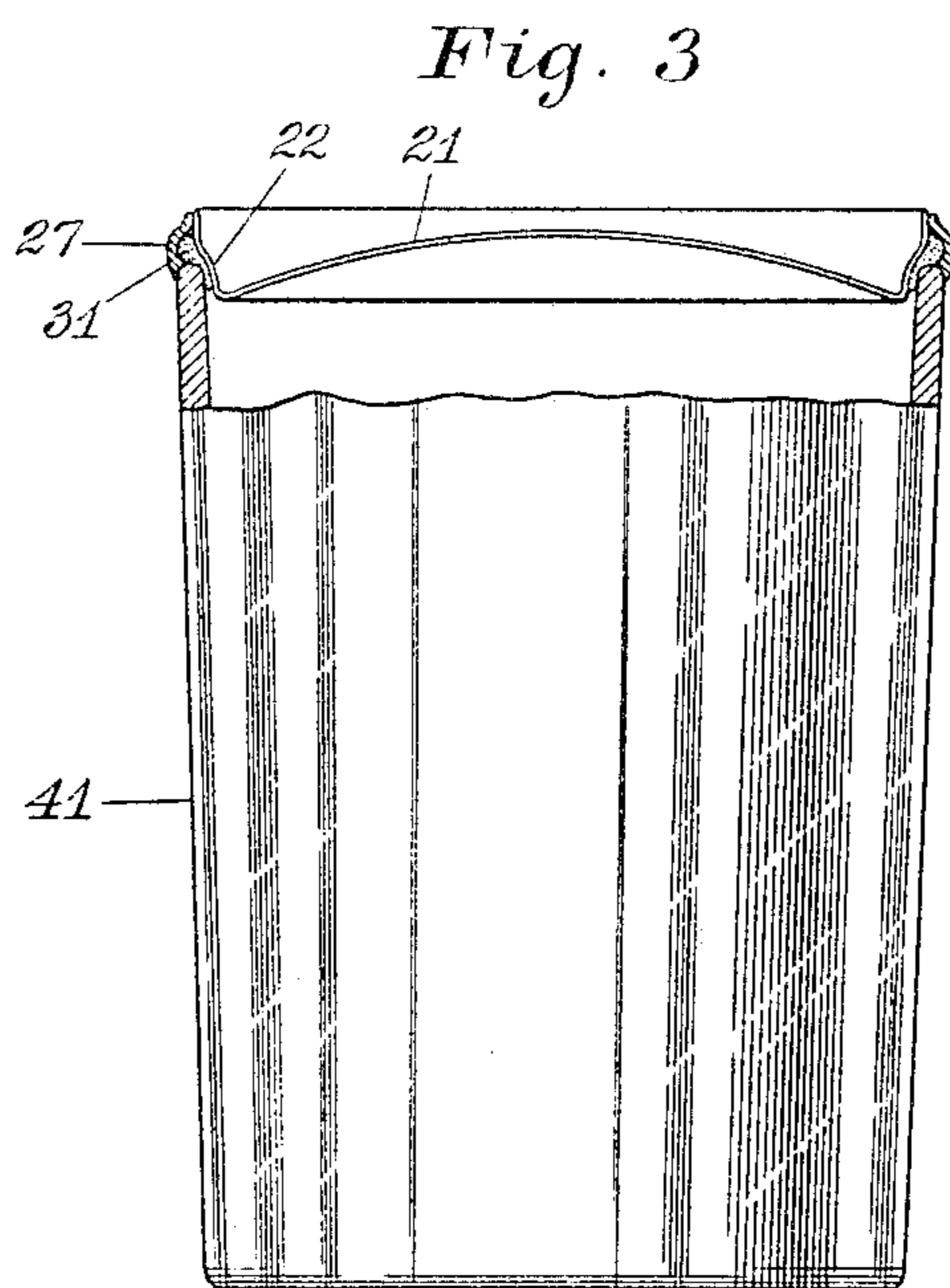
