

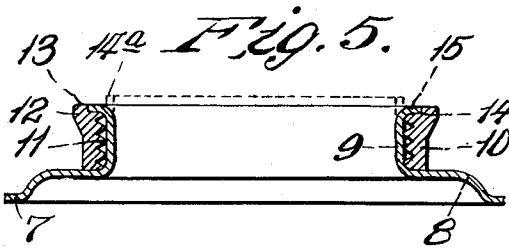
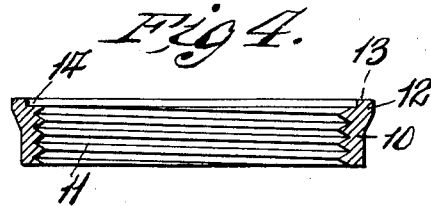
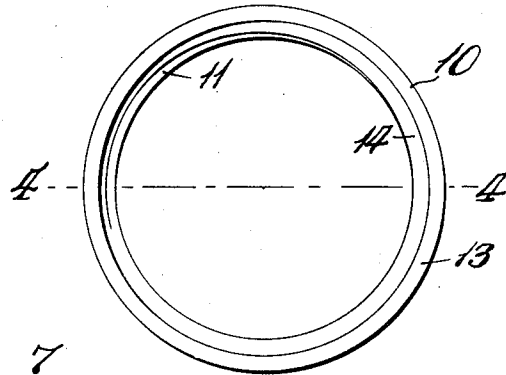
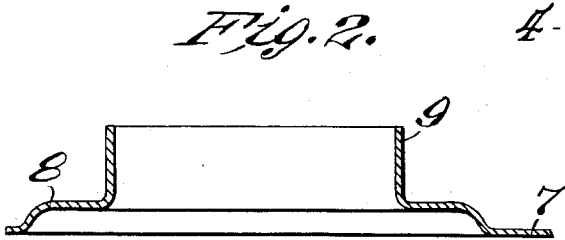
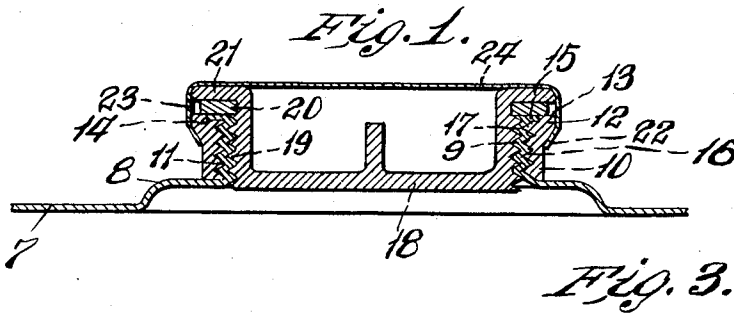
July 9, 1940.

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2,207,565

THREAD BUNG FIXTURE FOR SHEET METAL CONTAINERS

Filed Jan. 24, 1939



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# UNITED STATES PATENT OFFICE

2,207,565

## THREAD BUNG FIXTURE FOR SHEET METAL CONTAINERS

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Application January 24, 1939, Serial No. 252,561

5 Claims. (Cl. 285—49)

This invention relates to a threaded bung fixture for sheet metal containers, one of the primary purposes of the invention being to provide a bung fixture of the character of the welded-on fixture which has for so long given satisfactory results to the metal container or drum industry.

Another object of the invention is to provide a threaded bung fixture which is formed integral with the sheet metal wall of a container, in a manner as disclosed in my companion application on a method of constructing a threaded bung fixture in a wall of a sheet metal container, filed January 24, 1939, Serial No. 252,560.

A further object is to provide a threaded bung fixture having the threads thereof formed in a portion of the wall stock of the container.

A still further object is to provide a bung fixture having its major portion formed integral with the container wall stock.

Another still further object is to provide a bung fixture having its plug engaging portion formed of a part of the wall in which the fixture is located, and the plug engaging part having surrounding reinforcing means interlocked therewith.

Still another object is to provide a built-in bung fixture for a container wall which will have the capacity and efficiency of the commonly known welded-on fixture.

Another still further object is to provide a threaded bung fixture in a wall of a sheet metal container which is free of sealing gaskets in its assembly.

Other objects and advantages will appear as this description progresses and by reference to the drawing, in which:

Figure 1 is a transverse vertical sectional elevation taken through a fragmentary portion of a sheet metal container wall and the view showing this invention applied thereto.

Figure 2 is a transverse vertical sectional elevation through a fragmentary portion of a sheet metal container wall, illustrating one of the steps required in assembling the bung fixture.

Figure 3 is a plan elevation of a matrix collar used in constructing the bung fixture.

Figure 4 is a transverse vertical sectional elevation taken on the line 4—4 of Fig. 3.

Figure 5 is a transverse vertical sectional elevation taken through a partly constructed bung fixture.

Figure 6 is a transverse vertical sectional elevation of the completely assembled and con-

structed bung fixture, showing it permanently secured to the container wall.

Referring to the drawing and more particularly to Figure 2, one of the first steps in constructing this improved bung fixture is to pre-form that portion of the wall stock 7 in which the fixture is to be assembled, with an embossment 8 having a straight-walled neck 9 extending therefrom.

The matrix collar 10 shown in Figs. 3 and 4, is first constructed by stamping it out from suitable material, such as black steel, or the collar may be made from a forging, but nevertheless the same is interiorly threaded, as shown at 11, and having an annular enlargement 12 at one end, and said collar on its end 13 having a counter-bored annular seat 14.

