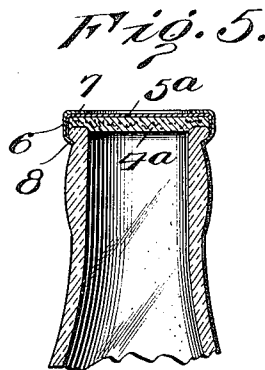
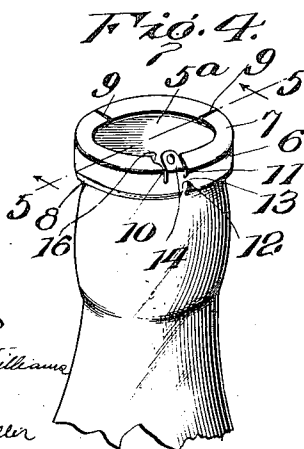
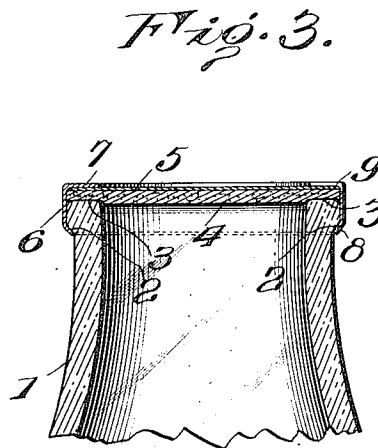
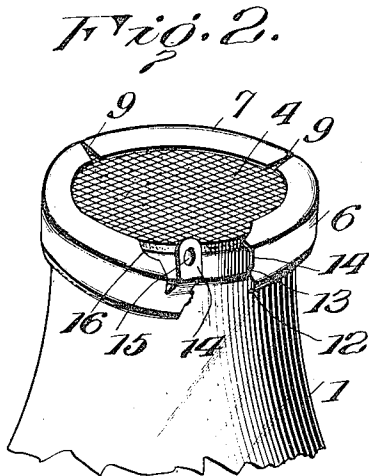
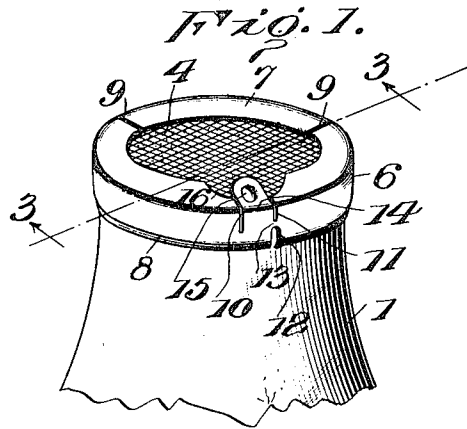


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SEALING CLOSURE FOR BOTTLES, JARS, AND OTHER RECEPTACLES.
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Patented Feb. 6, 1917.



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SEALING-CLOSURE FOR BOTTLES, JARS; AND OTHER RECEPTACLES.

1,214,675.

Specification of Letters Patent.

Patented Feb. 6, 1917.

Application filed May 5, 1915. Serial No. 26,121.

To all whom it may concern:

Be it known that I, WILLIAM E. HEATH, a citizen of the United States, residing in Baltimore city, State of Maryland, have invented certain new and useful Improvements in Sealing-Closures for Bottles, Jars, and other Receptacles, of which the following is a specification.

This invention relates to certain improvements in sealing closures for bottles, jars and other receptacles, and is particularly adapted for bottled milk; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings illustrating what I now believe to be the preferred mechanical expressions of my invention from among other embodiments within the spirit and scope thereof.

An object of the invention is to provide an improved sealing band preferably stamped up from sheet metal, and capable of being bent into locking contact with a shoulder on the head of a bottle or other receptacle, and including by reason of its construction, means within itself, enabling any one to remove the band clear of the bottle or other receptacle, and thus get at its contents without the employment of any tool or instrument whatsoever; the fingers alone being all that is required to effect a quick and speedy removal of the band from its locked position on the mouth of the bottle or other receptacle.

Another object of the invention is to provide an improved unbroken sealing band composed of sheet metal, which when locked to the head of a bottle or other receptacle, can be released by severing the band through means integral with the band itself; said means remaining an integral part of the band after the seal has been broken, and forming, after the band has been severed, a finger hold or leverage whereby the band may be spread apart and easily removed from its locked position on the bottle mouth.

The invention consists in certain novel features in construction and in combinations and arrangement as more fully and particularly set forth hereinafter.