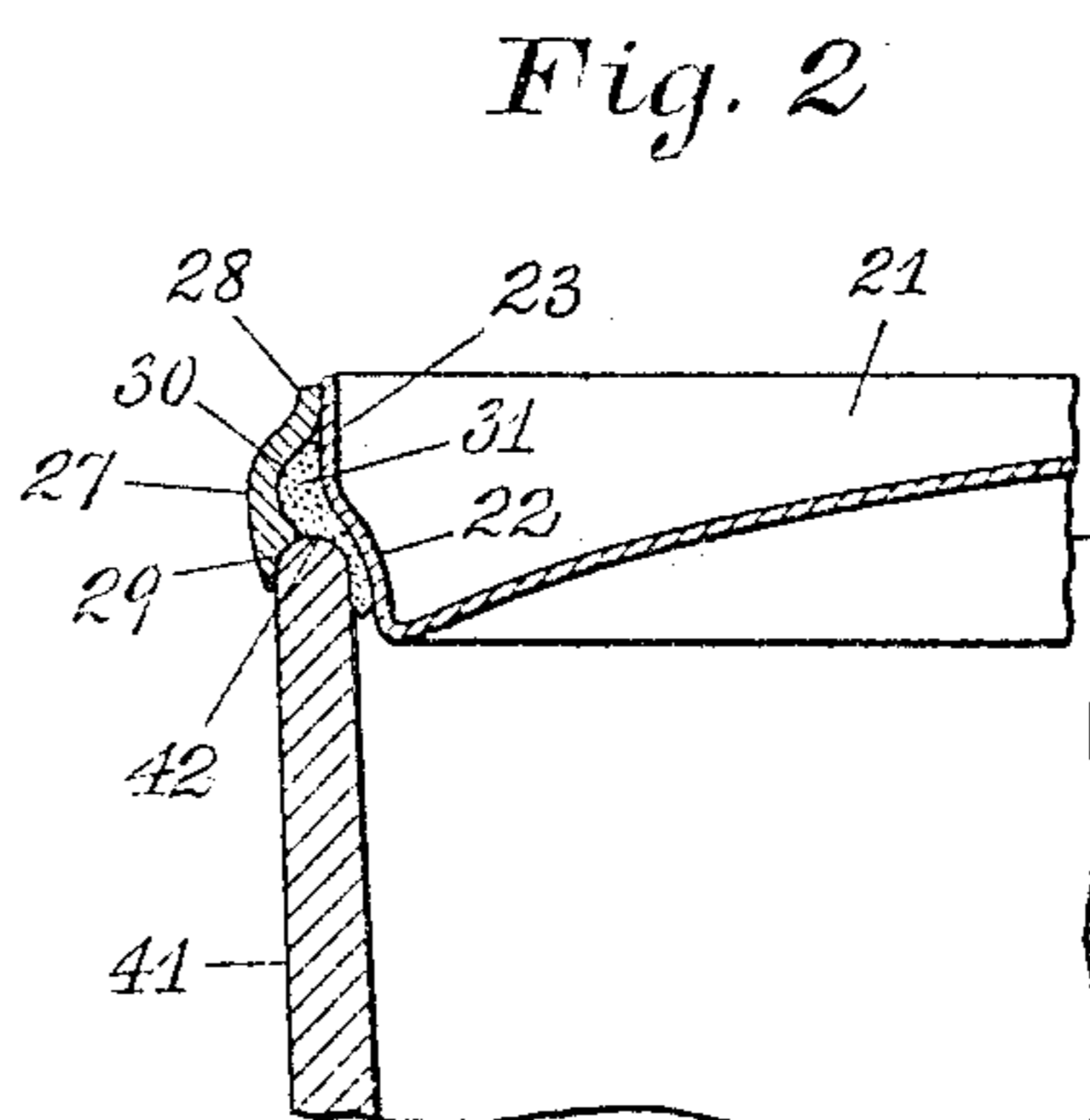
