an eccentric-shaped shell having a base or top and a continuous flange formed integrally therewith, then removing a strip from the top or base along a line adjacent the peripheral edge thereof to reduce the base or top to circular contour, the ends of the slit or cut made by the removal of the strip approaching the flange and continuing a short distance along the length of the flange, thereby forming an engaging lip for a portion of the length of the separated part of the flange, and integral connecting portions connecting such separated part of the flange at the ends thereof to the unseparated portion of the flange, and finally bending or folding the webs into loops to contract the circumferential length of 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.