Dec. 8, 1936. C. A. NAVE 2,063,185

CONTAINER

Filed Dec. 4, 1934

Fig. 1.

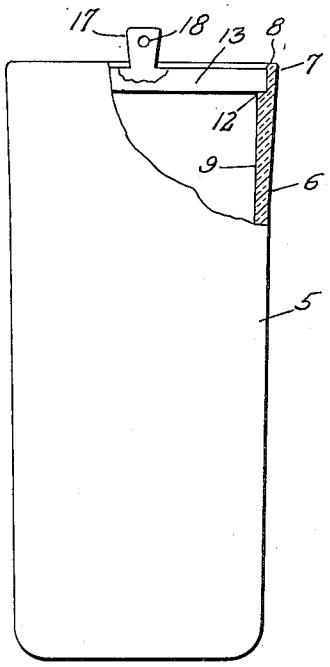


Fig. 3.

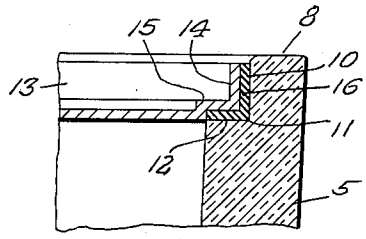


Fig. 4.

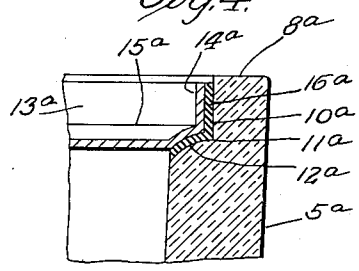
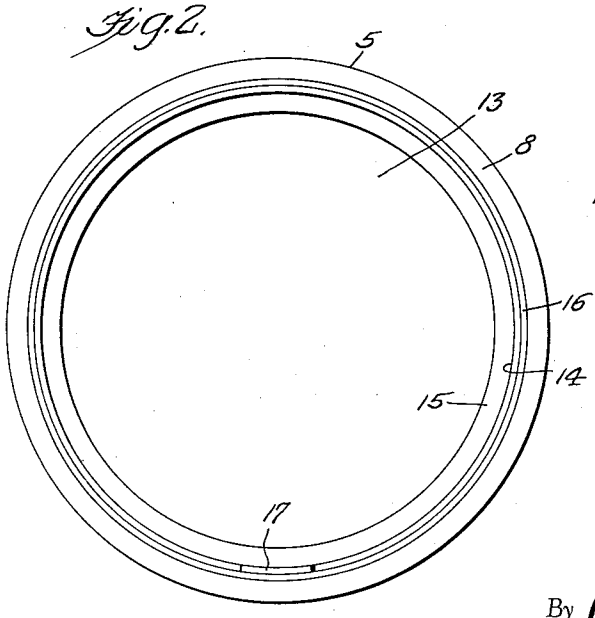


Fig. 2.



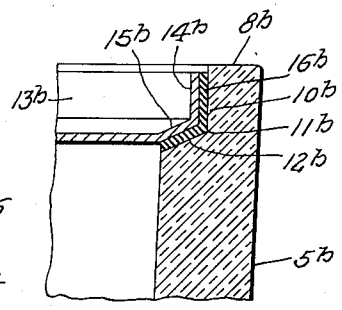


Fig. 5.

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UNITED STATES PATENT OFFICE

2,063,185

CONTAINER

Charles Arlin Nave, Seattle, Wash.

Application December 4, 1934, Serial No. 755,952

5 Claims. (Cl. 215—47)

My invention relates generally to containers, and particularly to containers having a friction retained top having features producing also a vacuum seal, and an important object of my invention is to provide containers of the type indicated in the form of jars which are capable of being cleaned, filled, or emptied with greater ease.

Another object of my invention is to provide that an inner shoulder jar, the top portion being of gradual tapering thickness of the character described to assure a clear, full view of contents in a manner not possible where the outside top has any angular projections to form such extra thickness necessary, and also giving the jar top stresses of a more uniform character and less subject to breakage from sudden thermal expansion and contraction; also, an inner shoulder jar requiring a minimum of materials.

Another important object of my invention is to provide jars of the character indicated above in which the interior of the jar and the exterior thereof are so proportioned and arranged that the jar may be formed of suitable material, such as glass, by a pressing operation instead of by blowing or the like, whereby the jar may be made better and more cheaply, and seams eliminated.

Another important object of my invention is to provide a jar of the character indicated having a cover having upturned edges which do not extend above or overlap the upper part of the jar. An inserted cover of this type being protected from bumping, also eliminating overlapping of gasket above the upper end of jar which has a tendency to pull the cover from its inserted position, also the elimination of any projection radially extending over the jar top removes the cushion effect of excess gasket between said top and projection allowing proper seating of the lid upon the inner shoulder.