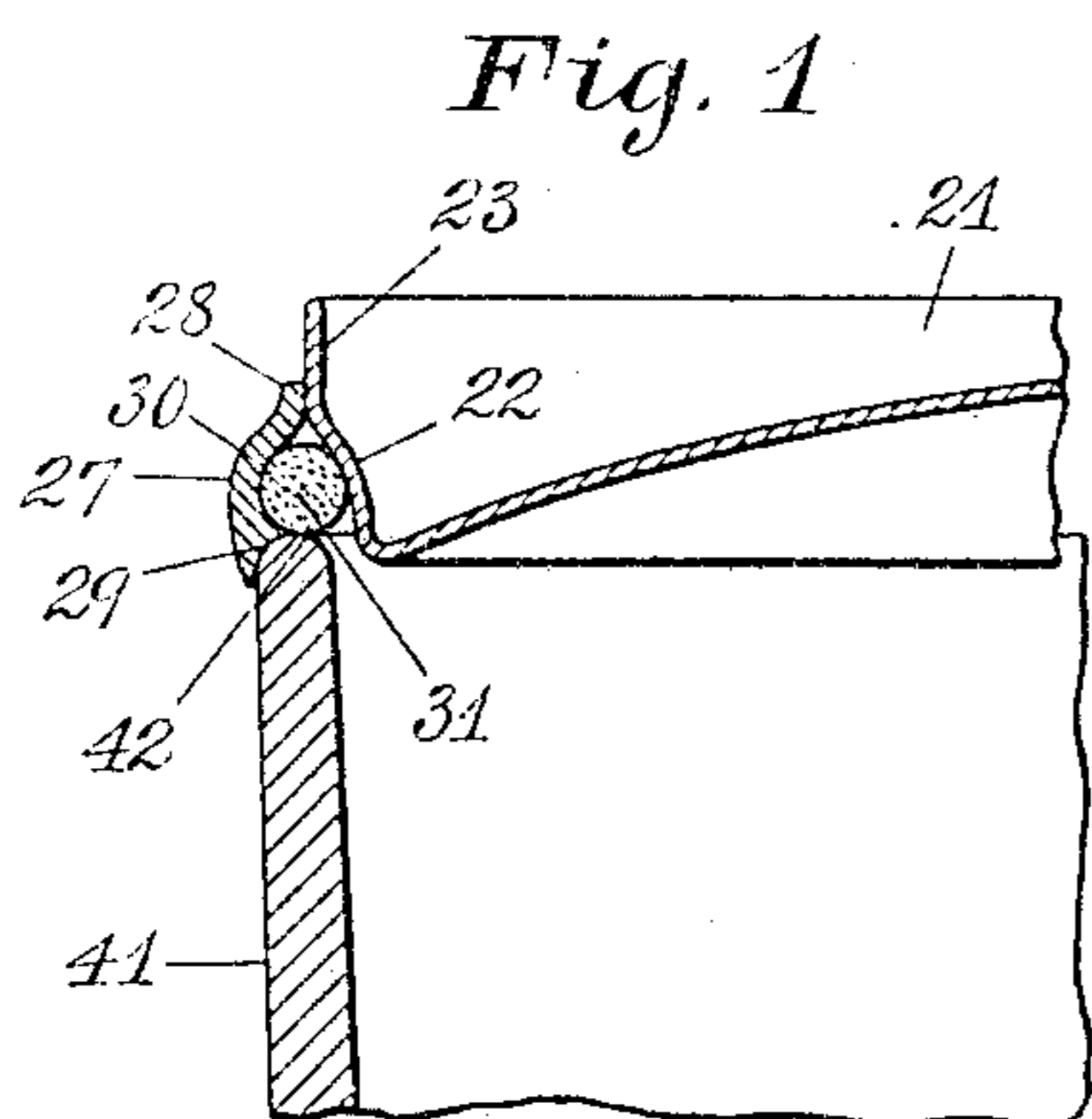