Referring to the accompanying drawings, Figure 1, is a perspective view of the neck portion of a milk bottle or other jar or receptacle equipped and sealed by a device

constructed in accordance with my invention. Fig. 2, is a perspective view showing the sealing ring broken. Fig. 3, is a sectional view on the line 3—3, Fig. 1. Fig. 4, is a perspective view showing my invention applied to a small mouth bottle. Fig. 5, is a sectional view on the line 5—5 (Fig. 4.)

In Figs. 1 to 3, in the drawings, I show the neck portion 1, of what might be termed a large mouth bottle, formed around its edge with an exterior bead providing an exterior annular shoulder 2, below the top sealing edge 3, around the bottle mouth. 4, is a sealing disk of cushioning material, usually composed of any desirable number of plies of pulp board or other suitable paper material which if so desired, can be faced at the top by a sheet or disk 5, of any suitable stiff material such as sheet metal. However, my invention is not limited to the provision of the sheet 5. The closure disk 4, is imperforate and is adapted to span and close the mouth of the receptacle and to rest on and be compressed against the sealing edge 3 of the receptacle mouth.

I provide a metal ring or annulus for locking the disk 4, on the mouth of the receptacle, and this ring is composed of the depending annular vertical flange 6, and the annular horizontal flange 7, lapping over the top face of the disk 4, (or the top face of the metal disk 5, when employed) for a suitable distance radially thereof. Usually the radial width of this flange 7, is at least sufficient to cause the flange to cover the outer edge portion of the disk 4, that is located above and compressed against the receptacle edge 3. The diameter of the flange 6, closely approximates the external diameter of the enlarged upper end or mouth of the receptacle so that the locking ring can snugly fit down thereon, and the vertical length of the flange 6, is such as to provide a depending annular edge 8 that is spun or turned inwardly under the exterior receptacle shoulder 2 while the locking ring is held downwardly under pressure to compress the disk 4, against the receptacle edge 3. The locking ring is thus locked in position by the inverted edge 8, to maintain the cushioning and sealing disk 4, on, and sealing the receptacle mouth.

My present invention relates to improved means whereby this locking ring can be easily severed or broken by the use of the fin-

gers alone, to permit removal of the disk 4, in order to gain access to the receptacle or to permit removal of the contents thereof.

In order to permit contraction of the locking ring when it is spun under the locking shoulder 2, of the bottle mouth, and so that said ring will be under a tension when so locked, that tends to expand or loosen the ring on the receptacle mouth, I form several radial cuts or slits 9, in the top flange 7, of this ring.

At a point remote from the cuts 9, I form a pair of parallel adjacent slits 10, 11, radially through the flange 7, and I extend these slits downwardly along the flange 6, with the slit 10, extending a greater distance downwardly and transversely of the flange 6, than does the slit 11. A substantial unbroken uncut transverse portion of the flange 6, intervenes between the lower end of the slit 10, and the bottom edge 8, of the flange 6.

In line with and below the lower end of the slit 11, I form a comparatively wide slot or cut 12, extending through the edge 8, and affording opportunity for contraction thereof during the spinning operation, and extending vertically transversely of the flange 6, and having a rounded upper end terminating just short of the lower end of the slit 11, leaving a circumferential ligament 13, intervening between the wide slot 12, and the slit 11, and maintaining the continuity of the locking ring or annulus. The adjacent slits 10, 11, provide intervening angular lever handle 14, the upper or handle portion of which is arranged horizontally on the disk 4, and within the horizontal plane and formed by a transverse portion of the flange 7, while the depending portion of said lever is formed by the part of flange 6, between slits 10, 11. If so desired, the handle portion of this lever 14, can have a boss, projection or rib 15, pressed therein, or if so desired, a perforation can be cut therein instead of the projection, either of which formations will aid in preventing the fingers slipping from said handle. However, my invention is not so limited.

If so desired, the inner edge portion of the flange 7, can be notched or cut away, see 16, at the inner ends of slits 10, 11, to leave the opposite side edges and corners of the inner or handle end of lever 16, exposed and readily accessible to the fingers.

It will be noted that the slit 10, depends in the flange 6, to a point that is circumferentially of the locking ring opposite or beside the upper end portion of the slot, or notch 12.

To break the seal, *i. e.* to release the locking ring, the lever is elevated and bent or swung outwardly by the fingers, and a slight twist is imparted thereto to fracture the ligament 13, whereupon the ring being freed

or released from the tension under which it was put by the act of spinning the edge 8, will expand or spring slightly open on the receptacle mouth so that the lever remaining fast on one end of the broken ring, can be utilized as a handle to pull the ring from the receptacle mouth. The ring is usually composed of such stiff sheet metal, that the handle approximately retains its original right angular shape throughout the operation of fracturing the ligament 13 and opening of the ring, and yet said sheet metal is of such a fragile or brittle nature, that the ligament is easily fractured by the lever action of the handle. When the handle is swung upwardly and outwardly, the metal naturally tends to bend on a line circumferentially of the flange 6, and extending from the lower end of the slit 10, toward the notch 12, and at right angles to the length of the handle, but the ligament intervenes to prevent this, and yet a slight twisting movement applied to the handle as it is swung outwardly will cause this ligament to fracture and separate by reason of the leverage thereon attained through the slit and notch formation. Peculiarly advantageous results in this connection are attained by the arrangement of wide notch or slot 12, with respect to the slit 11, in connection with the projection of the slit 10, downwardly along the flange 6, a greater distance than the slit 11.

