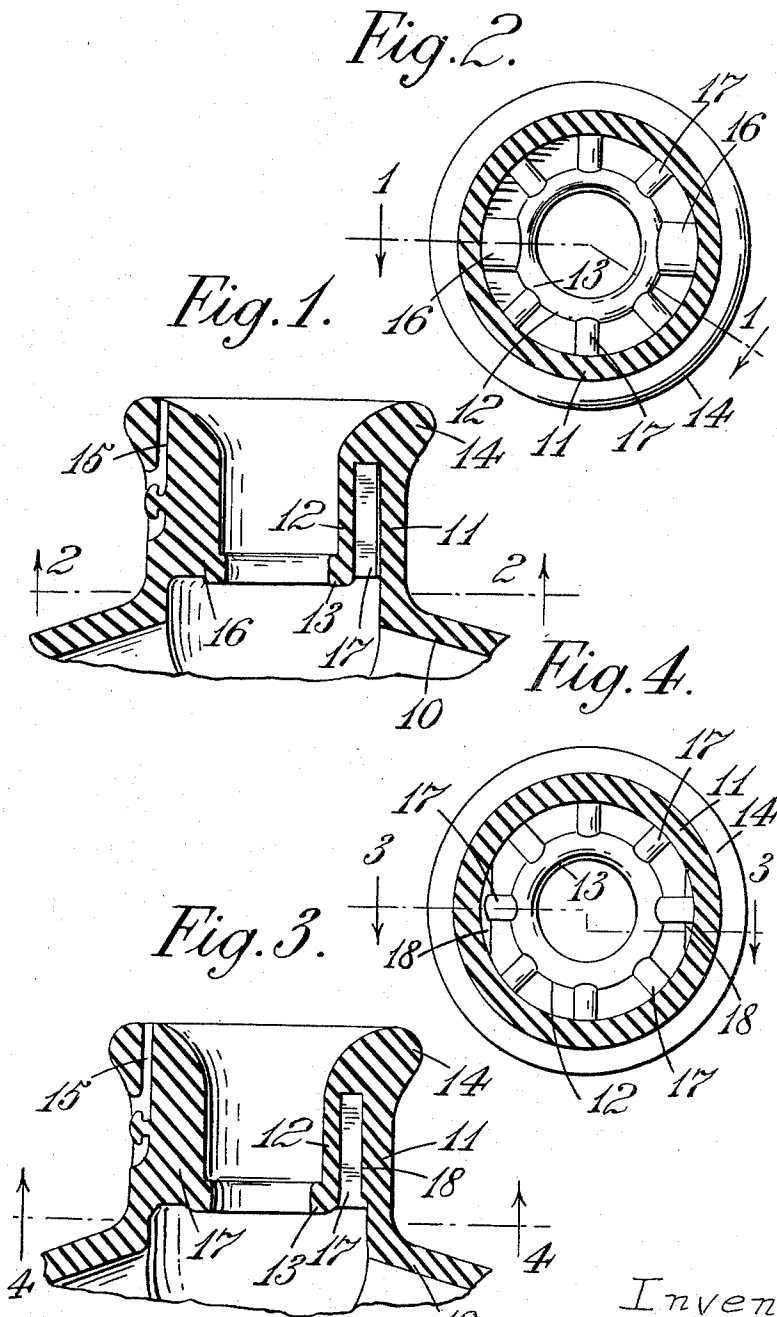


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RUBBER AND LIKE BOTTLES

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**RUBBER AND LIKE BOTTLES**

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4 Claims. (Cl. 150—2.1)

This invention is for improvements in or relating to rubber and like bottles, and has for one of its objects to provide a simple and efficient construction which can be cheaply made. The invention is particularly applicable to hot water bottles.

In United States Patent No. 2,215,392 a construction is described in which a separately-formed tubular member is vulcanized or otherwise secured inside the mouth and neck of a hot water bottle to provide a seat for a plug to close the bottle. This separately-formed tubular member is also grooved to receive a hinge for the bottle closure. In my application Serial No. 331,381 filed January 15, 1953, now Patent No. 2,704,100, there is described a different hinging arrangement to which further reference will be made hereinafter.

