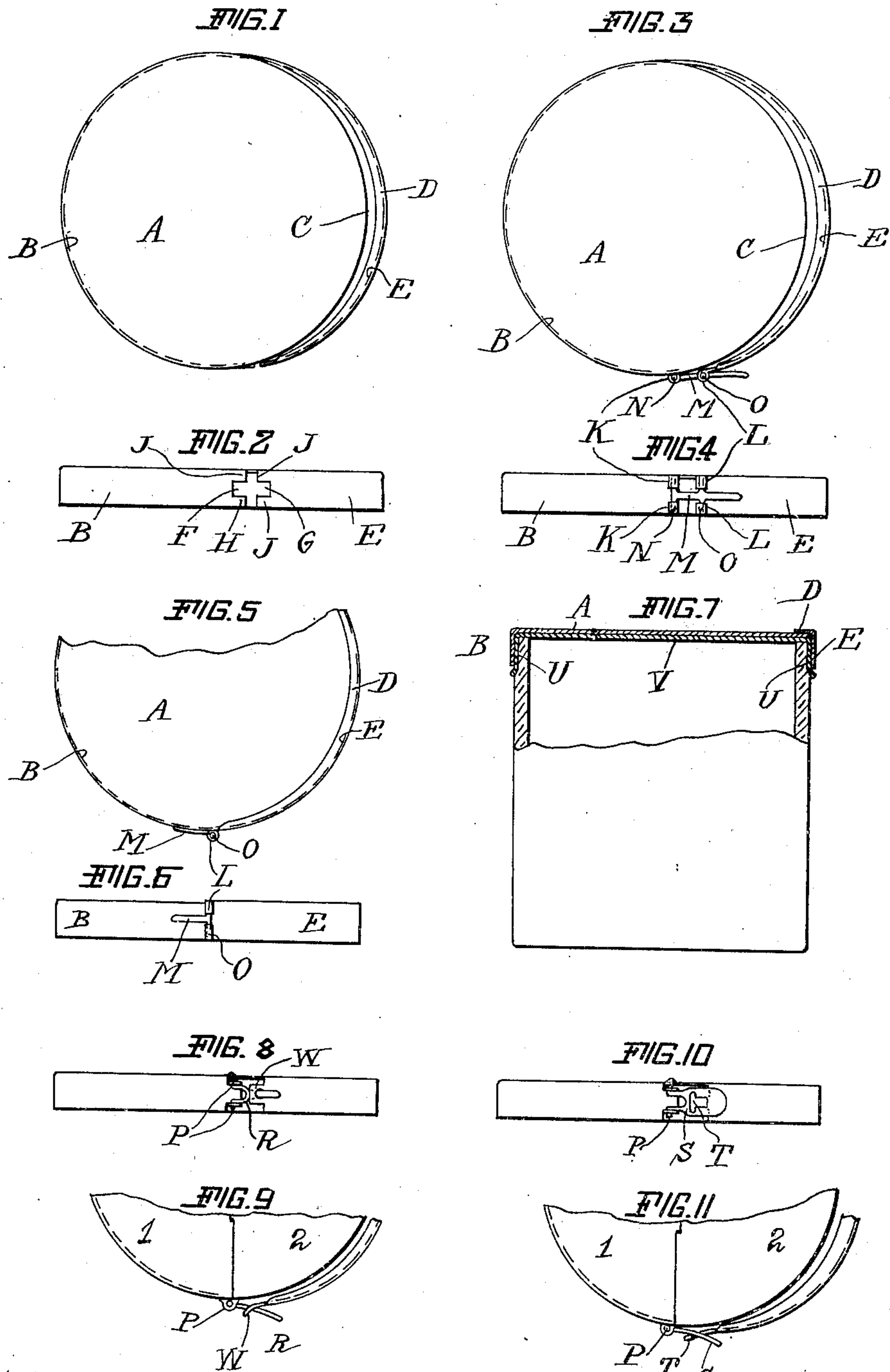


No. 829,697.

PATENTED AUG. 28, 1906.

W. H. DODGE.
SECURING DEVICE FOR CAPS OR CLOSURES FOR BOTTLES, JARS, CANS,
OR THE LIKE.

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UNITED STATES PATENT OFFICE.

WILLIAM H. DODGE, OF MONTCLAIR, NEW JERSEY.

SECURING DEVICE FOR CAPS OR CLOSURES FOR BOTTLES, JARS, CANS, OR THE LIKE.

No. 829,697.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 20, 1906. Serial No. 302,044.

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 Securing Device for Caps or Closures for Bottles, Jars, Cans, or the Like, of which the following is a specification.

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

The object of the invention is to provide means which are simple in construction, economical in manufacture, and efficient in operation for securing caps or closures to bottles, jars, cans, or the like.