No. 801,734.

PATENTED OCT. 10, 1905.

W. A. LORENZ.  
HERMETIC CLOSURE FOR RECEPTACLES.  
APPLICATION FILED APR. 11, 1904.



Witnesses:  
H. Mallner  
Jas. Green

Inventor  
William A. Lorenz  
By W. H. Honiss. Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM A. LORENZ, OF HARTFORD, CONNECTICUT.

## HERMETIC CLOSURE FOR RECEPTACLES.

No. 801,734.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed April 11, 1904. Serial No. 202,502.

*To all whom it may concern:*

Be it known that I, WILLIAM A. LORENZ, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Hermetic Closures for Receptacles, of which the following is a full, clear, and exact specification.

This invention relates to improvements in closures for the hermetic sealing of tumblers and other plain-rimmed receptacles.

The present closure now commonly used for the hermetic sealing of jars is known as a "wedging closure," in which the cap is of a flaring or tapering form where it engages with the sealing-gasket, the latter being supported upon a shoulder or in a groove provided for it below the level of the rim of the jar and upon the inner or outer surface thereof, according as an internal or external cap is to be used. In either case, however, the shoulder unfits the receptacle for many subsequent household uses which might be served by a tumbler or mug having a plain rim; but the difficulty of employing these plain-rimmed receptacles in connection with a flaring cap and gasket has been that they afford no means for receiving and maintaining the cap or gasket in correct position upon the rim of the receptacle during the sealing operation. In the present invention this difficulty is met by providing a separate outer support for the gasket, which serves to centralize the gasket with that portion of the inner edge of the tumbler rim at which the seal is to be made and when used in coöperation with a flaring sealing-cap performs also the function of centralizing the cap with the gasket and tumbler in the desired relative position, so that the gasket when pressed down by the cap cannot escape being carried to and across the predetermined zone at which the sealing pressure is to be applied, thus making a reliable joint-closure upon the plain rim of the tumbler. This support also establishes a level or parallel relation of the cap and gasket with that portion of the tumbler-rim on which the gasket is to be seated and compressed, which is an important feature in a closure of this character.

This invention is here shown applied to the sealing of an ordinary glass tumbler as a good example of a receptacle well adapted to a variety of household uses after its original purpose as a sealed package has been served and is here shown in connection with the use of a

flaring cap for compressing and wedging the gasket upon the inner edge of the tumbler-rim.

Figures 1 and 2 of the drawings are enlarged fragmentary side views in section of a tumbler, its gasket, cap, and support, Fig. 1 showing the parts in the position occupied by them during the air expelling or exhausting operation, while Fig. 2 shows the cap pushed down to its sealed position. Fig. 3 is a side view in smaller scale, partially in section, of a tumbler, cap, and gasket in their sealed condition.

The gasket-support is made in the form of an annular band or ring which rests upon the tumbler-rim and supports the gasket concentrically with and in proper sealing relation to the inner edge of the tumbler-rim. This gasket-support also preferably engages with the upper portion of the sealing-cap, so as to centralize that cap with the gasket and tumbler.

In the embodiment of this invention shown in the drawings the outer ring 27 has a supporting and centering shoulder or ledge 29, which is adapted to rest upon the outer edge of the rim 42 of the tumbler 41 and preferably conforms approximately thereto. The gasket-seat 30 on the interior of the outer ring may also conform approximately to the contour of the gasket 31 and supports the gasket above and concentrically with that portion of the rim of the tumbler upon which it is desired to compress it by the sealing operation. The flaring portion 22 of the interior cap 21 rests upon the gasket 31 and serves to compress the gasket upon the inner rim of the tumbler and wedge it against that rim, as shown in Figs. 2 and 3. The upper portion 23 of the cap is preferably formed to engage the edge or upper portion 28 of the outer ring, and thus serve to centralize the cap with the tumbler-rim and the gasket. An important function of the ring 27 is that of surrounding, protecting, and externally reinforcing the upper edge of the tumbler-rim, especially against the outward pressure due to the wedging action of the closure, which in the absence of such protection would be liable to split or burst the tumbler open. The downward atmospheric pressure upon the sealing-cap 21 operates to force the gasket 31 downwardly against its seat 30 in the supporting-ring 27, thereby holding the latter down firmly upon and around the outer edge of the tumbler-rim, thus directly sustaining that edge on the outside against the outward strain applied to the

inner edge of the rim by the wedging pressure of the closure.