Another important object of my invention is to provide a cover suitable for closing a jar of the character indicated above which has a removing lip formed integrally thereon as by stamping, so that removal of the cover is provided for without adding substantially to the cost of the cover.

Another important object of my invention is to provide a jar having a cover which in addition to the frictional connection to the jar, forms a vacuum seal in cooperation with an inner shoulder on the jar, the said inner shoulder being capable of having different forms and contours.

Another important object of my invention is to provide jars of the character indicated above which may be cylindrical, square, hexagonal, elongated rectangular, and the like, and provided with covers of corresponding shape exhibiting the frictional engagement with the jar in addition to the vacuum seal.

Other objects and advantages of my invention will be apparent from a reading of the following description in connection with the drawing, wherein for purposes of illustration I have shown preferred embodiments of my invention.

In the drawing:—

Figure 1 is a general side elevational view of an embodiment of the invention having an upper part thereof in section to show the arrangement of the jar cover.

Figure 2 is a top plan view of Figure 1.

Figure 3 is an sectional view taken through the upper part of the embodiment shown in Figure 1 disclosing the cooperation of the cover and its flanges with a generally rectangular shoulder in addition to the cooperation with the upstanding wall at the upper end of the jar.

Figure 4 is a similar view through another embodiment of my invention wherein the vacuum seal shoulder is rounded instead of rectangular and straight.

Figure 5 is a view similar to Figures 3 and 4 wherein is shown cooperation of correspondingly formed parts of the cover with an inwardly and downwardly angulated sealing shoulder.

Referring in detail to the drawing, the numeral 5 refers generally to the embodiment of the invention shown in Figure 1 which consists of a generally cylindrical pressed glass jar the upper part of the exterior thereof being outwardly and upwardly tapered from the point 6 to the upper edge 7 of the upstanding frictional wall 8. The interior surface of the jar is similarly tapered as indicated at 9 but to a somewhat less degree, thereby facilitating filling and emptying as well as cleaning of the interior of the jar. The generally tapering formation of the jar makes it easy to remove it from a mold or die of a pressing machine, so that the jar may be formed by pressing instead of moulding. The moulding operation leaves seams and roughnesses, but the pressing of the jars does not.

It will be observed that the outward taper of the inner surface of the jar permits easy withdrawal of the plunger of the mould or press, while the corresponding taper of the outer side of the jar makes withdrawal of the formed jar from the mould or press-bed easy. The extra thickness formed from the point 6 upwardly gives adequate strength to bear the extra strain at this part of the jar imposed by the reception of and holding of the cover of the jar. The cross section

of the wall below the point 6 of the jar is substantially uniform.

The friction holding wall 8 which rises above the top of the jar and above the top of the cover of the jar has its radially inward face disposed substantially parallel to the axis of the jar as indicated by the numeral 10 and extends downwardly to the point indicated by the numeral 11 where the vacuum sealing shoulder 12 is located. In the case of the embodiment shown in Figures 1, 2, and 3 the vacuum sealing shoulder 12 is substantially horizontal or arranged at right angles to the axis of the jar, while in the case of the embodiment shown in Figure 4, the vacuum sealing shoulder 12*a* is convex and downwardly and inwardly directed; while the vacuum sealing shoulder 12*b* in the embodiment shown in Figure 5 is acutely angulated with respect to the axis of the jar and is plain and downwardly and inwardly directed.

The cover 13 is preferably stamped from sheet metal in the form of a disk having a peripheral upstanding flange 14, having between the periphery of the disk and the flange 14 the vacuum seal shoulder engaging portion 15. In the case of the embodiment shown in Figures 1, 2, and 3 the vacuum sealing shoulder engaging portion 15 is in the form of a right angle offset in an axially outward direction with respect to the axis of the cover, the offset being made to an extent sufficient to compensate for the thickness of the gasket 16 which is engaged with the face 10 of the wall 8 and with the top of the shoulder 12 as shown in Figure 3. The gasket 16 is attached to the flange 14 and to the offset portion 15 of the cover. The cover is pressed into place and while this is taking place the gasket is pressed by the flange and the offset portion 15 into frictional engagement with the inner face 10 of the wall 8 and finally into vacuum sealing relation with the shoulder 12. The frictional engagement of the gasket equipped flange 14 with the wall 8 will adequately hold the cover in place, while the atmospheric pressure acting on the outer surface of the cover will press the cover inwardly to a sufficient extent to cause the shoulder engaging part 15 thereof to force the shoulder engaging part of the gasket into vacuum seal relation with the shoulder 12 as the pressure within the jar is reduced by the cooling and contraction of the contents of the jar which have been placed therein in a hot condition prior to placing and pressing in the cover 13. At one point the flange 14 has an upward projection in the form of a lip or tab 17 which projects above the upper end of the wall 8 and is equipped with a hole 18 facilitating the grasping and holding of the tab 17 which when adequately grasped and pulled effects the removal of the cover 13 without the use of special tools. When shaped as shown in the drawing and formed of adequate size, the tab 17 provides sufficient means when grasped between the thumb and forefinger to effect easy removal of the cover 13. More of the tabs 17 may be provided if desired. The hole 18 in the tab provides means for receiving a prying instrument for removing the cover. As stated, the general shape of the cover will conform to the cross section of the type of jar with which it is to be used.

