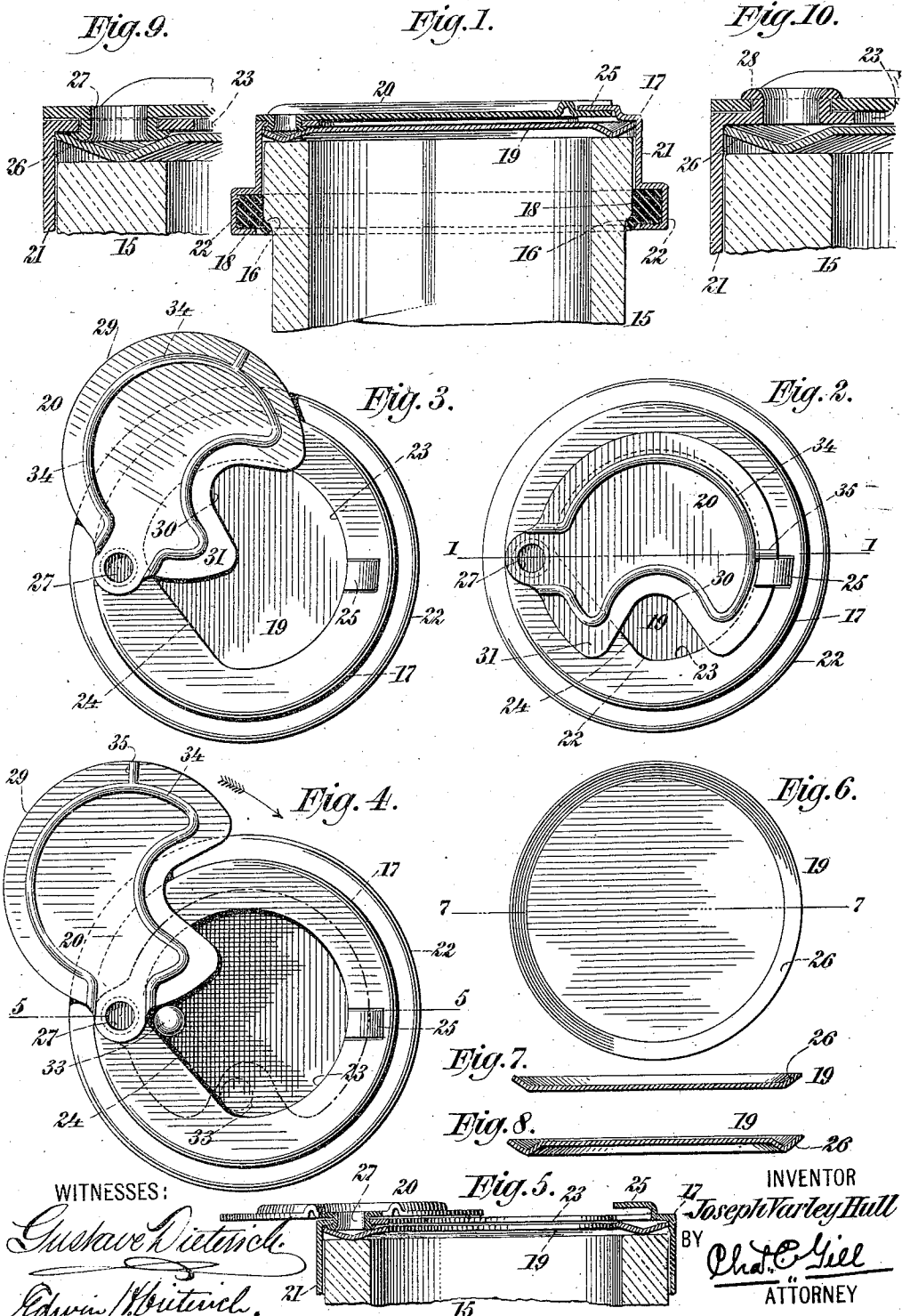


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 CLOSURE FOR BOTTLES, JARS, AND OTHER RECEPTACLES.
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WITNESSES:

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CLOSURE FOR BOTTLES, JARS, AND OTHER RECEPTACLES.

1,013,393.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed April 10, 1908, Serial No. 426,329. Renewed June 3, 1911. Serial No. 631,163.

To all whom it may concern:

Be it known that I, JOSEPH VARLEY HULL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Closures for Bottles, Jars, and other Receptacles, of which the following is a specification.

10 The invention relates to improvements in closures for bottles, jars and other receptacles; and it consists in the novel features and structure hereinafter described and particularly pointed out in the claims.

