May 14, 1940. F. LOBL 2,200,395

CONTAINER

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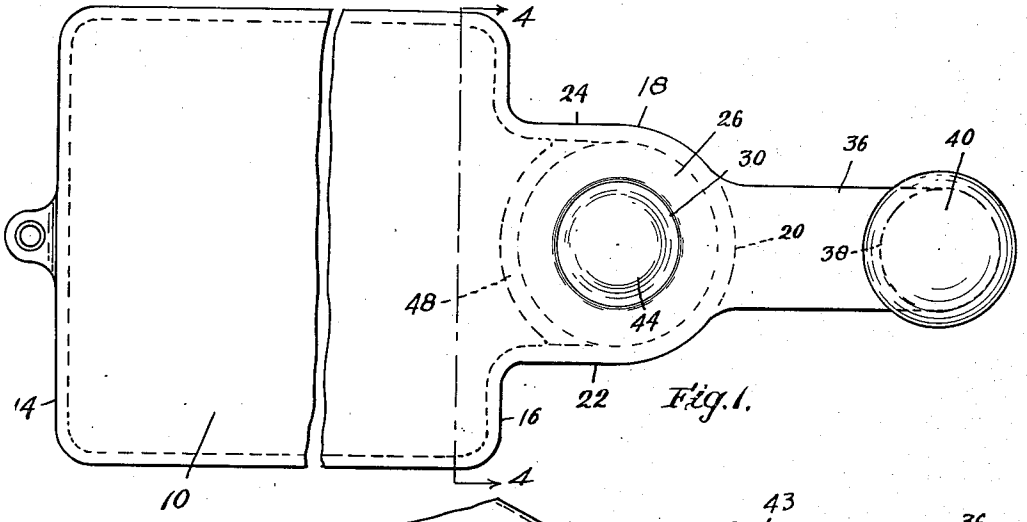


Fig. 1.

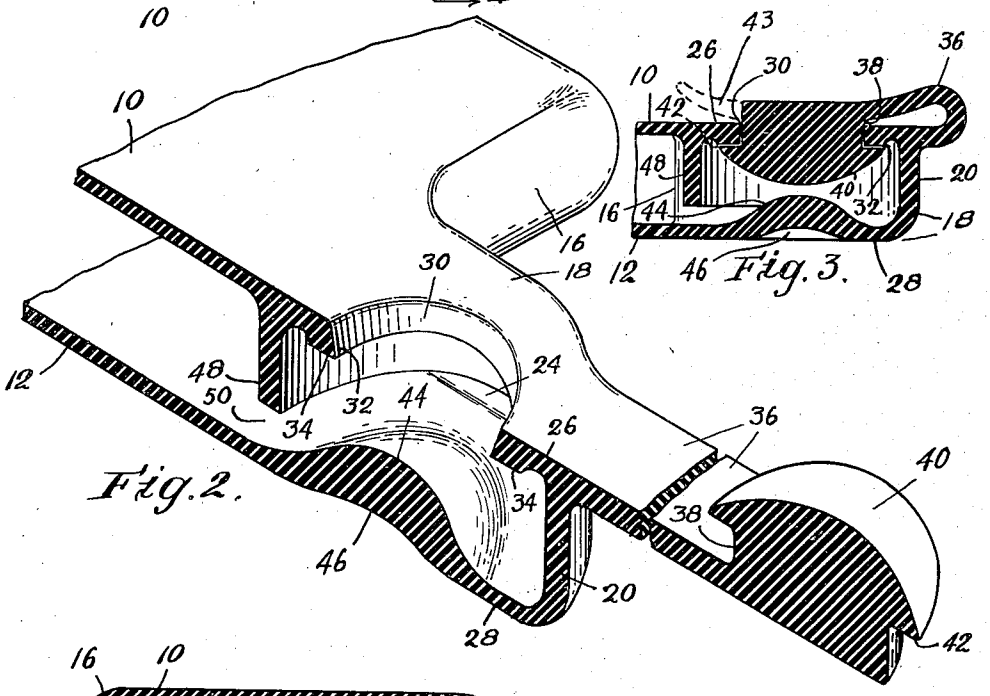


Fig. 2.

Fig. 3.

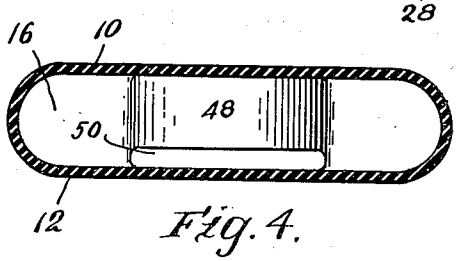


Fig. 4.

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CONTAINER

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Application November 19, 1937, Serial No. 175,445

4 Claims. (Cl. 150—8)

This invention relates to containers and especially such containers as so-called hot water bottles having flexible walls, and to sealing means for the openings of the bottles, the sealing means being integral with the bottle.

In my copending application Serial No. 147,453, filed June 10, 1937, now Patent No. 2,171,730, dated Sept. 5, 1939, I have disclosed a container, and particularly a hot water bottle, having an opening in one flexible wall thereof, and sealing means for the opening disposed internally of the bottle and adapted to enter the opening to seal it.

It is an object of the present invention to provide a container with sealing means constructed generally along the line disclosed in said application but with the sealing means disposed externally of the bottle and integrally therewith and so arranged as to be removably positioned in sealing relation with the opening.

A further object of the invention is to provide the container with an opening in a flexible side wall thereof near one end of the container and to provide the container with an integral broad flexible or resilient tab which outstands from said end in line with the opening, the tab having an upstanding sealing rib or member which conforms with the configuration of the opening and is adapted to fit snugly and removably thereinto to seal the opening, the tab being flexed to permit this disposition of the sealing member.