A further object is to provide means which are simple and efficient for detachably securing caps or closures to bottles, jars, cans, or the like where the bottle, jar, can, or the like has no fillet or shoulder surrounding the mouth thereof.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and relative 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 top plan of a shell to form a cap or closure and showing the flange separated from the top or base of the cap or closure for a portion of its circumferential length in the initial stage of the manufacture of the cap or closure. Fig. 2 is a side elevation of the shell in the stage illustrated in Fig. 1. Fig. 3 is a view similar to Fig. 1, showing the manner of application of the securing-lever to the ends of the flange in one form of embodiment of my invention. Fig. 4 is a view in side elevation of the construction shown in Fig. 3. Fig. 5 is a broken view in top plan of a completed cap or closure with the securing-lever in locking position. Fig. 6 is a view in side elevation of the construction shown in Fig. 5. Fig. 7 is a view, partly in section, of a bottle, jar, can, or the like, showing the application thereto of a cap or closure by means of a securing device and embodying the principles of my invention. Fig. 8 is a view in side elevation of a cap or closure, showing a slightly-modified form of securing device embodying the prin-

ciples of my invention. Fig. 9 is a broken view, in top plan, of the construction shown in Fig. 8. Fig. 10 is a view similar to Fig. 8, showing another slightly-modified form embodying the principles of my invention. Fig. 11 is a broken view in top plan of the same.

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

In applying caps or closures to bottles, jars, cans, or the like, and especially caps or closures having a flange which encircles the mouth of the bottle, jar, can, or the like, it is the common practice to secure the cap or closure in place by crimping or spinning the edge of the flange under a fillet or shoulder formed on the neck of the bottle, jar, can, or the like near the mouth thereof. It may sometimes be desired to apply a cap or closure to a bottle, jar, can, or other receptacle which is not provided with a fillet or shoulder on the neck thereof or near its mouth to afford means for securing the cap or closure thereto. In such case it becomes necessary to provide the cap or closure itself with securing means whereby it may be efficiently and securely clamped or held in place upon the bottle, jar, can, or the like, and it is among the special objects and purposes of my present invention to provide the cap or closure with efficient and simple means of this character.

In carrying out the principles of my invention I form the cap or closure from a single piece of suitable material, preferably metallic, such as tin, though my invention is not to be limited or restricted in this respect. The single piece or sheet of the selected material is first formed by stamping, drawing, or otherwise into a shell having a top or base A and a peripheral flange B. In practice the base or top A of the shell is oblong or oval shape—that is, has greater dimension in one direction of diameter than of the other at right angles thereto. From the base or top of the shell thus formed a strip the outline of which is indicated at C, Figs. 1 and 3, is removed by cutting, punching, or otherwise. It will be observed that this cut is made along a line adjacent the peripheral edge of the top or base, but sufficiently removed therefrom to leave a portion of the top or base (indicated at D) attached to the portion E of the flange, which is thereby separated or severed from the top or base. By the removal of the strip of material from the top or base A, as above mentioned, the top or base is reduced

to circular contour, since said strip is, in accordance with my invention, removed from the edge portion thereof which has the greatest diameter. This reduction of the diameter of the top or base without correspondingly reducing the peripheral length of the flange enables the flange to be subsequently contracted in the peripheral length thereof so as to grip and hug the exterior surface of the neck or mouth of a bottle, jar, can, or the like and so as to cause the lip D to lap upon the adjacent cut edge of the top or base to close the opening made by the removal of the strip above referred to and as clearly shown in Figs. 5 and 7.

In order to effect the contraction in the peripheral length of the flange, said flange at a convenient point in the length thereof—for instance, at the end of the severed or separated portion thereof, though in this respect I do not desire to be limited or restricted—is separated or divided transversely so as to provide severed ends. In one form of embodiment of my invention, but to which I do not desire to be limited or restricted, I remove or cut out a portion of the material of the flange from each of the severed ends thereof, as indicated at F G, Fig. 2, leaving the lips H J, which are designed to be formed into hinge or pivot bearings by rolling or folding the same back upon themselves, as indicated at K L, Fig. 4. M designates a lever, having at one end suitable pintles N, adapted to be received in the pivot-bearings K, formed in one of the severed ends of the flange, and intermediate its ends the lever M is provided with similar pintles O, adapted to be received in the pivot-bearings L, formed in the other severed ends of the flange, as clearly shown. The free end of the lever M affords means whereby said lever may be conveniently grasped and rocked about the axis afforded by the pivot-pins or pintles N and in a direction to cause the severed ends of the flange to be drawn together and lapped over or past each other, thereby contracting the circumferential length of the flange and drawing the same snugly around the neck or mouth of the bottle, jar, can, or the like to which the cap or closure is to be applied. The cap or closure is released by rocking or swinging the lever M in the opposite direction, thereby unloosening the flange.

