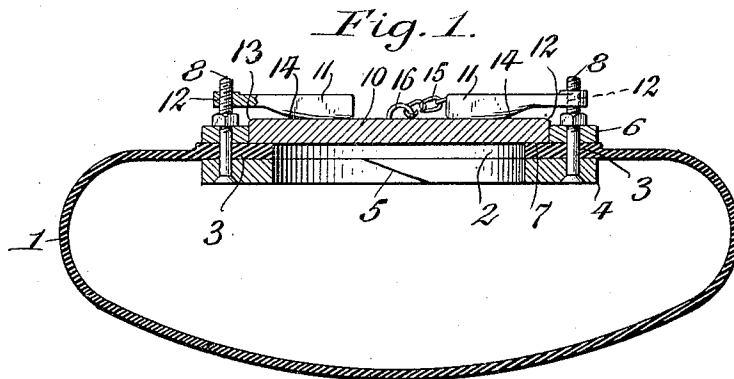
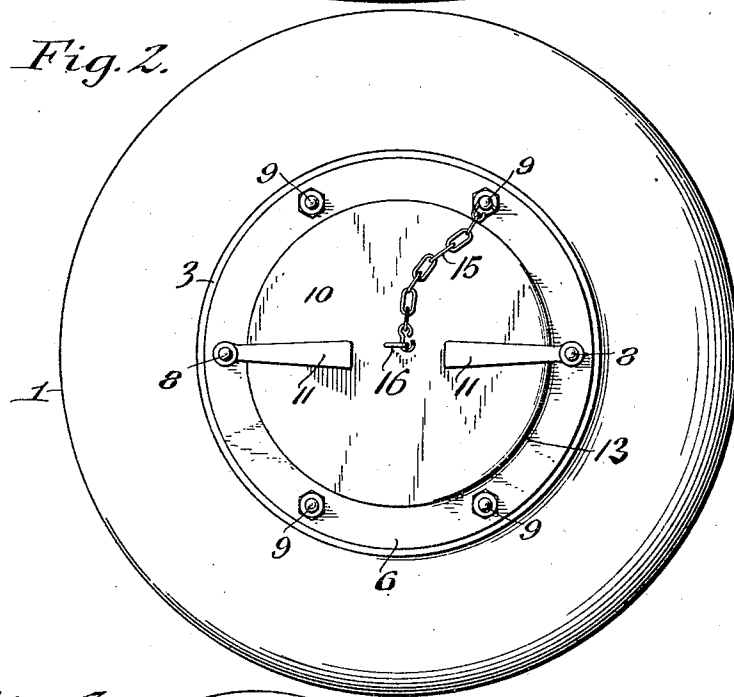
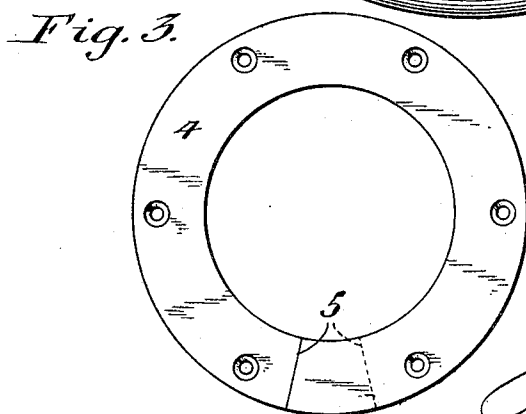


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CLOSURE FOR WATER BOTTLES, &c.
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CLOSURE FOR WATER-BOTTLES, &c.

1,335,467.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN C. TRAYNOR, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Closures for Water-Bottles, &c., of which the following is a specification.

This invention relates to a receptacle which is more particularly designed for use as an ice bag or water bottle, the hollow body of which is usually constructed of rubber or other elastic material, and provided with an inlet opening through which the material, such as hot or cold water or ice, may be introduced into the receptacle, and having a closure whereby said inlet opening may be tightly closed when the bag or bottle is in use.

