Dec. 6, 1927. 1,651,632

T. W. RIEKE

FITTING FOR CONTAINERS

Filed Jan. 16, 1922 2 Sheets-Sheet 1

Fig. 1.

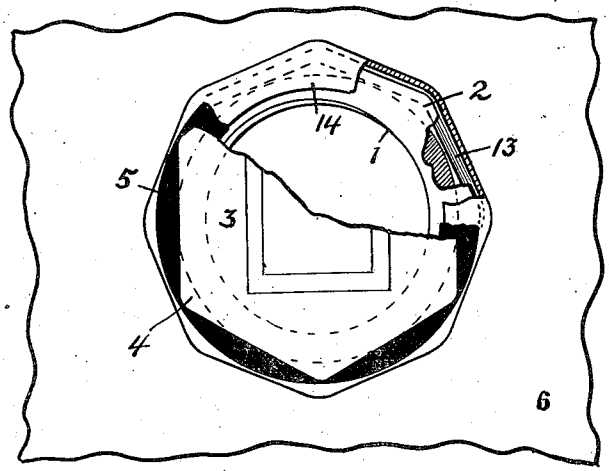


Fig. 2.

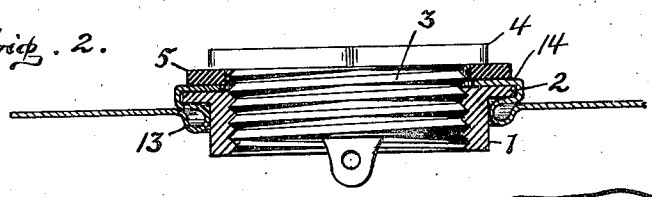


Fig. 3.

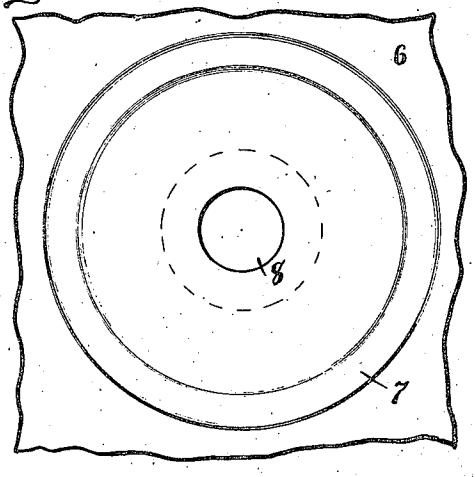


Fig. 4.

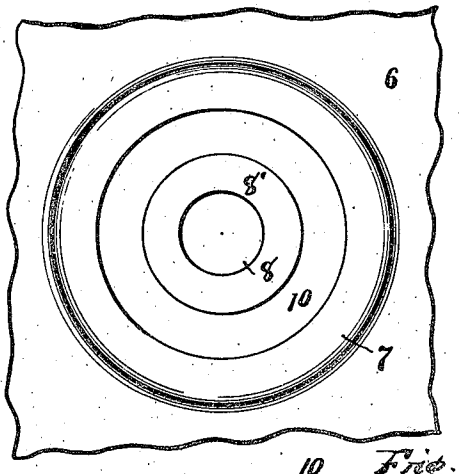


Fig. 5.

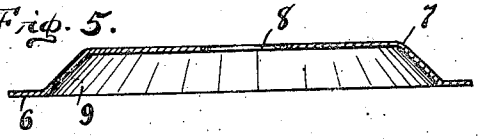
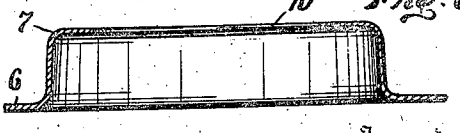


Fig. 6.



Inventor

Theodore W. Rieke

By H. G. Burns Attorney

Dec. 6, 1927. 1,651,632

T. W. RIEKE

FITTING FOR CONTAINERS

Filed Jan. 16, 1922 2 Sheets-Sheet 2

Fig. 7.

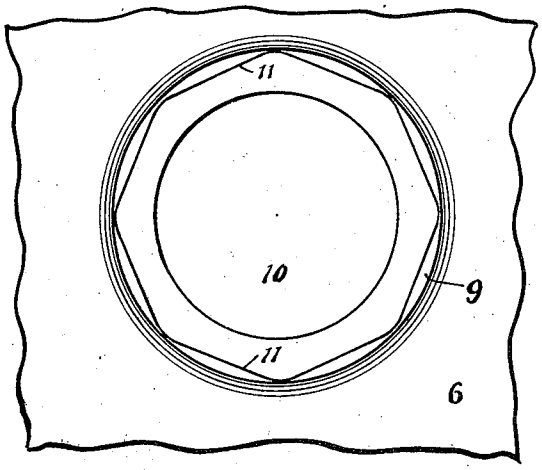


Fig. 8.

