Aug. 1, 1933. F. J. RUNSER ET AL 1,920,807

CONTAINER

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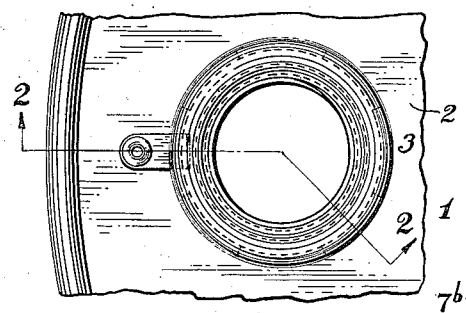


Fig. 1

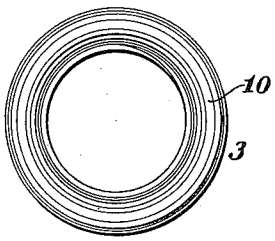


Fig. 7

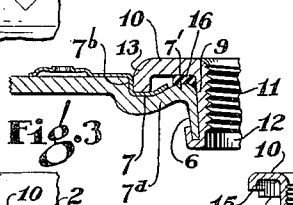


Fig. 3

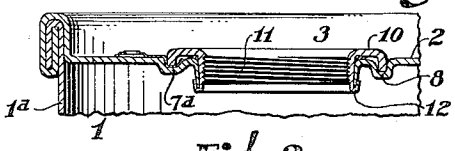


Fig. 2

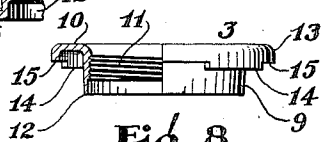


Fig. 8

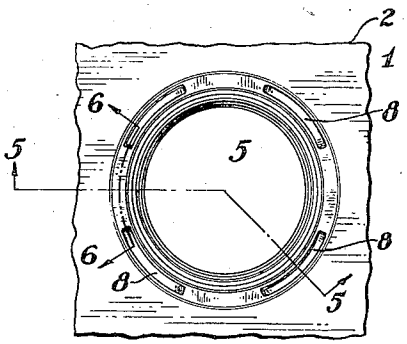


Fig. 4

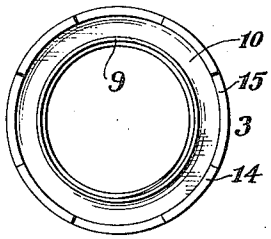


Fig. 9

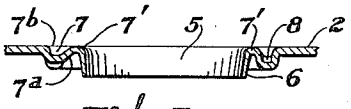


Fig. 5

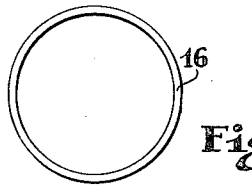


Fig. 10

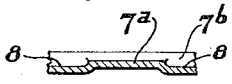


Fig. 6

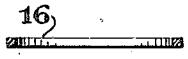


Fig. 11

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CONTAINER

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Application December 6, 1930. Serial No. 500,487

3 Claims. (Cl. 285—49)

This invention relates to a container having one or more of its walls formed of sheet metal.

One object of the invention is to provide a container having an improved bung and mounting therefor, in which the bung is rigidly and permanently interlocked or connected to the container wall.

Another object of the invention is to provide an improved bung and mounting therefor which admit of ready manufacture and assembly and insure permanent interlocking of the bung relative to the container wall.

Another object of the invention is to provide a bung having a flange of improved shape and construction to interlock with the wall, such shaping serving to reinforce the flange to resist strains upon it and the container wall when the closure plug is tightened or removed.

A further object of the invention is to provide a bung and bung mounting having interlocking elements the co-acting surfaces of which are disposed substantially radially of the axis of the bung, whereby the turning force imparted to the bung when tightening or loosening its plug is resisted by portions of the container wall disposed in line with and at substantially right angles to the direction of the force imparted to the bung.

Another object of the invention is to provide an improved bung and mounting therefor which permit ready permanent attachment of a sealing element.

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

Fig. 1 is a fragmentary plan view of a container having a bung and a mounting therefor embodying our invention.

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

Fig. 3 is a fragmentary section, also on the line 2—2 of Fig. 1, enlarged.

Fig. 4 is a fragmentary plan view of the container wall shaped to receive our improved bung.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Fig. 6 is a section on the line 6—6 of Fig. 4.

Fig. 7 is a plan view of the bung.

Fig. 8 is a view of the bung partly in side elevation and partly in section.

Fig. 9 is a bottom plan view of the bung.

Figs. 10 and 11 are plan and side views of the gasket.

In the drawing, 1 indicates a container having a sheet metal wall 2 in which a bung 3 is mounted. The container comprises a side wall 1*a* and heads only one of which is shown, this head serving as the wall 2 in which the bung 3 is mounted. By preference the side wall and both heads are formed of sheet metal and connected by a double seam, as shown at 4. The bung 3 may be mounted in either head or side wall.

