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2,289,887

ICE AND THE LIKE BAGS

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Fig. 1.

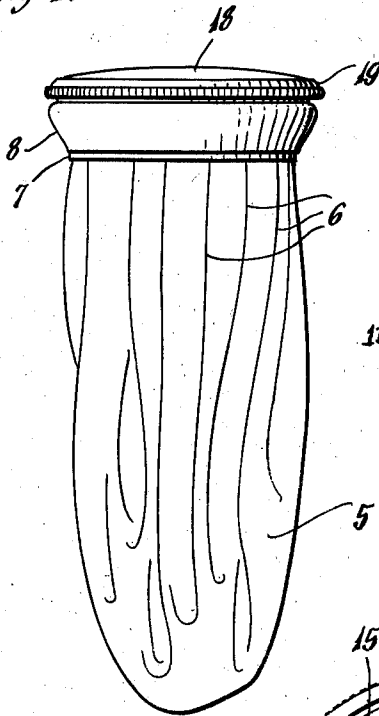


Fig. 2.

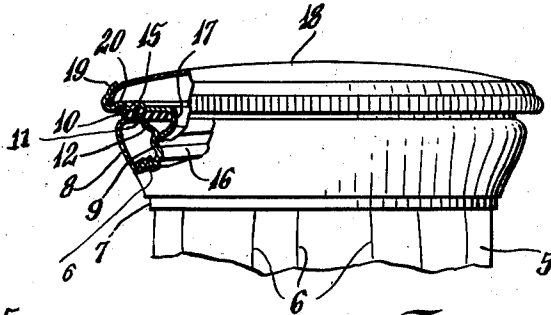
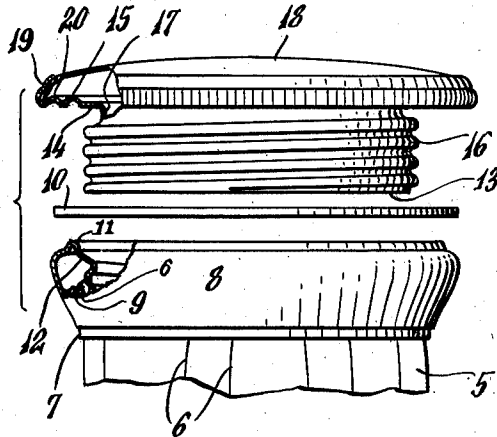


Fig. 3.

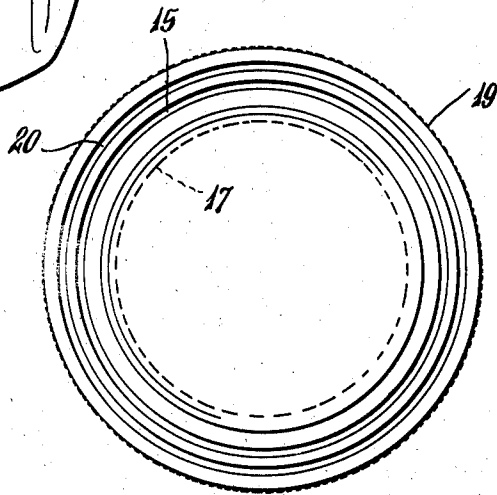


Fig. 4.

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ICE AND THE LIKE BAG

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1 Claim. (Cl. 150—8)

This invention relates to ice and the like bags wherein the body of the bag consists of a flexible waterproof material, such as rubber or waterproofed fabric, and formed from a circular sheet of material by gathering the marginal portion of the sheet upon itself in pleats to constitute the mouth of the bag and secured in said condition with a band of like material engaged about and reinforcing the pleats. To adapt the mouth of the bag for the reception of a closure to close and seal the same, a metallic neck member substantially of U shape in cross section with one leg provided with a rolled screw thread is engaged over the reinforced neck or mouth of the bag and said mouth clamped to the inner threaded leg by the outer leg, the leg connecting portion of the neck member extending substantially at a right angle to the axis of said member to constitute a seat for a sealing gasket. The screw threads of the neck member are adapted for the engagement of corresponding threads of a cup shaped plug portion of a closure member, usually formed of sheet metal and arranged at the base of the plug portion with an annular flange extending laterally at a right angle to the axis of the closure member to be disposed in opposed relation to the seat of the neck member and clamp a gasket of resilient material, such as rubber, to said seat when the closure is applied thereto. The marginal portion of the flange of said plug portion is rolled over the periphery of a dome shaped disk to secure the same to and close the cupped plug portion. In the manufacture of closure members of this character irregularities develop in the seat of the leg connecting portion of the neck member and the closure flange with the result that it is impossible to firmly clamp the gasket to its seat when the closure is applied to the neck member and there is a consequent leakage of the bag.