The collar 10 is mounted over the pre-formed neck 9, and the neck 9 which is of a greater depth than the collar, will extend at its free end 14a above the collar, as shown in dotted lines in Fig. 5.

The free end 14a of the neck 9 is then engaged by a suitable tool for flanging said free or extending end in and onto the seat 14, as shown at 15 in Fig. 5, and said flanged portion 15 being firmly secured in said seat.

After the collar 10 has been secured to and over the neck 9 in the manner as shown in Fig. 5, a thread forming or rolling tool such as is shown in my companion application aforesaid is engaged inside of the neck 9 and is operated in a manner to cause the tool to follow the contour of the grooves of the threads 11 of the collar 10, so that the sheet material forming the neck 9 will be pressed, swedged or rolled into the teeth 11 in conformity therewith, thus completing the constructed and assembled bung fixture 16 with the plug engaging threads 17, shown in Fig. 6.

After a sheet metal container has been assembled ready for use with bung fixtures constructed in a wall or walls thereof in the manner as described, most any kind of closure plugs may be used, but for the purposes of this disclosure, a closure plug 18 is provided, said plug having the exteriorly formed threads 19 for threading cooperation with the threads 17 of the neck 9 of the bung fixture, and the plug 18 carrying a gasket 20 beneath the flange 21 thereof, said gasket when the plug is securely seated in the bung fixture, being compressed in seal-tight engagement in overlapping relation on the flange 15 of the neck 9 and the end 13 of the collar 10.

Obviously, the gasket 20 is only required to

form a seal between the flange 21 of the plug 18 and the flange 15 of the neck 9 of the bung fixture, for preventing seepage which may occur between the threads of the plug and the neck 9.

5 The annular enlargement 12 of the collar 10 is beveled on its underside for providing crimping securance for the lower end 22 of the side wall 23 of a sealing cap 24 which may be mounted over the plug and the bung fixture, as shown in Fig. 1, as may be required.

10 In the use of this bung fixture, it is obvious that by reason of the essential part thereof being the neck 9 and the formed threads 17 being integral with the container wall and the same being 15 reinforced by the matrix collar 10, a bung fixture of the strength and capacity of the heretofore welded-on bung fixtures, is provided, and in consequence, wrenching strains imparted to the closure plug can in no way disturb or affect a bushing of this construction, as the same when completed, is obviously homogeneous in character.

20 In the use of the pressed-in type of bung fixture, it is well known that severe wrenching strains on the plug for loosening or securing it, often loosens the crimped-in securance thereof, and further the threads of pressed-in bung fixtures often become bent and distorted during the assembly of the fixture in the container wall. In this improved construction, it is clear that inas- 25 much as the threading at 17 on the neck 9 is the last and completing operation on the fixture, distortion of the threads is obviously eliminated.

30 It is also to be noted that this bung fixture provides for the collar 10 being rigidly locked to the neck 9 by the threads 11 of the collar being interlocked with the threads 17 of the neck which will prevent the turning of the collar in one direction, and the interlocking of the flange 15 of the neck in the seat 14 of the collar will prevent the collar being turned on the neck in the other 40 direction.

45 It is also important to note that there are no gaskets used in the construction of this improved bung fixture, and consequently there are no embedded gaskets as are required in the pressed-in bung fixtures to be subjected to chemical erosion from the container contents as does happen quite frequently in the use of bung fixtures having embedded gaskets to aid in maintaining them in seal-tight condition. True, the 50 plug gasket as shown at 20, may become saturated to the extent of chemical erosion through repeated uses thereof, but as this gasket is always available for inspection, it can be readily replaced.

While I have described one embodiment of my invention with some particularity, obviously many other embodiments thereof may occur to those skilled in the art to which it appertains. I, therefore, do not limit myself to the precise 5 details described, but claim as my invention all variations and modifications coming within the scope of the subjoined claims.

What I claim is:

1. A bung fixture for a sheet metal container wall comprising a neck formed from a part extending from the wall, a threaded collar mounted over said neck, and roller spun threads on the neck in seating conformity with the threads of the collar. 10

2. A bung fixture for a sheet metal container wall having an embossment with an outwardly extending neck formed from a part of the wall, and an interiorly threaded collar mounted over said neck in abutment with said embossment, said neck having threads roller spun into the threads of said collar. 15

3. A bung fixture for a sheet metal container wall having an annular extending neck formed from a part of the wall, an interiorly threaded collar mounted over said neck, said neck having 25 pressed-in threads formed thereon for seating engagement with the threads of said collar, and means for locking said collar on said neck, said collar having an annular bead formed on its side adjacent one end for cap sealing purposes. 30

4. A bung fixture for a sheet metal container wall having an annular neck extending from the wall, an interiorly threaded collar mounted over the neck having an annular recessed seat at one end of the threads thereof, internal and external threads on the neck roller spun into the threads of the collar, said neck having its extending marginal portion flanged into seating engagement with the seat of said collar and forming a gasket seat for the gasket of a closure plug engaged in 40 the internal threads of said neck.

5. A bung fixture for a sheet metal container wall having an annular neck extending from the wall, an interiorly threaded collar mounted over the neck, internal and external threads on the neck and the external threads roller spun into the threads of the collar, said neck having its extending marginal portion flanged over one end of the collar and forming a gasket seat for the gasket of a closure plug engaged in the internal 50 threads of said neck.

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