Heretofore receptacles of this character have usually been provided with closures which were so constructed that when the body of the receptacle became worn out it became necessary to discard the closure with the body owing to the permanent connection between the same.

It is the object of this invention to provide a receptacle of this character which is provided with a closure which can be easily removed from one body when the same becomes worn and applied to a new body and to so construct this closure and body that the same can be produced at comparatively low cost.

In the accompanying drawings:

Figure 1 is a vertical section of a water bottle or ice bag constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a detached plan view of the inner support forming part of the closure of my improved receptacle.

Similar characters of reference indicate corresponding parts throughout the several views.

1 represents the hollow body of my improved receptacle which may be employed as a water bottle, ice bag, or for other purposes. This body is constructed of elastic material such as rubber, or a combination of rubber and fabric or similar material. In its upper side this hollow body is provided with an inlet opening 2 through which the water, ice or other materials may be introduced into the body. Around this inlet opening the body is provided with an annular portion 3 which is of greater thick-

ness than the remaining part of the body and forms a packing for the closure whereby the inlet opening of the body is closed.

Within the body is arranged an inner supporting member 4 which is preferably constructed of metal in the form of a ring and which engages with the inner side of the body around the inlet opening thereof. The diameter of the opening in the water bottle is preferably the same as the diameter of the bore of the inner supporting ring and in the assembled position of these parts the same are concentric so that the edge of this opening and the bore of the inner supporting ring are flush, whereby the thickened or packing portion of the body is reliably supported adjacent to the edge of the opening. To facilitate the introduction of this ring into the inlet opening without requiring the latter to be stretched for this purpose, one side of this ring is split and the opposing ends of this ring overlap each other at an angle so as to produce a scarf joint between the same, as shown at 5, in Figs. 1 and 3. Upon bending the ends of this split ring apart, it is possible to introduce the same into the hollow body without stretching the opening of the latter by first inserting one end of this ring through the opening and then moving in the remaining parts of the ring through this opening.

Engaging with the outer side of the thickened portion of the hollow body is an outer supporting member 6 which preferably is constructed of metal and has the form of a ring and is of the same peripheral diameter as the inner supporting ring. The bore of the outer ring 6 is of larger diameter than the inlet opening of the hollow body and the bore of the inner supporting ring, thereby leaving that portion of the packing or thickened part of the body immediately adjacent to the edge of this opening exposed and form an outwardly-facing bearing slot, shoulder or surface 7, as shown in Fig. 1.

The inner and outer supporting rings are detachably connected with each other and with the hollow body by means of a plurality of bolts 8, 9, each of these bolts passing with its body or shank vertically through corresponding openings in the inner and outer supporting rings and the intervening part of the body and bearing with its head against the inner side of the inner ring while the screw nut on the outer threaded end of its companion shank bears against the

outer side of the outer supporting ring. Although the number of such bolts may be varied, it is preferable to employ six and to arrange these equidistant around the supporting ring and the edge of the body opening, as shown in Fig. 2.

10 represents a lid, cover or disk preferably of metal which is of a diameter larger than the opening of the body and smaller than the bore of the outer supporting ring and which bears with its marginal portion against the outwardly-facing annular bearing surface 7 of the body immediately around the opening thereof, as shown in Fig. 1. When this lid is pressed firmly against the edge portion of the body, the elastic character of this body forms a leak-tight joint with the lid which securely closes the opening and prevents any of the contents of the receptacle from escaping. A portion of the elastic body of the water bottle or bag by this means also serves as the elastic packing for producing a tight joint between the body and the lid and thereby avoids the necessity of employing any separate gasket or packing means for this purpose.