The wall 2 is formed with an opening and the metal of the wall surrounding the opening is bent laterally, preferably inwardly, to form a neck 6 and that portion of the metal wall surrounding the neck is distended in the same direction as the neck 6 to form an annular seat having a portion of the wall indicated at 7*a* and a side wall 7*b*. The bottom 7*a* adjacent the neck is preferably crowned, as shown at 7′ to form a gasket seat, as will later appear. The bottom wall 7 is provided with a plurality of arc shaped depressions 8 disposed or extending concentric to the axis of the opening. These depressions 8 are, by preference, uniformly spaced from each other and their opposite end walls are disposed on lines substantially radially of the axis of the opening. The bottoms of the depressions 8 are substantially parallel to the wall 7.

The bung 3 comprises a body portion 9 which fits into the neck 6 and an outwardly extending flange 10 at its outer end, the inner wall of the body portion being threaded, as shown at 11, to receive a conventional closure plug or other fitting (not shown). The lower terminal portion of the body 9 is reduced circumferentially to form a rim 12 which is riveted over the circumferential free edge of the neck 6, as shown in Figs. 2 and 3. The outer peripheral portion of the bung flange 10 is bent downwardly to form a collar 13, which serves to reinforce the flange and elements or projections 14 carried by the collar and fitting into the depressions 8. For this purpose, the circumferential or free edge of the collar 13 is cut away along spaced portions, as shown at 15, whereby result the projections 14, the portions cut-away being proportioned in length so that the projections 14 register with and snugly fit into the depressions 8. The end walls of the projections are disposed radially of the axis of the bung and interlock with the end walls of the depressions to lock the bung against turning in either direction. The parts are proportioned so that the bottoms of the cut-aways 15 rest on the wall 7 of the seat (see Fig. 3) and the projections fit into the depressions 8, as above described, and the outer side wall of the collar 13 fits against the side walls 7*b* as shown in Fig. 2. From the foregoing description, it will be seen that the circumferen-

tial edge of the collar and the bottom wall 7 of the seat are complementary and the complementary elements are so constructed as to arrangement and number that the bung may be readily positioned.

When the bung 3 is assembled in the neck 6 with the collar positioned in its seat and the interlocking elements between the collar and seat in engagement and the rim 12 is riveted over the neck 6 as shown, the interlocking elements are secured in co-acting relation and will prevent turning of the bung in or relative to the container wall 2. By disposing the end walls of the depressions 8 and projections 14 radially, the former are disposed at substantially right angles to the direction of the force applied by the end walls of the projections when the closure plug is tightened or loosened. By providing the interlocking elements between the container wall and a collar provided on the outer marginal portion of the bung flange, maximum diameter of the bung is utilized to increase the leverage effect in resisting danger of loosening the bung.

The provision of a down-turned collar on the flange 10 forms a rounded shoulder for the outer periphery of the flange.

16 indicates a suitable gasket interposed between the lower face of the flange 10 and the crowned portion 7' and serving to seal the joint between the bung and container wall.

17 indicates a sealing element comprising a strip of thin sheet metal which is laid on the container wall so that its inner end portion extends over or across the seat at one side of the opening, and below the periphery of the collar 13, so that in the assembly of the bung in the neck and riveting over of the rim 12, the sealing strip is clamped between the collar 13 and walls 7, 7b, of the seat. The inner portion of the strip 17 is shown under one cut-away 15 and crimped against the seat walls 7, 7b, but when desired it may be positioned below a projection 14 and crimped into the adjacent depression 8. The outer end of the strip 17 is formed with an opening 18, whereby a wire may be threaded therethrough and an opening formed in the flange of the closure plug, the ends of the wire being sealed by a lead slug.

In mounting the bung 3 upon the wall 2, a sealing strip 17 is laid across the seat and a bung is positioned with its body 9 in the neck 6 and the collar in the seat engaging the strip 17, with the projections 14 in their receiving depressions 8; the bung 3 is held in this position while a suitable tool is applied to rivet or laterally bend the rim 12 as shown in Fig. 2.

To those skilled in the art to which our 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 thereof. Our disclosures and the description herein are purely illustrative and are not intended to be in any sense limiting.

What we claim is:

1. A container having a sheet metal wall formed with an opening and provided with a neck surrounding said opening, the metal of the wall surrounding said neck being formed with a plurality of depressions disposed concentrically to said neck, a bung comprising a body adapted to be formed of sheet metal and fitting into said neck and having a rim at one end secured to said neck and a flange at its other end, and an inwardly extending collar on said flange provided on its free edge with projections which fit into said depressions and interlock the bung and wall together.

2. A container having a sheet metal wall formed with an opening and provided with a neck surrounding said opening, the metal of the wall surrounding said neck being distended toward the free end thereof to form a seat and the bottom of said seat being provided with a plurality of spaced up-set portions, and a bung comprising a body adapted to be formed of sheet metal fitting into said neck and engaging therewith at one end to prevent movement of the body in one direction and having a flange at the other end of said body overlying said seat, said flange terminating in an inwardly extending circumferential collar provided on its free edge with elements complementary to the bottom wall of said seat.

3. A container having a sheet metal wall formed with an opening and provided with a neck surrounding said opening, the metal of the wall surrounding said opening being distended to form a seat and the bottom of the seat being provided with a plurality of spaced depressions, a bung comprising a body fitting into said neck and secured thereto and a flange at the outer end of said body engaging said seat and provided with an inturned collar the peripheral edge of which is provided with projections fitting into said depressions, and a sealing element interposed between said flange and its seat.

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