15 The closure of my invention, in its preferred embodiment, comprises a cap to be applied over the mouth of the receptacle and having in the lower edges of its downwardly extending encompassing flange an annular recess and in its top an opening through which the contents of the receptacle may finally be exposed, a packing ring or gasket within the said annular recess of said flange and adapted to be squeezed laterally against 25 a shoulder on the receptacle, a disk interposed between the upper edges of the receptacle and the inner upper surface of said cap and adapted to have its central portions along the line of the opening in the cap cut out or removed when the receptacle is in the hands of the consumer, and a lid pivoted to said cap and adapted to be turned from over the central portions of the same when desired, said lid being provided for closing 30 the opening in the cap and being of special outline adapting it to cooperate with the edge outline of said opening in moving the handle of a mustard spoon or other implement which might be left standing in the receptacle, to a definite position in which it may be left projecting above the receptacle, said lid, when closed, leaving a sufficient 40 portion of said opening uncovered for the accommodation of said handle.

45 The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

50 Figure 1 is a central vertical section through the upper portion of a jar or receptacle equipped with a closure constructed in accordance with and embodying my invention, the section being on the dotted line 1-1 of Fig. 2; Fig. 2 is a top view

of the same; Fig. 3 is a top view of the same illustrating the pivoted lid member in an open position; Fig. 4 is a like view of the same in use, showing the lid member in an open position by full lines and in its closed position by dotted lines, and illustrating the upper end of a suitable implement (such as a mustard spoon) standing in the jar, the dotted position of said end denoting the location to which the handle of the spoon will be forced automatically by the closing of the said lid member; Fig. 5 is a vertical section of the same on the dotted line 5-5 of Fig. 4, the mustard spoon being omitted and the inner disk being shown as having had its central portion cut out or removed; 60 Fig. 6 is a detached top view of an inner disk to be disposed within the upper end of the cap, said disk being shown in its initial form in which it is placed within the cap preparatory to its further treatment therein before the cap containing it is applied to the receptacle; Fig. 7 is a section of the same on the dotted line 7-7 of Fig. 6; Fig. 8 is a like section of the same after the disk has, while within the cap, had its central portions pressed upwardly to drive its peripheral edges against the sides of the cap, said disk being thereby tightly bound within the cap and at its edges effecting a sealing joint therewith; Fig. 9 is a sectional view showing the upper left hand portion of Fig. 1 on an enlarged scale, and Fig. 10 is a corresponding enlarged sectional view illustrating a modified construction in respect to the pivoting of the lid member on 90 the cap.

In the drawings, 15 designates a portion of a jar or receptacle having an exterior annular shoulder 16 encompassing its neck, 17 a metal cap applied over the mouth of said receptacle, 18 a packing-ring or gasket carried by said cap, 19 a disk of metal or other suitable material between the upper edges of the receptacle and the inner upper surfaces of the said cap, and 20 a lid pivoted to said cap. 100

The cap 17 is formed with a downwardly extending annular flange 21, and the lower edge portions of this flange are bent to form an outwardly projecting three-sided hollow beading, as at 22, to contain the packing-ring 18, said beading 22 being so located with respect to the shoulder 16 on the re-

ceptacle that it holds the packing-ring 18 partly above and partly below said shoulder, thereby enabling said packing-ring, upon the vertical compression of said beading against the same, to be squeezed firmly against the side of the receptacle and partly above and partly below said shoulder. The packing-ring 18, firmly held by the cap, co-operates with the shoulder 16 in locking the cap on the receptacle and in sealing the latter. I deem it of advantage that the packing ring is held in an annular beading and in use is forced outwardly therefrom by the vertical compression of said beading against the same, since thereby said packing-ring will not only firmly engage the side of the receptacle but a portion thereof will be squeezed below the shoulder 16 thereon and serve as an efficient lock and seal for binding the cap in position, the compression of that portion of the packing-ring above the shoulder 16 serving to resist any tendency of that portion of the ring squeezed below said shoulder to reënter the beading or fail to perform its duty.

The cap 17, in its top, is formed with an opening 23 which may be of any suitable outline but preferably that shown in Figs. 3 and 4, in which said opening is shown as being circular except at one edge 24 where it is straight. The opening 23 is provided for permitting access to the contents of the receptacle at the proper time. The top of the cap at one edge of the opening 23 has slit and bent upwardly therefrom a holding and stop-lip 25, whose purpose is, as represented in Fig. 2, to arrest the lid 20 in its closed position and hold the outer end of said lid down against the top of the cap 17.