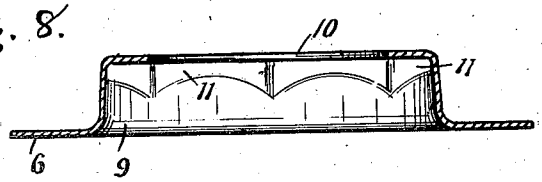
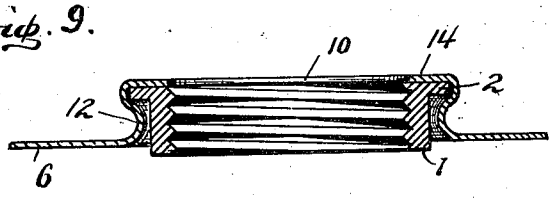


Fig. 9.



Inventor

Theodore A. Rieke

By A. G. Burns Attorney

Patented Dec. 6, 1927. 1,651,632

UNITED STATES PATENT OFFICE.

THEODORE W. RIEKE, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO ANTHONY SCHROEDER, AND ONE-HALF TO JAMES MERLE FINNEY, BOTH OF CLEVELAND, OHIO.

FITTING FOR CONTAINERS.

Application filed January 16, 1922. Serial No. 529,431.

This invention relates to improvements in barrel fittings for bungs and is sepecially applicable to barrels made of sheet metal, and the object of the improvement is to construct and apply a bung ring to one side of a sheet metal wall of a barrel so that it will be held from turning and so as to obviate leakage when the opening is closed by a bung; another object is to afford a bung fitting that may be made and applied with greater economy than in the usual practice; and a further object is to construct and apply a bung ring to a barrel wall in a manner as will insure uniformity in its manufacture and efficiency in the performance of its function.

Ordinarily, a bung ring is applied to the head or shell of a metallic barrel by soldering it in the opening made therefor, or by riveting or welding its flange to the shell at the opening. These operations are not only expensive but frequently result in the distortion of the bung ring to such an extent as to interfere with the introduction of the bung. Such practice also necessitates testing of the completed job for detection of imperfections in the welding or other operations that would cause leaks. To overcome these defects is included as an object of the present invention.

The above objects and others which will be apparent from the following description are accomplished by the construction illustrated in the accompanying drawings in which:—

Fig. 1 is a plan view of a bung fitting applied to the head or shell of a barrel which is shown in part, there being portions broken away;

Fig. 2 is an elevation, partly in central section, projected from Fig. 1;

Fig. 3 is a plan view of a portion of a metallic sheet that forms the head or shell of a barrel, and shows a circular distention made therein at its first stage of formation;

Fig. 4 is a plan view of the distention in its second stage of formation;

Fig. 5 is a central section projected from Fig. 3;

Fig. 6 is a central section projected from Fig. 4;

Fig. 7 is a bottom plan view of the distention in its third stage of formation;

Fig. 8 is an elevation in central section projected from Fig. 7; and

Fig. 9 is a central section of the distention in another stage of formation, a bung ring being included in the view.

In the drawings 1 is a bung ring having at one end thereof a polygonal flange 2 that projects radially, the ring being internally threaded so as to receive the bung 3 when screwed therein. The bung 3 is preferably of the ordinary type having a flange 4 and fitted with a gasket 5 adjacent its flange. 6 indicates the wall (for example, the head) of a container formed from sheet metal of suitable gauge.

An especial feature of the invention is the manner of securing the ring in place upon one face of the sheet metal wall, of which the head or shell of the container or barrel is constructed, and adjacent and surrounding the opening in such wall. The sheet is first prepared by shaping a circular distention 7 concentric with an opening 8 so that a cavity 9 is formed in the sheet, as shown in Figures 3 and 5. The distention is formed by applying dies in a manner customary in shaping sheet metal. In a similar manner the distention 7 is re-shaped or further distended to the form shown in Figures 4 and 6, a circular piece 8′ being removed from the center to facilitate the expansion of the sheet during the drawing operation, and to leave the bung opening 10. By a third operation performed with a die in the ordinary manner the distention 7 is again re-shaped to the form shown in Figs. 7 and 8 to provide the side wall of the cavity 9 near its bottom with facets 11, whereby a recess corresponding in shape and size to the polygonal flange 2 results. Accordingly, when the ring is positioned in the cavity with the flange 2 against the inturned portion 14 of the wall 6, the side edges of the flange 2 will engage the facets 11 and be held against turning. When the ring is thus positioned with its flange in the cavity the projecting wall of the distention is next set in or contracted circumferentially as shown at 12 (Fig. 9) by applying suitable dies in the customary manner, and finally the distention is upset so as to form a circular shoulder 13 which extends around and substantially in engagement with the body portion of the ring 1, below the flange 2, with the wall of the distention completely enveloping the flange 2, thereby securing the ring 1 to and holding it in fixed relation with the sheet metal wall 6, as shown in