The form of the supporting-ring 27 may be changed in various ways. Its lower edge 5 may be extended downwardly below the level of the sealing-joint, thus covering that joint, and thereby presenting a better external appearance. The sealing-cap may also be modified by making the central web portion appurtenant to the upper edge of the flange 23 10 instead of being appurtenant to the lower edge, as herein shown, thus presenting a flatter top in place of the depressed top shown in the drawings.

15 In many other ways which will be obvious to those familiar with this art the invention herein shown may be modified to suit different types of receptacles or to meet different conditions of service.

20 In my prior application, Serial No. 193,705, filed February 15, 1904, I have shown, described, and claimed a closure broadly similar to that shown in this application, in that it embodies the combination with a plain-rimmed 25 receptacle and a gasket, of a flaring cap for compressing the gasket at an inclination against an edge of the receptacle-rim, and a gasket-support separate from the cap provided with means for positioning the gasket 30 in sealing relation to the said edge of the receptacle-rim. My present application, so far as it shows and relates to the said devices shown in my said prior application, does so for the purpose of claiming specific novel 35 constructions and combinations and is a subordinate application to that above mentioned in respect of the said features.

I claim as my invention—

40 1. The combination with a hermetically-sealed receptacle having a gasket, of a separate outer support for positioning the gasket in sealing relation to the receptacle.

45 2. The combination with a receptacle, of a gasket, a flaring cap and a separate gasket-support provided with means for positioning the gasket in sealing relation to the inner edge of the rim of the receptacle.

50 3. The combination with a receptacle, a gasket and a flaring cap, of a separate gasket-support provided with means for supporting the gasket in sealing relation to the inner edge of the receptacle-rim and with means for guiding the cap in concentric relation with the gasket and receptacle during its sealing movement.

55 4. The combination with a receptacle, of a hermetic closure therefor comprising a gasket, a sealing-cap, and a separate gasket-support exterior to the cap and gasket for supporting the gasket in sealing relation to the 60 rim of the receptacle.

5. The combination with a receptacle, of a wedging hermetic closure therefor, compris-

ing a gasket, a flaring cap for compressing the gasket at an angle against the inner edge of the rim of the receptacle, and a separate external support for positioning the gasket in sealing relation to the inner edge of the receptacle-rim. 65

6. The combination with a receptacle, of a wedging hermetic closure therefor, comprising a gasket, a cap provided with means for compressing the gasket at an angle against the inner edge of the receptacle-rim, and a separate gasket-support for positioning the gasket in sealing relation to the inner edge of the 75 receptacle-rim.

7. A wedging closure for hermetically-sealed receptacles comprising a gasket, a cap provided with means for compressing the gasket at an angle against the inner edge of the 80 receptacle-rim, and a separate outer support and guide provided with means for positioning the gasket in sealing relation to the inner edge of the receptacle-rim and with means for positioning and guiding the cap in concentric 85 relation with the gasket and receptacle-rim.

8. The combination with a receptacle, of an outwardly-pressing wedging closure therefor, and a supporting-ring encircling the rim of the receptacle and reinforcing it against 90 the outward pressure.

9. The combination with a receptacle, of a supporting-ring resting upon and encircling the rim of said receptacle, and provided with means for positioning the gasket upon the rim, 95 and a sealing-cap for wedging the gasket outwardly at an angle against the inner edge of the receptacle-rim, coincidently pressing the supporting-ring downwardly upon and around the receptacle-rim to reinforce the latter 100 against the outward pressure of the wedging closure.

10. The combination with a plain-rimmed receptacle, of a supporting-ring encircling and resting upon the outer edge of the receptacle-rim and provided with means for receiving and positioning a gasket, and a wedging closure therefor comprising a gasket and a sealing-cap provided with means for compressing the gasket outwardly at an angle 110 against the inner edge of the receptacle-rim, and downwardly against the supporting-ring to press that ring downwardly upon and around the rim of the receptacle to reinforce and sustain that rim against the outward 115 wedging pressure of the closure.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. LORENZ.

Witnesses:

JAS. W. GREEN,  
CAROLINE M. BRECKLE.