Sept. 25, 1934. J. B. MEEK 1,974,968

CONTAINER

Filed Oct. 18, 1933

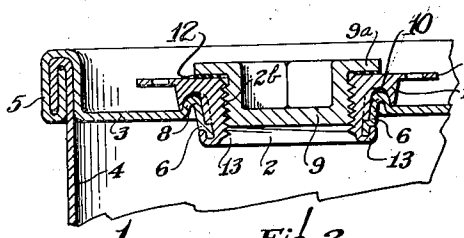



Fig. 2

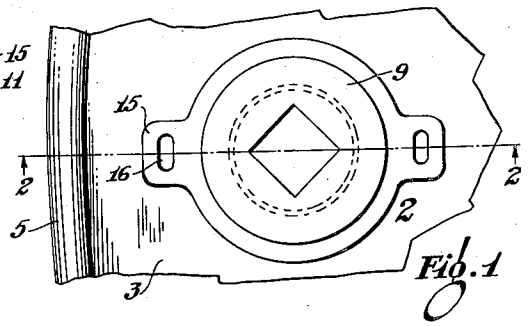



Fig. 1

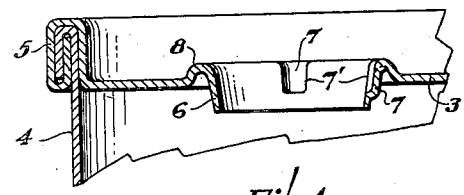



Fig. 4

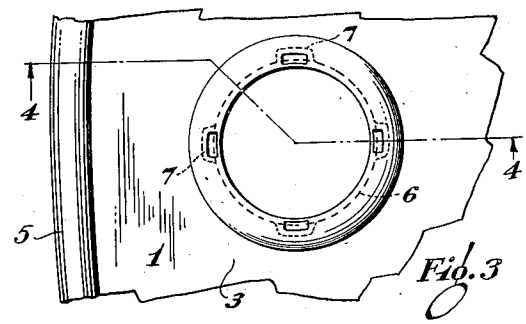



Fig. 3

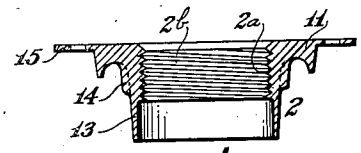



Fig. 5

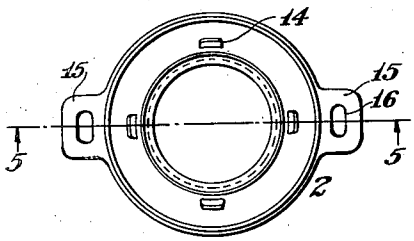



Fig. 6

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1,974,968

## CONTAINER

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5 Claims. (Cl. 285—49)

This invention relates to containers, more particularly an improved bung ring and the mounting therefor, wherein the ring and portions of the metal wall are inter-related to form a seat for the ring and a lock to prevent rotative movement thereof. In various constructions of containers, of which I have knowledge, employing pressed-in types of rings, the sheet metal is unduly worked or distorted to shape it around or for relation to portions of the ring, with the result that the sheet metal becomes fractured or weakened.

One object of my invention is to provide an improved bung ring and mounting therefor of simplified construction, wherein a minimum shaping of the container wall is required.

Another object of the invention is to provide an improved bung ring and mounting therefor wherein the ring and metal wall are interlocked and such wall is reinforced to resist strains resulting from the insertion and removal of a bung.

Another object of the invention is to construct an improved bung ring and mounting therefor in which (*a*) the ring is provided at its opposite ends with flanges engaging portions of the container wall to prevent axial movement of the ring in either direction and (*b*) intermediate the flanges the ring and metal wall are interconnected to prevent rotative movement of the ring.

Another object of the invention is to construct an improved bung ring and mounting therefor in a container wall having a neck in which the body of the ring and the neck are provided with interlocking elements and the wall surrounding the neck is shaped to reinforce the neck, whereby the ring is adequately supported and held against rotation.

Another object of the invention is to provide an improved bung ring capable of being forged and wherein the metal flash may be utilized as lugs for the attachment of seating elements when the ring is in position.

Other objects of the invention will be apparent to those skilled in the art to which my invention relates from the following description taken in connection with the accompanying drawing, wherein

Fig. 1 is a fragmentary plan view of a container provided with a bung ring which and its mounting embody my herein disclosed invention.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of the parts shown in Fig. 4.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is a section on the line 5—5 of Fig. 6.

Fig. 6 is a bottom plan view of the bung ring.

In the drawing, 1 indicates a container in one wall of which is mounted a bung ring, indicated as an entirety at 2. In the drawing, I have shown for illustrative purposes (*a*) a portion of a container, namely, one head 3 and a side wall 4 connected by a double seam 5 and (*b*) the ring 2 mounted in the head 3. In practice it is customary to equip each container with two or more bung rings, but as they may be (and usually are) similar in construction, only one is shown herein.

In my improved mounting, the wall 3 is formed with an opening and the metal therearound is distended to form a neck 6, the walls of which are slightly inclined inwardly toward the free end of the neck for a purpose later to appear. The walls of the neck 6 are provided with spaced off-sets 7, there preferably being four off-sets each diametrically arranged relative to one of the remaining off-sets. Each off-set is of less length than that of the neck in a direction axially of the neck and is arranged adjacent the inner end of the neck, that is, that end of the neck which is contiguous to the wall 3, so that the upper end of the off-set is open; also, for reasons which will later appear, the side walls 7' of each off-set converge downwardly. The wall 3 surrounding the neck 6 is shaped to form a curved embossment 8, which (*a*) reinforces the neck 6, particularly that portion of the neck which resists rotative movement of the ring when a bung (shown at 9) is being tightened in the ring or loosened, (*b*) forms a seat for a gasket 10 and (*c*) eliminates undue projection of the neck into the container 1, so that drainage of the latter is facilitated. By reason of the fact that the embossment 8 is between the neck 6 and the adjacent portion of the wall 3, it resists strains upon the wall when the bung 9 is tightened or loosened. As the embossment 8 is not utilized as the means for locking the ring 2, very little distension of the metal wall to form the embossment is required, so that danger of the wall being fractured or weakened is eliminated.