The lid may be secured in place against the body over the opening thereof by any suitable means, those shown in the drawings being preferred and comprising two turn buttons 11, 11, each of which has its outer end provided with an internally screw-threaded opening 12 which engages with the outer externally threaded end of the shank of one of the bolts which connects the supporting rings and the body. Upon turning these buttons laterally so as to clear the space within the outer supporting ring, the cover or lid may be applied to the packing surface of the body after which the turn buttons may be swung inwardly and into engagement with the outer side of this lid. By suitably adjusting these turn buttons on the respective coupling bolts the same may engage the outer side of the lid with sufficient pressure to hold the lid tightly against the packing portion of the body and form a leak-tight joint between the same. This clamping action of the turn buttons against the lid may be further increased by making the lid somewhat thicker than the outer supporting ring, as shown in Fig. 1, and rounding the outer corner 13 of the lid and also providing the inner or underside of each turn button with an inclined surface 14 so that upon turning each button into its operative position, the inclined surface of the button will cooperate with the rounded outer edge of the lid and produce a wedging or cam action which will force the lid tightly against its seat on the body.

In order to prevent the lid from becoming lost when the same is removed from the opening of the body, a flexible connection is

provided between the same and the body, this flexible connection being preferably constructed in the form of a chain 15 which is connected at one end with an eye 16 arranged centrally on the outer side of the lid while its other end is connected with an eye on the outer end of the shank of one of the clamping bolts, as shown in Fig. 2.

When the body of this receptacle becomes worn out the various elements which comprise the closure for the same may be readily and easily detached therefrom and re-applied to a new body with equal facility, thereby permitting the same closure to be used repeatedly with successive receptacles and effect a corresponding economy which is particularly important and desirable where a large number of such receptacles are constantly in use as for instance in hospitals and other public institutions.

Furthermore, this closure is very simple in construction and can be produced at low cost, the same is durable and not liable to get out of order and it is very compact and has no parts projecting an undue extent therefrom, thereby permitting the same to be stowed away readily when not in use.

I claim as my invention:

1. A receptacle comprising a hollow elastic body having an inlet opening, an inner support engaging the inner side of said body adjacent to its opening, an outer support engaging the outer side of said body at a distance from the edge of said opening leaving the outer side of said body immediately around its opening exposed to form an outwardly facing packing, and a lid engaging the outer side of said packing.

2. A receptacle comprising a hollow elastic body having an inlet opening, a ring engaging with the inner side of said body around said opening, a ring engaging the outer side of said body around said opening and having a bore of greater diameter than said opening so as to expose the outer side of said body and form an elastic packing portion between the edge of its opening and the inner side of said outer ring, and a lid engaging the outer side of said packing portion of the body.

3. A receptacle comprising a hollow elastic body having an inlet opening, an inner split supporting ring engaging with the inner side of said body around said opening, an outer supporting ring engaging with the outer side of said body around said opening and at a distance from the edge thereof leaving that part of said body immediately around said opening exposed and forming an outwardly facing packing, bolts connecting said inner and outer rings, a lid engaging said packing, and a turn button having a screw connection with one of said bolts and engaging with the outer side of said lid.

4. A receptacle comprising a hollow elastic body having an inlet opening, an inner split supporting ring engaging with the inner side of said body around said opening, an outer supporting ring engaging with the outer side of said body around said opening and at a distance from the edge thereof leaving that part of said body immediately around said opening exposed and forming an outwardly facing packing, bolts connecting said inner and outer rings, a lid engaging said packing and having a thickness greater than said outer supporting ring, and a turn button pivoted on one of said bolts and engaging the outer side of said lid, said button and lid being provided with cooperating wedging surfaces.
5. A receptacle comprising a hollow elastic body having an inlet opening, an inner split supporting ring engaging with the inner side of said body around said opening, an outer supporting ring engaging with the outer side of said body around said opening and at a distance from the edge thereof leaving that part of said body immediately around said opening exposed and forming an outwardly facing packing, bolts connecting said inner and outer rings, a lid engaging said packing and having a thickness greater than said outer supporting ring, and a turn button pivoted on one of said bolts and engaging the outer side of said lid, said button and lid being provided with cooperating wedging surfaces.

JOHN C. TRAYNOR.