The disk extends entirely over the mouth of the receptacle 15 and is preferably of metal, such as taggers tin or other suitable material having some resiliency and capable of being conveniently cut by an instrument inserted through and drawn along the edges of the opening 23 of the cap, the purpose being that the consumer desiring to expose the contents of the receptacle will open the lid 20 and cut out the central portions of the disk 19 along the line of the edge of the opening 23. The disk 19 will preferably be of special character in that when first introduced to the cap it is of the formation shown in Figs. 6 and 7, having an upwardly turned edge or flange 26 snugly fitting without firmly binding against the inner side walls of the cap, and that thereafter and before being applied to the receptacle it has its central portions dished upwardly, as shown in Fig. 8, by which operation the extreme outer edges of the disk become forced into very firm and sealing engagement with the inner side walls of the cap and there becomes created along the outer edges of the disk a downwardly extending

concave beading whose diverging sides at their line of union with each other are adapted to seat on the upper edge of the receptacle, as shown in Figs. 5, 9 and 10. I thus preferably firmly secure the disk 19 within the cap before the latter is applied over the mouth of the receptacle; and when said cap carrying the disk is pressed downwardly upon the receptacle with the lower adjoining edges of the sides of the beading in the disk on the edges of the receptacle, such pressure tends to force the edges of the disk into more intimate engagement with the side walls of the cap, there being some resiliency in said beading and such pressure acting in a direction to flatten the same, whereby the disk is caused to bind both against the cap and the upper edge of the receptacle.

The lid 20 is pivotally secured by means of a vertical eyelet-stud 27 which is integral with the lid (Fig. 9) and pressed downwardly therefrom, said stud as shown in Figs. 1 and 9 being passed downwardly through an aperture in one edge of the cap 17 and flanged outwardly below said cap, thereby securing the lid to the cap. The eyelet-stud 27 is disposed within the edge outline of the disk 19 so that the edge portions of said disk may extend outwardly beyond and afford a closure for said eyelet, the extreme outer edges of the disk operating, as hereinbefore described, as a metal seal.

If it should be preferred to form the eyelet from the metal of the cap instead of from the metal of the lid, this may be done, as I illustrate in Fig. 10, in which 28 denotes the eyelet as turned upwardly from the metal of the cap and entered through an aperture in the lid, the upper edges of the eyelet 28 being flanged outwardly to retain the lid. In both of the constructions shown in Figs. 9 and 10 the disk 19 serves to seal the opening through the eyelet. The lid 20 will be of a size and outline consistent with its purposes and the size and outline of the opening 23 in the cap 17 it is intended to cover, and preferably said lid on one side edge will possess a circular outline, as at 29, and at its other side edge be formed with a recess 30 and tongue portion 31 having convex edges, said tongue 31 being adjacent to the pivoted end of the lid for co-operation with the straight edge 24 of the opening 23. When the lid 20 of the formation shown is in closed position, its recess 30 leaves a portion of the opening 23 uncovered, as denoted at 32, Fig. 2, and this is for the purpose of enabling, while the lid is in closed position, the handle 33 of a mustard-spoon or the like to project upwardly from the receptacle, as indicated by dotted lines in Fig. 4, after the receptacle has been in use. The recess 30 has diverging side edges

and the projecting portion of the lid 20 at the outer or right hand side of said recess, looking at Figs. 2 and 3, is in the form of a tongue which during the closing of said lid moves along the cap 17 at the outer side of the opening 23 therein, whereby the outer side portion of the recess is enabled to move close along the circular edge of the said opening 23 as distinguished from crossing said opening.

In use, should the handle of the spoon be left against the circular edges of the opening 23 in the cap, it will on the closing of the lid 20 be caught in the recess 30 and moved to the location 32 in said opening, and should said handle have been left against the straight edge 24 of said opening, as shown by full lines in Fig. 4, it will on the closing of the lid 20 be engaged by the outer convex side edge of the tongue 31 and forced along said edge 24 to the end thereof, where it will be encompassed by the recess 30 of the lid, the projecting handle of the spoon, fork or the like thus not interfering with the closing movement of the lid 20. The lid 20 is formed from sheet metal and preferably has a beading 34 pressed upwardly from it along a line set inwardly from the extreme outer edges of the lid, which beading serves materially to strengthen and stiffen the lid and enable it to lie perfectly flat upon the cap 17. I also press upwardly from the lid 20 a shoulder 35, which when the cap is moved to its closed position will strike against the lip 25 on the cap and, with said lip, serve to arrest the lid in its proper closed position. When the lid 20 is turned to its closed position its outer flat edge portion will pass below the lip 25, and thereby said lip is enabled to hold the lid down upon the cap in addition to operating, with the shoulder 35, to arrest the lid when it reaches its proper closed position. The lid 20 will be secured to the cap 17, the disk 19 applied within said cap and the gasket 18 introduced to the beading 22 prior to the placing of the cap on the receptacle. In the application of the closure, the cap 17 is pressed downwardly with reasonable firmness over the mouth of the receptacle, the flange 21 of the cap passing downwardly along the exterior of the receptacle and carrying the packing-ring or gasket 18 to a position where it will be partly above and partly below the shoulder 16 thereon. Thereupon, while downward pressure is still maintained against the top of the cap, the beading 22 will be compressed vertically so as to force the inner peripheral portions of the gasket against the neck of the receptacle, a portion of the material of the gasket remaining above and another portion extending below said shoulder, as shown in Fig. 1. The cap sealed by the packing-ring 18 and disk 19 affords an efficient closure for the receptacle, and when the receptacle is in the