It is an object of the invention to provide in bags of this character an improved construction and arrangement of neck member and closure to overcome said disadvantages by arranging the leg connecting portion of the neck member with an outwardly extending annular bead and arranging a corresponding recess in the closure flange and a recess at the juncture of plug portion with the flange of the closure, and the provision of a resilient gasket having an internal diameter slightly less than the diameter of and adapted to yieldingly, though firmly, engage the annular recess at the juncture of the plug portion of the closure with the flange thereof, and said gasket as the closure is applied to the neck

member crowding the gasket into said annular recess and clamp the gasket between the bead of the neck member and recess of the closure flange and provide a positive liquidtight seal.

5 In closure means for ice and the like bags of this character the plug portion of the closure is made of a ductile and pliable metal, such as zinc, whereby it may be readily drawn and shaped from a blank, and while the disk closing the cupped plug portion is relatively stiff, should the closure, or the bag with the closure applied thereto, be dropped and the closure strike the object upon which it is dropped the flange of the plug portion of the closure will be distorted and may be distorted to such an extent that it will not clamp the gasket to its seat on the neck member of the bag with sufficient force to provide a liquidtight seal when the closure is applied to the neck member.

10 It is another object of the invention to overcome said disadvantage by providing the flange of the plug portion of the closure with a further recess concentric with and outward from the first gasket engaging and clamping recess and thus providing the closure flange with a reinforcing rib.

Other objects and advantages of the invention will hereinafter appear.

15 In the drawing accompanying and forming a part of this application,

Figure 1 is a side elevation of an ice or the like bag showing an embodiment of my improved closure means applied thereto.

20 Figure 2 is a side elevation of the throat or mouth portion of the bag and the closure means shown in separated relation and partly in section.

Figure 3 is a view similar to Figure 2 but showing the closure means applied to the bag and partly in section to show the manner of sealing the closure means; and

Figure 4 is a view looking at the under side of the closure member.

25 The invention is shown in the drawing in connection with an ice and the like bag, the body of the bag consisting of a flexible sheet of waterproof material, such as rubber or waterproofed fabric, preferably of circular form. To shape the sheet to bag form the marginal portion of the sheet is folded or gathered upon itself in pleats, as shown at 6, the pleated marginal portion forming a circular throat or mouth through which to fill ice or water into the bag. The pleated mouth portion is provided with a reinforcing band 7, which may be of the same ma-

terial as the bag, the band being disposed about the exterior of the pleated mouth and the pleated portions secured in pleated condition and the band secured thereto, as by stitching.

To apply a closure to the mouth of the bag 5 to close and seal the same, there is provided a neck member of sheet metal substantially of U-shape in cross section. The inner leg of the neck member is arranged with a rolled screw thread, as at 9, and the outer leg being flat and of less length than the inner leg. The neck member is engaged upon the reinforced mouth 10 portion of the bag with the threaded leg engaging at the inner side thereof and the outer leg disposed about the reinforcing band and secured thereto by pressing the outer leg inwardly toward the inner threaded leg and clamping the reinforced pleated wall about the mouth of the bag between the legs of the neck member and the edge of the outer leg terminating intermediate the reinforcing band. The leg connecting portion of the neck member constitutes a seat for a sealing washer or gasket 10 of resilient material, such as rubber, and is provided with an annular outwardly extending rib or bead 11 preferably of inverted V-form in cross section and the wall portion within said bead diverging inwardly and merging with the outer wall of the end convolution of the screw thread, as at 12. The wall portion of the leg connecting portion outwardly 30 from the bead is rounded and merges with the outer leg of the neck member, which leg, when clamped to the reinforced wall about the mouth of the bag, diverges slightly inward.