Figs. 4 and 5, show the same construction, so far as the locking ring or band is concerned, as Figs. 1, to 3, but said band is adapted to a small mouth bottle and is provided with a cushioning and sealing disk 4^a, held within a flanged sheet metal disk 5^a, snugly fitted within the locking band or rim.

It is evident that various changes and modifications might be resorted to without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact disclosure hereof.

What I claim is:

1. A locking band of the character substantially as described, having a top horizontal flange severed by slits, and a vertical flange severed from its lower edge to said horizontal flange excepting for a circumferentially arranged connecting ligament holding the band against spreading, and lever means integral with said vertical flange for fracturing said ligament to release the band from the receptacle mouth.

2. A locking band of the character substantially as described, having a top horizontal flange rendered expansible by a radial cut, and a depending vertical flange, said band having a handle lever formed by slits extending throughout the radial length of said top flange and extending downwardly different distances along said vertical flange, said vertical flange being formed

with a notch extending upwardly through its lower edge toward and in line with the shorter one of said slits and terminating short of the lower end of said short slit.

5 3. A locking band of the character substantially as described, composed of a depending vertical flange and a top horizontal flange radially cut to render the same ex-
10 pansible, said band being slit to form a handle lever, the handle portion of which is radially arranged in the top flange and the base portion of which is arranged in and in-
15 tegral with the vertical flange, said vertical flange having a notch extending through its lower edge and upwardly along said flange
20 in line with one longitudinal edge of said lever, the continuity of said vertical flange being maintained by a fragile ligament ar-
25 ranged at the upper end of said notch.

4. A locking band of the character sub-
20 stantially as described, composed of a depending vertical flange and a top horizontal flange radially cut to render the same ex-
25 pansible, said band being cut by a pair of adjacent slits extending completely across the top flange and continued downwardly
30 along the vertical flange and terminating at different distances from the lower edge of the vertical flange, for the purposes substan-
35 tially as set forth.

5. A locking band of the character sub-
stantially as described, composed of a de-
35 pending vertical flange and a top horizontal flange radially cut to render the same ex-
pansible, said band being cut by a pair of
40 adjacent slits extending completely across the top flange and continued downwardly along the vertical flange and terminating at
45 different distances from the lower edge of the vertical flange, said vertical flange hav-
ing a notch extending upwardly through its bottom edge to a point adjacent to one of
said slits leaving an intervening fragile liga-
ment.

6. A locking band for the purposes sub-
stantially as described, composed of a verti-
cal depending flange and a top flange, said
band being cut to render the same expansi-

ble, said band being formed with a handle
lever composed of a radial portion of the
50 top flange occupying the full radial width of said flange and a transverse portion of the vertical flange in length less than the full
vertical width of said flange, said lever being
integral with the vertical flange and at one
55 edge joined thereto by a narrow fragile ligament and at the other side joined there-
into by a substantial non-fragile portion of said vertical flange.

7. A locking band, for the purposes sub-
60 stantially as described, comprising a horizontal flange and a depending vertical flange, said flanges being cut to form a han-
dle lever connected into the ring solely
65 through the medium of a fragile connecting ligament and a wide non-fragile portion joining the base of the lever into the depend-
ing flange, said ligament establishing the
continuity of said depending flange and
70 adapted to be severed by the upward and twisting movement of said lever, said non-
fragile portion adapted to permanently
maintain the connection of the lever to the
depending flange when the ligament is
75 broken so that said lever constitutes a handle for spreading and removing the broken
ring from the receptacle mouth.

8. A locking band, for the purposes sub-
stantially as described, comprising an ex-
80 pansible horizontal flange and a flange depending therefrom, said flanges being cut to form a handle lever arranged radially with-
in and separate from the horizontal flange
and extending downwardly along and form-
ing a part of the depending flange, the con-
85 tinuity of the depending flange being maintained by a fragile ligament adapted to be
broken by the movement of said handle lever
to permit said band to spread, said handle
lever permanently connected into said de-
90 pending flange to form a handle by which said band can be spread and removed from the receptacle mouth after said ligament has
been broken.

In testimony whereof I affix my signature.
WILLIAM E. HEATH.