hands of the consumer, the lid 20 will be opened and the disk 19 cut out along the line of the opening 23 in the cap 17, thereby exposing the contents of the receptacle for use. The lid 20 serves to substantially close the opening 23 in the cap and thus exclude dust and the like from the receptacle when the latter is in the hands of the consumer and has been placed in use.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In combination with a receptacle having an annular exterior shoulder about its mouth, a closure therefor comprising a metal cap having in its top an opening and at its side edge a vertical depending flange outwardly recessed and holding a packing ring in proximity to said shoulder, a metal disk between the upper edge of said receptacle and the inner upper surface of said cap and extending at its outer edge to the said vertical flange and said disk being adapted to be cut out along the line of the opening in the cap, and a lid pivoted to the cap for closing the opening therein, said recessed portion of the flange of the cap being adapted to permit said packing ring to be pressed firmly against said shoulder for sealing the receptacle and securing the cap, and said disk having a beaded edge portion whose sides converge downwardly and along their line of juncture engage the upper edge of the receptacle with a binding force holding the edge of the disk pressed against the said vertical flange.

2. In combination with a receptacle having an annular exterior shoulder about its mouth, a closure therefor comprising a metal cap having in its top an opening and at its side edge a depending flange outwardly recessed and holding a packing-ring in proximity to said shoulder, a disk between the upper edges of the receptacle and the inner upper surface of said cap and adapted to be cut out along the line of the opening in the cap, and a lid pivoted to the cap for closing the opening therein, said recessed portion of the flange of the cap being adapted to permit said packing-ring to be pressed firmly against the receptacle for sealing the same, and said disk having an upwardly and outwardly flaring edge portion held in close binding contact with the adjacent surfaces of said cap by the interior portions of said disk; substantially as set forth.

3. A closure for a receptacle, said closure comprising a cap having an opening in its top and a depending flange to pass downwardly over the receptacle, a packing for sealing the cap, a lid pivoted on the cap adjacent to the opening therein and a disk between the upper edges of the receptacle and the inner upper surface of said cap and adapted to have its central portion removed

along the line of the opening in the cap, said cap having a lip slit and turned upwardly therefrom at one edge of said opening, and said lid having a flat outer edge formed with a raised shoulder adapted when said flat edge, on the closing of the lid, passes under said lip to engage the edge of the lip and arrest the lid; substantially as set forth.

4. A closure for a receptacle, said closure comprising a metal cap having in its top an opening and at its side edge a vertical depending flange to pass downwardly over the receptacle, a packing for sealing the cap, a metal disk between the upper edge of said receptacle and the inner upper surface of said cap and extending at its outer edge to the said vertical flange and said disk being adapted to be cut out along the line of the opening in the cap, and a lid pivoted to the cap for closing the opening therein, said disk having a beaded edge portion whose sides converge downwardly and along their line of juncture engage the upper edge of the receptacle with a binding force holding the edge of the disk pressed against the said vertical flange; substantially as set forth.

5. A closure for a receptacle, said closure comprising a cap having an opening in its top and a depending flange to pass downwardly over the receptacle, and a lid pivoted on the cap adjacent to the opening therein, said cap having a lip slit and turned upwardly therefrom at one edge of said opening, and said lid having a flat outer edge formed with a raised shoulder adapted when said flat edge, on the closing

of the lid, passes under said lip to engage the edge of the lip and arrest the lid; substantially as set forth.

6. A closure for a receptacle, said closure comprising a cap having an opening in its top and a depending flange to pass downwardly over the receptacle, and a lid pivoted on the cap for closing the opening therein, said opening in the cap having a substantially circular edge at one side and a straight edge 24 at the other side, and said lid being pivoted to the cap adjacent to one end of said straight edge 24 and having at one side edge a circular outline 29 and at its other side edge a recess 30 and projecting tongue-portion 31 having convex edges, said tongue being adjacent to the pivoted portion of the lid for coöperation with the straight edge 24 of said opening in moving the handle of a spoon left standing against said edge to one end thereof, and said recess having diverging side edges and being of a size enabling the outer portion of the outer side edge of the recess, to, during the closing of the lid, pass close along the circular edge of said opening and move the handle of a spoon left against said circular edge to the said end of said straight edge; substantially as set forth.

Signed at New York city, in the county of New York, and State of New York, this 9th day of April A. D. 1908.

JOSEPH VARLEY HULL.

Witnesses:

ARTHUR MARION,
CHAS. C. GILL.