It is obvious that many variations and changes in the details of construction and arrangement of the parts may be made without departure from the spirit and scope of my invention. For instance, instead of forming lips on the severed ends of the flange and rolling or folding the same back upon themselves to form the hinge or pivot bearings for the lever-pintles, as above described, lips or flanges may be punched or otherwise formed in the flange ends and bent into position and suitably perforated to form such

hinge or pivot bearings, as indicated at P, Figs. 8 and 10.

Instead of hinging or pivotally connecting the locking or clamp lever to both of the severed ends of the flange, as above described, said lever may be pivotally connected to only one of the flange ends and other means employed for effecting the engagement with the other end of the flange. For instance, the clamping-lever R in Figs. 8 and 9 is pivotally connected to one flange end and is adapted to have its free end extend or project through a slot or opening formed in the other flange end or a tongue W formed thereon, as clearly shown. The operation of the lever in the accomplishment of its purposes and functions remains the same as above described with reference to the construction and arrangement shown in Figs. 3, 4, 5, and 6.

Instead of the free end of the lever being threaded or projected through a slot in the flange end the lever S may be slotted to receive therethrough a tongue T, formed on the flange end, as shown in Figs. 10 and 11. The slot, whether formed in the clamping or securing lever or in the flange end or a tongue thereof, should be of sufficient length to prevent binding of the parts when the lever is rocked or swung to clamp or to release the flange. If desired, the lever may be slightly curved in the direction of its length, so as to conform to the exterior curved contour of the flange or of the jar, can, bottle, or other receptacle, thereby enabling it to lie snugly against the surface of such flange and avoiding any undue obstruction or projection.

Many other modifications and variations might readily suggest themselves to persons skilled in the art without departure from the spirit and scope of my invention.

In the application of a cap or closure to a receptacle and the clamping or securing of the same thereto, in accordance with the principles of my invention a sealing-disk, indicated at V, may be first applied over the mouth of the receptacle or placed within the shell of the cap or closure, as clearly shown in Fig. 7, and, if desired, the sealing-disk may also have a flange W, over and around which the cap-flange engages.

If desired, and as shown in Figs. 9 and 11, the top or base of the cap may be divided and the two parts 1 and 2 thereof hinged or pivoted together.

Having now set forth the object and nature of my invention and various embodiments thereof and having explained the construction, purpose, function, and mode of operation 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 receptacles, 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 separated for a portion of its circumferential length from the base or top, and severed or divided transversely to form separated ends, one of said
 5 separated ends having suitably-spaced tongues forming hinge-bearings, and a securing-lever having oppositely-extending hinge-pintles at one end, said pintles arranged to be received in said bearings, said
 10 lever having its other end free, and arranged to engage intermediate its ends the other severed end of the flange, whereby by rocking said lever, said flange is contracted in length to close upon the top or base and to
 15 clamp the cap or closure to the receptacle.

2. A cap or closure for receptacles having a top or base and a flange formed integrally therewith, said flange being of greater circumferential length than the peripheral
 20 length of the top or base, but separated therefrom for a portion of its circumferential length, the separated portion of the flange being transversely severed or divided, said divided or severed ends having integral
 25 tongues adapted to be bent to form bearings, in combination with a securing-lever having oppositely-extending hinge-pintles at one end thereof, and other oppositely-extending hinge-pintles at a point intermediate the
 30 ends thereof, said pintles respectively adapted to be received in the bearings formed in the severed ends of the flange, whereby by rocking said lever the flange is contracted in circumferential length to close upon the top
 35 or base and to clamp the cap or closure to the receptacle.

3. A cap or closure for receptacles having a top or base and a flange formed integrally therewith, said flange being of greater circumferential length than the peripheral
 40 length of the top or base and separated from

the top or base for a portion of its circumferential length, the separated portion of the flange being transversely severed or divided to form ends, one of said ends having suitably-spaced tongues forming hinge-bearings,
 45 said separated portion also having an engaging lip, in combination with a lever having oppositely-extending hinge-pintles at one end thereof adapted to be pivotally received in said hinge-bearings, said lever having its
 50 other end free and arranged to pivotally engage, at a point intermediate its ends, the other of said severed ends, whereby, by rocking said lever the flange is contracted in circumferential length to close upon the top or
 55 base with the lip engaging over the adjacent edge of the top or base and to clamp the cap or closure to the receptacle.

4. A cap or closure for receptacles having a top or base and a flange formed integrally with each other, the flange being separated for a portion of its circumferential length from the top or base and having severed or
 60 divided ends, said ends having suitably-spaced tongues adapted to be bent to form bearings, in combination with a lever having oppositely-extending pintles at one end thereof to respectively engage in the bearings
 65 formed in one of the severed ends of the flange, said lever having oppositely-extending pintles at a point intermediate its ends to engage in the bearings formed in the other severed end of the flange.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of February, A. D. 1906.

WILLIAM H. DODGE.

Witnesses:

HENRY BEST,
 S. E. DARBY.