

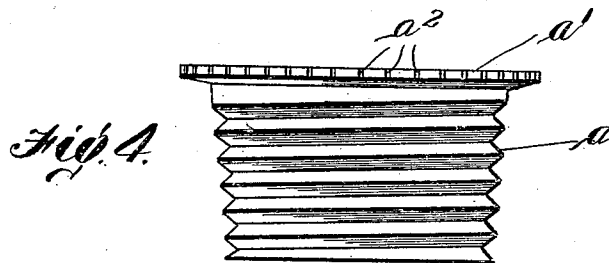
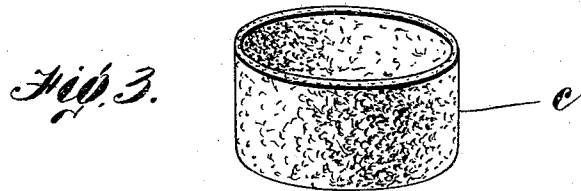
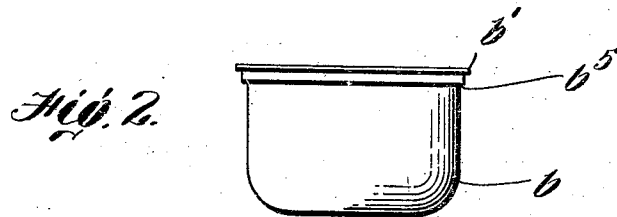
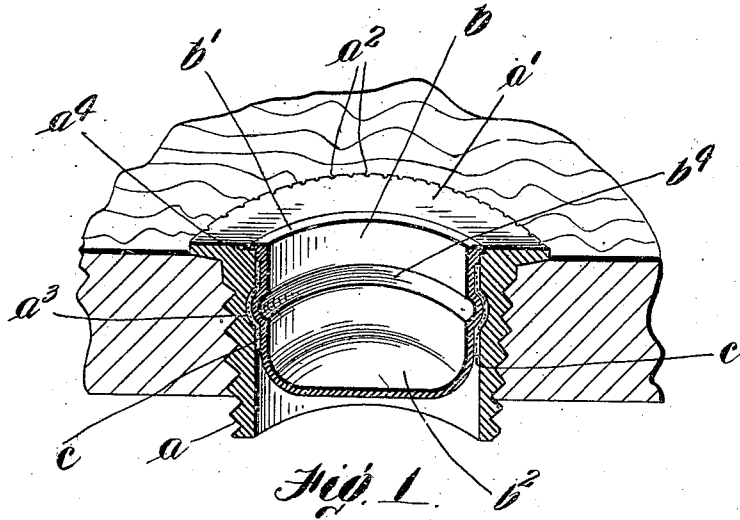
J. T. DELANEY.

BUNG.

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956,797.

Patented May 3, 1910.



Witnesses:

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BUNG.

956,797.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN T. DELANEY, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Bung, of which the following is a specification.

This invention relates to a bung for use on barrels, casks, and the like, the principal objects of the same being to provide a simple and inexpensive bung which may be modified in shape after it is put in place in the bushing in such a manner as effectively to hold it in position under all ordinary circumstances, the bushing being provided with a permanent depression on its inner surface for assisting in this function, the modification of the bung being of such a nature that a packing can be inserted and held in place to make a tight joint and to protect the surfaces of the bushing and bung from any action by the contents of the receptacle.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which—

Figure 1 is a perspective sectional view showing the complete device in position; Fig. 2 is a side elevation of the bung before application to the bushing. Fig. 3 is a perspective view of the packing, and Fig. 4 is a side elevation of the bushing.