Figs. 1 and 2. The marginal portion 14 of the sheet metal, surrounding the opening 10, lies flat upon the flanged end of the ring and forms an annular seat upon which the gasket 5 is held by the flange of the bung, thus forming a hermetical joint directly between the bung and the sheet of which the head or shell of the barrel is formed. In this manner all danger of leakage from the barrel out between the ring and sheet is frustrated.

From the foregoing description it will be noted that in my form of construction the bung ring is disposed upon and secured to one face of the sheet metal wall and that it does not extend or project through the opening in such wall. This construction permits the marginal portion of the sheet metal wall surrounding the opening to lie over the ring flange and be engaged by the flange of the bung, so that sealing by the latter or a suitable gasket is readily and effectively attained.

Another feature of the invention is in the formation of the shoulder 13 that underlies and forms a seat for the flange of the ring. In this instance the upsetting operation is performed so that the metal sheet is shaped to form a hollow rounded shoulder and thus is avoided the fractures of the metal sheet that frequently occur when the sheet is folded down flat with a sharp bend as in the ordinary manner.

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

What I claim is:—

1. In a fitting for a container having a metal wall formed with an opening, a ring provided at one end with an outwardly extending section having flat side edges arranged at angles to each other to form a polygonally shaped flange, the wall of the container surrounding the opening therein being shaped to provide an envelope having portions engaging the outer and inner faces of said flange and an intermediate portion of polygonal shape engaging the flat sides of said flange, whereby said ring is secured to the metal wall and the marginal outer portion of said envelope on the outer face of said flange forms an annular seat for the flange or enlarged portion of a fitting element.

2. In a fitting for a container having a metal wall formed with an opening, a ring provided at one end with an outwardly extending section having flat side edges arranged at angles to each other to form a polygonally shaped flange, the wall of the container surrounding the opening therein being shaped to provide an envelope having an annular portion engaging the outer face of said flange and a contiguous portion of polygonal shape disposed at substantially right angles to said annular portion engaging the flat sides of said flange, whereby said ring is secured to the metal wall and the annular portion of said envelope on the outer face of said flange forms an annular seat for the flange or enlarged portion of a fitting element.

3. A fitting as described in claim 1 in which the metal of the wall contiguous to the portion engaging the inner face of said flange is shaped to form a hollow shoulder in engagement with the body portion of said ring.

4. In a fitting for a container having a metal wall formed with an opening, a ring provided at one end with an outwardly extending section having flat side edges arranged at angles to each other to form a polygonally shaped flange, the wall of the container surrounding the opening therein being shaped to provide an envelope having annular portions engaging the opposite faces of said flange and an intermediate portion of polygonal shape disposed at substantially right angles to said annular portions and engaging the said flat side edges of said flange, whereby said ring is secured against turning relative to the metal wall.

5. In a fitting for a container having a metal wall formed with an opening, a ring provided at one end with an outwardly extending section having flat side edges arranged at angles to each other to form a polygonally shaped flange, the wall of the container surrounding the opening therein being shaped to provide an envelope having annular portions folded over said flat side edges of said flange and engaging the outer and inner faces of the latter, whereby said ring is secured against turning relative to the metal wall and the outer annular portion forms a seat for the shoulder or flange of a fitting element.

6. In a fitting for a container having a metal wall forming with an opening, a ring comprising an annular body portion and an outwardly extending section at one end thereof having flat side edges arranged at angles to each other to form a polygonally shaped flange, the wall of the container surrounding the opening therein being bent to provide outer and inner portions engaging the opposite faces of said flange and an intermediate portion having flat sections disposed face to face against the flat side edges of said flange, whereby said side edges are locked by said flat sections against turning and the latter are held in position by said outer and inner portions.

In testimony whereof I affix my signature.

THEODORE W. RIEKE.

CERTIFICATE OF CORRECTION.

Patent No. 1,651,632. December 6, 1927

THEODORE W. RIEKE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 114, claim 6, for the word "forming" read formed; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of October, A. D. 1936.

Henry Van Arsdale

(Seal) Acting Commissioner of Patents.