The bung ring 2 consists of a suitable forging having a body portion 2*a*, internally threaded at 2*b* to receive the bung 9. At one end the body portion 2*a* is provided with an outwardly extending flange 11 the inner face of which is curved in a radial direction so as to embrace the gasket 10 and embossment 8 when the ring 2 is in position, whereby the embossment 8 is reinforced, whereas its outer face is flat, whereby a gasket 12 may be interposed between such face and the flange 9*a* of the bung 9; and at its opposite end the body portion 2*a* is provided with and terminates in a relatively thin, non-threaded

flange 13, which throughout its circumference, is beaded or curled over the free circumferential end of the neck 6, as shown in Fig. 2. As will be understood, the flanges 11 and 13 are at the opposite ends of the body portion of the ring and engage portions of the wall 3 and neck 6 to prevent movement of the ring inwardly or outwardly. 14 indicates elements integrally provided on and extending longitudinally of the outer side walls of the body portion 2a and adapted to fit into the off-sets 7. The elements 14 are complementary in shape and size to the off-sets 7 so that when the ring 2 is positioned in the neck and the flange 13 beaded circumferentially, as already described, the body portion 2a and neck 6 are in locked relation to prevent loosening or rotation of the ring.

As above stated, the ring 2 is a forging for which reason the outer or side walls of the body portion 2a and flanges 11, 13, are inclined inwardly toward the end of the latter flange to permit ready removal of the ring from the dies; also the dies are formed with pairs of related cavities arranged to utilize the flash of the metal to form integral, diametrically arranged lugs 15 having openings 16, adapted to be used as attaching means for suitable sealing elements, whereby tampering with or removal of the bung 9 may be detected.

In assembly of the ring, the gasket 10 is first positioned on the embossment 8 and then the ring is inserted in the neck 6 and forced downwardly under pressure to interlock the elements 14 in close fitting relation with the walls of the off-sets 7 and to compress the gasket; thereafter the flange 13 is beaded over the free circumferential edge of the neck 6, with the result that the ring is rigidly mounted in and secured to the wall 3.

In the form of construction shown, the head 3 is double seamed to the side wall 4 so that the flange 11 is on the upper side of the wall 3, but if desired the wall may be reversed, so that the flange 11 is within the container 1. In this arrangement the lugs 15 are omitted and the beaded portion 13' may be used as a shoulder for securing a seal cap over the bung.

To those skilled in the art to which my invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the spirit and scope of the invention. My disclosures and the description herein are purely illustrative and not intended to be in any sense limiting.

What I claim is:

1. In a container having a metal wall formed with an opening and provided with a neck surrounding said opening, said neck being formed inwardly of its free end with longitudinally extending off-sets, and a bung ring having an internally threaded body portion provided with flanges at its opposite ends and locking elements between said flanges fitting into said off-sets, one flange being beaded throughout its circumference over the free circumferential edge of said neck and the opposite flange engaging the contiguous portion of the wall surrounding said neck.

2. In a container having a metal wall formed with an opening and provided with a neck surrounding said opening, that portion of said wall around said opening and contiguous to said neck being shaped to reinforce said wall and said neck being formed with off-sets extending longitudinally thereof from said shaped portion toward its free end, and a bung ring having an internally threaded body portion provided with flanges at its opposite ends and locking elements between said flanges fitting into said off-sets, one flange being beaded throughout its circumference over the free circumferential edge of said neck and the opposite flange engaging the contiguous portion of the wall surrounding said neck.

3. In a container having a metal wall formed with an opening and provided with a neck surrounding said opening, that portion of said wall contiguous to and surrounding said neck being embossed and said neck being formed with off-sets extending longitudinally of said neck from said embossed portion toward its free end, and a bung ring having an internally threaded body portion provided with flanges at its opposite ends and locking elements between said flanges fitting into said off-sets, one flange being beaded throughout its circumference over the free circumferential edge of said neck and the opposite flange engaging the contiguous portion of the wall surrounding said neck.

4. In a container having a metal wall formed with an opening and provided with a neck surrounding said opening, that portion of said wall around said opening and contiguous to said neck being shaped to reinforce said wall and said neck adjacent said shaped portion being formed with longitudinally extending off-sets, and a bung ring having an internally threaded body portion provided with continuous circumferential flanges at its opposite ends and locking elements between said flanges fitting into said off-sets, one flange being beaded throughout its circumference over the free circumferential edge of said neck and the opposite flange engaging the contiguous portion of the wall surrounding said neck, the last mentioned flange being shaped to embrace said reinforcing means.

5. In a container having a metal wall formed with an opening and provided with a neck surrounding said opening, that portion of said wall contiguous to and surrounding said neck being embossed and said neck adjacent said embossed portion being formed with longitudinally extending off-sets, and a bung ring having an internally threaded body portion provided with continuous circumferential flanges at its opposite ends and locking elements between said flanges fitting into said off-sets, one flange being beaded throughout its circumference over the free circumferential edge of said neck and the opposite flange engaging the contiguous portion of the wall surrounding said neck, the last mentioned flange being shaped to embrace said embossment.

JOHN B. MEEK.