A yet further object is to provide a hot water bottle with a reduced extension at one end having an opening in a flexible wall thereof and having a tab outstanding beyond the neck in the line of the opening and provided with a sealing member adapted to be releasably retained in the opening to seal it.

A yet further object of the invention is the provision of a container having an internal rib which projects from one wall toward the opposite wall in the vicinity of the opening to support the flexible walls in the body of the container against flexing when the walls in the vicinity of the opening are flexed to insert the sealing member in the opening and to remove it therefrom.

Another object of the invention is the provision of a container as described having an upstanding projection rising from the inner face of that wall opposite the opening which can be pressed against the sealing member to force it out of the opening.

A further object is generally to improve the construction of containers and sealing members for the openings thereof.

Fig. 1 is a plan view of a hot water bottle embodying the present invention.

Fig. 2 is a prespective sectional detail taken along the longitudinal axis of the bottle of Fig. 1.

Fig. 3 is a sectional detail taken along the median line of the bottle and illustrating the sealed condition of the bottle.

Fig. 4 is a section taken along line 4—4 of Fig. 1.

The hot water bottle of the present invention is a unitary one-piece molded flexible rubber construction having the top and bottom broad walls 10 and 12, the end walls 14 and 16, and a neck 18 projecting from the end wall 16 and having its end wall 20 and side walls 22 and 24 and top and bottom walls 26 and 28 formed as continuations of the top and bottom walls 10 and 12 of the body portion of the bottle. The top wall 26 of the neck is provided with a circular entrance aperture 30 through which the contents of the bottle are adapted to be passed. On the inner face of the top wall 26 of the aperture 30 is surrounded by a downwardly projecting peripherally continuous lip or flange 32 which preferably is substantially thicker than the thickness of the top wall and is terminated in a flat bottom face 34. The lip is resilient and can be stretched. The end wall 20 of the neck is also preferably thicker than the top and bottom walls 10 and 12, as illustrated in Figs. 2 and 3.

The bottle is provided with an outwardly projecting flexible and resilient tab 36 which outstands from the end wall 20 of the neck substantially in line with the top wall 26 thereof. The tab is disposed in the median line of the bottle opening 30 and is preferably about as wide as the diameter of said opening. The tab at or near its outer end is provided with a closure member comprising an upstanding cylindrical rib or projection 38 which is conformed to the configuration of the opening 30 and is preferably somewhat larger in cross-section than said opening so that when entered in said opening it causes the opening to be distended somewhat and thus causes the lip 32 of the opening to snugly engage the rib entirely about its periphery, thereby to seal or plug the opening.

The rib at the top thereof is provided with a spheroidal head 40 having an outstanding flat faced annular flange 42 which outstands beyond the rib on all sides. The flange is resilient and is adapted to be compressed inwardly toward the rib in the act of inserting the head into the opening 30 and to spring outwardly and overlie the flat face 34 of the lip and tightly fit thereupon to further provide a seal for the opening. The

resiliency of the bent tab 36 also tends to hold the flange 42 securely seated upon the lip. The sealing member may be removed from the opening by pressing the bottom wall 28 upwardly against the head 40 and at the same time stretching the neck 24 in the direction of the length of the opening 30, thereby to press the head and flange out of the opening. The tab 36 can also be provided at its end with a projecting finger grip 43, see Fig. 3, by which the sealing member can be pulled out of the opening.

The bottom wall preferably is provided with a projection 44 which upstands from the inner face thereof under the opening 30 into a position close under the head 40 of the closure member when it is in the opening so that the bottom wall can be pressed against the head to force it out of the opening without excessive compression of the neck 18. The bottom wall 28 preferably has a concavity 46 under the projection adapted to receive the fingers in pressing the projection against the sealing member and also in stretching the neck to enlarge the opening and facilitate the removal of the sealing member.

The top wall of the bottle is also provided with an integral rib 48 which depends from its inner face at or near the junction of the neck 18 with the body of the bottle and is terminated close to but away from the inner face of the bottom wall 12 to provide a passage 50 thereunder to admit flow of liquid or other material between the body and neck. Said rib 48 preferably is arcuate and concentric with the opening and is relatively stiff against endwise pressure and serves to hold the body of the container against undue collapse as the neck and sealing member is manipulated.

I claim:

1. A molded rubber hot water bottle having top and bottom flat walls, the top wall having an opening through which the contents of the bottle are adapted to pass, a flexible tab integral with the body of the bottle and projecting outwardly therefrom, the tab carrying a sealing member which is conformed to the configuration of said opening and is arranged to enter and plug said opening upon the flexure of said tab, said opening having a flexible circumscribing lip projecting from the inner face of the wall into the interior of said bottle which grips the sealing member circumferentially, and said sealing member having a resilient circumferentially continuous outstanding head adapted to pass through said opening and to overlie and be seated upon said lip, all parts being integrally molded in one piece and all composed of the same material.

2. A molded one-piece rubber container having a wall provided with a filling opening, a flexible tab integrally molded with said wall having an upstanding sealing plug insertible in said opening, and a second wall having a flexible part provided with a plug-removing projection rising from the inner face of said part under said opening and terminated close under the plug in the opening.

3. A molded one-piece rubber container having a flexible wall provided with a filling opening, a flexible tab integrally molded with said wall having an upstanding sealing plug insertible in said opening, and a second flexible wall having a plug removing projection rising from the inner face of said wall under said opening and terminated close under the plug in the opening, the outer face of said wall having a depression under said projection.

4. A container having a flexible walled body, one wall of which has a filling opening, a sealing plug adapted to be forced into and out of said opening, and a stiff wall-supporting rib projected from one wall toward and terminated adjacent to the opposite wall near said opening.

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