The closure comprises a plug portion 13 having an annular flange 14 extending laterally from the base of the plug portion arranged with an annular groove 15, said groove being adapted to be disposed in opposed relation to the annular rib or bead 11 of the neck member when the closure is applied thereto and is of a cross sectional form corresponding to that of the bead. The side wall of the plug portion 13 is provided with a screw thread 16 complementary to the thread on the inner leg of the neck member and adapted to have threaded connection therewith by rotary movement of the closure when it is applied to the neck member, and is also arranged with an annular recess 17 at the juncture of the plug portion with the flange, said recess preferably being of a diameter slightly less than the diameter of the bottom or base of the thread spaces. As shown the plug portion is in the form of a sheet metal cup with the flange 14 extending laterally therefrom and the screw thread rolled thereon. To arrange the plug portion 13 with a head adapted to be gripped by the hand to facilitate applying and removing the closure from the neck member the peripheral portion of the flange is turned to extend outwardly and inwardly at an acute angle to the outer side of the flange. To close the cup portion and reinforce the flange thereof a disk 18, preferably slightly of dome shape, and of stiff sheet metal, is engaged at the peripheral portion within the inwardly extending portion of the peripheral portion of the flange and thereby united thereto, as shown at 19. The cupped plug portion of the closure is made of a pliable material though somewhat stiff and yielding, whereby it may be readily drawn to shape and the thread rolled thereon, and should the closure be dropped and the peripheral portion of the head strike the surface upon which it is

dropped, and particularly so when the closure is applied to the bag, the flange will be distorted creating a bulge therein. To prevent this the flange of the plug portion is provided with an annular reinforcing rib or bead 20 arranged concentrically of and disposed between the groove 15 and the outwardly turned peripheral portion 19 of the flange.

In use the resilient gasket is utilized, which is engaged upon the plug portion of the closure and seated against the under side of the flange 14. The internal diameter of the gasket is preferably of slightly less diameter than the diameter of the recess 17, whereby when the gasket is engaged in said recess it is slightly stretched and caused to resiliently and snugly engage the recess wall. The gasket is of a width to bridge the flange groove 15 and the annular rib or bead 11 of the neck member, and as the closure is applied to the neck member it will be engaged by the neck projection 11 in opposed relation to the flange recess 15 not only clamping the gasket between said neck rib 11 and wall of the flange groove 15, but also clamping and pinching the gasket between the portions of the closure flange at opposite sides of the flange groove 15 and the neck member at opposite sides of the neck rib 11 and at the same time crowding the portion of the material of the gasket at the inner side of the neck rib 11 and flange groove 15 into engagement with the wall of the recess 17 and further assuring a liquid tight seal.

To facilitate gripping the closure member by the hand in applying it to the bag to firmly clamp the washer or gasket between the closure and neck member the bend of the outwardly turned peripheral portion of the flange 14 of the plug portion is rounded and transversely fluted to provide an uneven surface which is readily gripped by the hand.

Having described my invention, I claim:

In ice and the like bags formed from flexible sheet material, closure means for the mouth of the bag comprising a neck member substantially of U-shape in cross section engaged upon and clamped to the marginal portion of the material about the mouth of the bag with the portion engaging within the mouth provided with a screw thread and the end constituting a gasket engaging seat arranged with an annular outwardly extending rib, and a cup shaped closure member provided with a thread on its side wall for threaded engagement with the thread on the neck member to apply the closure thereto, the marginal portion of the closure member being provided with an annular laterally extending flange arranged with an annular groove opposed to the annular rib of the neck member when the closure is applied thereto and an annular recess at the juncture of the side wall with said flange, and a gasket engaged upon the side wall of the closure member in juxtaposed relation to the flange and snugly engaging the wall of the recess at the juncture of the side wall with the flange, the gasket being clamped between said rib and groove and between the portions of the flange at opposite sides of the groove and the portions of the neck member at opposite sides of the rib and the material of the gasket being crowded into firm engagement with the wall of the annular recess at the juncture of the side wall with the flange of the closure member.

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