The bushing *a* which is screwed into the bung-hole in the usual way is provided with a flange *a'* on its outer face, this flange having an edge provided with notches *a''* for the purpose of permitting a firm hold to be obtained upon the same by a wrench when it is screwed into position in the bung-hole. This bushing is of a substantially cylindrical shape on its inner surface, but has a depression *a'''* therein. This depression is preferably formed in the shape of an annular groove extending entirely around the inner surface, and in a plane parallel with that of the outer face of the bushing. The passage through the bushing is counter-sunk at *a'''* to form a shoulder upon which a projecting flange *b'* of the bung *b* is adapted to rest. This holds the bung in position temporarily while its shape is being modified to secure it in position in the bushing as hereinafter described.

As shown in Fig. 2 the bung is originally of substantially a cup shape having a convex closed bottom *b''*. After it is placed in position in the bushing, a tool, which is not

shown herein, is pressed against the inside surface of the bung adjacent to the groove *a'''* and moved around the interior of the bung to force the soft metal thereof outwardly so as to form an outwardly projecting bead *b'''*. This bead extends into the groove *a'''* so as to hold the bung in position. If some form of indentation other than a groove is employed in the bushing the shape of the bead or projection is correspondingly modified.

In the preferred form of the device the bung is formed with a shoulder *b''* thereon so as to space the outer wall of the bung from the inner wall of the bushing. This space is intended to be filled by means of a packing ring *c*, for making a tight joint.

In placing the parts in position, the bushing is first screwed into place, then the packing ring is applied to the outside of the bung in the position in which it is to be held, and the bung is inserted in place with its flange in the counter-sunk groove *a'''*. The bung is then held in position while a tool is forced around the same to form the bead *b'''*. This forces the packing into the groove *a'''*, and also forces the outer portion of the bead a certain distance into the groove. The bead or other projection *b'''* projects nearly to the bottom of the indentation or groove *a'''*, and the bung is securely held in position by the modification of its shape which is made after it is put in place in the bushing. When the bung is to be removed, a special tool is employed which, not forming part of this invention, is not herein shown.

It will be observed that by forming a closure in accordance with this invention a most simple and convenient construction is obtained, for the reason that no special modification of the bung-hole itself has to be made, the parts being originally formed in the shape in which they are to be applied to the barrel or the like, with the exception of the bead *b'''*. The packing is applied in the most simple manner by being placed on the bung before the same is inserted, and the modification in shape of the bung to securely fix it in position is accomplished in a simple and convenient manner. Moreover, the shape of the bung is such that any great pressure on the inside of the same will be effectively resisted by the convex surface against which it comes, which, although the bung is made of comparatively soft metal, will resist a higher degree of pressure than

would be the case if it acted upon a flat wall or partition of the same metal and cross-section. Another feature of advantage is that instead of placing the locking element of the closure in a position in which the liquid contents of the receptacle will come into contact with it, it is placed in a position where it is entirely protected from the liquid, by the packing, and therefore, it is not subjected to any chemical action which might otherwise take place so as to prevent or hinder the removal of the bung.

While I have illustrated and described a particular form in which I at present prefer to embody my invention, I am aware that modifications may be made therein without departing from the spirit of the invention as expressed in the claim. Therefore I do not wish to be limited to the particular features of construction shown, but

What I do claim is:—

In a bung closure, the combination of an externally threaded removable metal bushing having a counter-sunk ledge at one end and an internal permanent annular depression near the outer end, and adapted to be secured in a bung hole, a soft metal bung therefor having substantially cylindrical

side walls fitting the inner side of the bushing at the outer end thereof and spaced therefrom between said outer end and the inner end of the bung throughout the length of the latter, and having an annular projection extending toward said depression and formed in the wall of the bung intermediate of the ends thereof while the latter is in place for holding the bung in position, an outwardly shouldered flange at one end fitting on said counter-sunk ledge, the end of the bung being flush with the end of the bushing, and an integral wall at the other end convex toward the interior of the barrel or the like to which the bung is applied, and a packing ring inserted between the bung and bushing in the space between the same, and having an annular projection entering said depression and receiving the projection on the bung.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOHN T. DELANEY.

Witnesses:

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