The cover in the embodiment shown in Figure 4 has the convex-concave offset 15*a* performing substantially the same offices as the offset portion 15 in the above described embodiment, while the cover in the case of the embodiment shown in Figure 5 has the plain angulated offset 15*b* corresponding in location and function to both of the offset parts in the above described embodiments.

In all of the embodiments the upper edge of the highest part of the cover, namely, the flange 14, 14*a*, and 14*b*, respectively, is on a level when the cover is seated in closing relation to the jar, below the level of the top of the wall 8. The arrangements whereby the combined functions of the cover in producing both a frictional seal and a vacuum seal are achieved, are believed to be adequately set forth herein.

It will be observed that the provisions and arrangements of the present invention entirely eliminate the familiar neck on jars of the general type described.

Although I have shown and described herein preferred embodiments of my invention, it will be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials, and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claims.

What is claimed is:—

1. A container comprising in combination, a jar having at its inner side and adjacent its upper end a shoulder extending about the jar interior and also having a wall portion extending from the outer edge of said shoulder to the upper end of the jar, a thin disk-like cover adapted to be placed in the upper end portion of the jar and having an offset portion near its edge adapted to rest in spaced relation above said shoulder of the jar and also having at its edge an upstanding free flange adapted to rest within and in spaced relation to said wall portion of the jar above the shoulder, and a gasket attached to the cover and arranged, when the cover is crowded into the upper end portion of the jar, to rest between the offset portion of the cover and the shoulder in the jar and to also rest between the outer side of the cover flange and the wall portion of the jar above the shoulder thereof.

2. A container comprising in combination, a jar having at its inner side and adjacent its upper end a shoulder extending about the jar interior and also having a wall portion extending from the outer edge of said shoulder to the upper end of the jar, a thin disk-like cover adapted to be placed in the upper end portion of the jar and having an offset portion near its edge adapted to rest in spaced relation above said shoulder of the jar and also having at its edge an upstanding free flange adapted to rest within and in spaced relation to said wall portion of the jar above the shoulder, and a gasket attached to the cover and arranged, when the cover is crowded into the upper end portion of the jar, to rest between the offset portion of the cover and the shoulder in the jar and to also rest between the outer side of the cover flange and the wall portion of the jar above the shoulder thereof; the said cover flange being equipped with a tab extending from the flange.

3. In combination, a container having a sealing wall and a shoulder, and a concave cover of sheet metal having an upstanding peripheral flange, an offset portion inward from said flange forming a shoulder, a gasket permanently attached to the exterior of the flange and the exterior of the offset portion of the cover, the perimeter of the gasket attached to the cover being greater than the perimeter of the sealing wall of the container necessitating forcible action upon the cover to insert it within the confines

of the vertical sealing wall of the container to seat upon the shoulder therein, said vertical flange and cover being of a height to reach only to a point below the upper end of said sealing wall whereby there will be no over-lapping gasket above the top of the container tending to pull upward the cover from its seat, and the locking effect of the gasket to hold the cover in place will be greater than where the gasket overlaps the top of the jar in that the texture of the gasket at all points slopes upward and outward to the container wall gripping it in a braced manner resisting any outward movement, and said position of cover will protect it from bumping and bending.

4. Means for sealing containers having a vertical inner sealing wall surrounding an inner sealing shoulder, said means comprising a cover having an upstanding peripheral wall with an offset forming shoulder corresponding in shape and position to the wall and shoulder of container, and a gasket cemented to the exterior of the cover's peripheral wall and shoulder, said gasket being of a thickness necessitating forcible insertion of the cover within said container, and the insertion being adapted to make a friction seal between the gasket and the jar wall.

5. In combination, a container having an internal convex shoulder extending in a downward direction, and a cover of sheet metal having an upstanding peripheral flange and also having an offset portion inward from said flange forming a concave shoulder curving inwardly in a downward direction, and a gasket permanently attached to the exterior of said flange and to the exterior of the offset portion of the cover, the perimeter of said gasket attached cover being such as to necessitate forcible action to insert it within the confines of the container, said gasket being of a uniform thickness.

CHARLES ARLIN NAVE.