According to the primary feature of the present invention, there is provided a rubber or like bottle having the neck and mouth portion formed with an inner and an outer wall whereof the inner wall extends a substantial distance down the inside of the neck and provides a tubular seat for a plug to close the mouth of the bottle, and the outer wall constitutes a continuation of the body of the bottle, which inner and outer walls are integral with each other, merging at the rim around the mouth of the bottle. This construction affords economy in material, weight and manufacturing operations and lends itself to the adoption of the known method of core removal through an aperture left in the bottom of the bottle, which aperture is of course subsequently sealed.

Preferably, the said inner and outer walls are spaced apart from each other throughout the major part of the length of the inner wall but are strengthened or supported by longitudinal ribs which reach into the space between the walls. In this way, the inner wall is centralized and resiliently supported. The ribs are integral with the remainder of the bottle, and may extend downwardly from the merging of the walls at the rim of the mouth to the level of the lower end of the inner wall.

It is convenient in some cases to provide two diametrically opposed ribs which are substantially thicker (i. e. in the direction circumferentially of the bottle neck) than the other ribs. If the present invention is applied to a bottle constructed according to that of application Serial No. 331,381 the throughway for the hinge is formed in the thickness of the outer wall, it is preferred to arrange that one of the said thicker ribs is located immediately adjacent to and in alignment with the said through-way. Thus it will provide support to the outer wall at a place where the material is weakened by the through-way. The ribs will usually reach further down than the bottom of the through-way.

For a more complete understanding of the invention, there will now be described, by way of example only and with reference to the accompanying drawings, two constructions of bottle neck according to the invention. It is to be understood, however, that the inven-

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tion is not restricted to the precise constructional details set forth.

In these drawings:

Figure 1 is a section on the line 1—1 of Figure 2 showing the upper end of one form of rubber hot water bottle according to the invention,

Figure 2 is a section on the line 2—2 of Figure 1,

Figure 3 is a section on the line 3—3 of Figure 4 showing the upper end of another form of rubber hot water bottle according to the invention, and

Figure 4 is a section on the line 4—4 of Figure 3. Like reference numerals indicate like parts throughout the drawings.

Referring firstly to Figures 1 and 2, the body 10 of the bottle has integral with it two neck walls, 11 and 12. The inner wall 12 is of substantially the same thickness throughout its length, except that at its bottom edge it has an inturned flange 13. This has a central bore to constitute the pouring aperture of the bottle and the flange 13 serves to limit the downward movement of the closure plug (not shown). Above the merging of the inner and outer walls 12 and 11 respectively the material is thickened and flared at 14 to facilitate pouring and to form an external ridge around the mouth over which a skirt in the closure can be folded, as described in the aforesaid specification. At 15 there is shown a through-way as described in application Serial No. 331,381 this through-way being formed in the outer wall 11.

The walls 11 and 12 are joined by longitudinal ribs 16 and 17, see particularly Figure 2, which reach across the space between the two walls, the two ribs 16 being thicker than the others. All of the ribs are integral with both walls 11 and 12 and reach down to the level of the lower end of the wall 12. If the bottle when empty is of flat conformation, as shown, the two thicker ribs 16 preferably lie in the direction of the edges of this flat conformation, one being immediately at the location of the through-way 15.

The construction shown in Figures 3 and 4 is similar to that shown in Figures 1 and 2 except that all of the ribs are of the same thickness, and that there are thickenings at 18 at situations corresponding with the location of the thick ribs 16 in Figures 1 and 2.

It is to be understood that the invention is not restricted to the precise constructional details set forth.

I claim:

1. A rubber or like bottle of flat formation having parallel side walls and a neck and mouth portion formed with spaced inner and outer tubular walls whereof the inner wall extends a substantial distance down the inside of the neck and provides a tubular seat for a plug to close the mouth of the bottle, and the outer wall constitutes a continuation of the body of the bottle, which inner and outer walls are integrally connected with each other at their outer ends to form a rim around the mouth of the bottle, a plurality of longitudinal ribs extending axially and radially in the space between the walls, and integrally connected at a plurality of circumferentially spaced regions to the outer portion of the inner wall and the inner portion of the outer wall, and reinforcements provided at two diametrically opposite regions on the diameter parallel to the planes of the side walls of the bottle.

2. A bottle according to claim 1, in which the reinforcements are in the form of a pair of ribs that are thicker than the other ribs.

3. A bottle according to claim 1 in which the reinforcements consist of thickenings on the outer tubular wall.

4. A bottle according to claim 1 having a longitudinal through-way between the inner and outer surfaces of

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the outer tubular wall in the thickness of the said neck and mouth portion immediately adjacent to and in radial alignment with one of said reinforcements.

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