C. R. KEERAN.

RECEPTACLE CLOSURE.

APPLICATION FILED DEC. 14, 1912.

1,130,611. Patented Mar. 2, 1915.

Fig. 1.

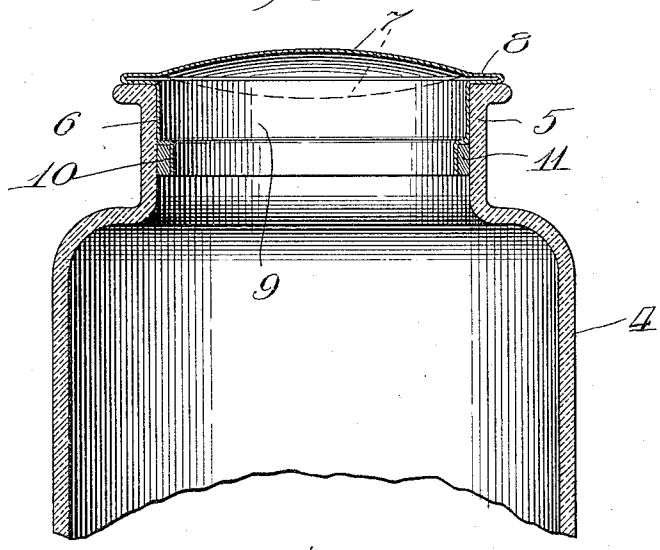


Fig. 3.

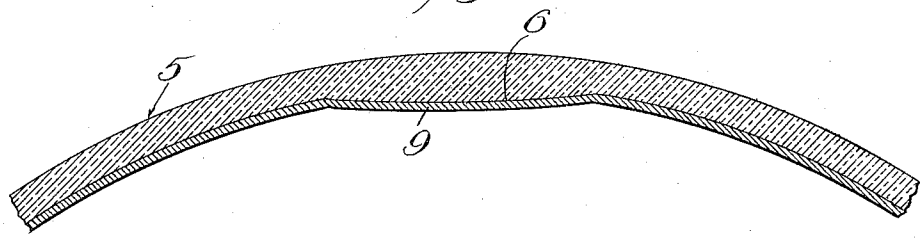
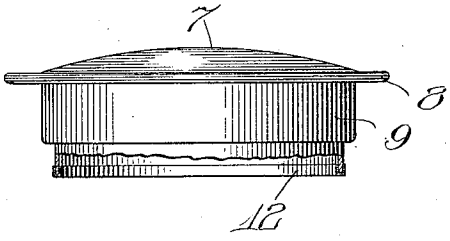


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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RECEPTACLE-CLOSURE.

1,130,611. Specification of Letters Patent. Patented Mar. 2, 1915.

Application filed December 14, 1912. Serial No. 736,727.

To all whom it may concern:

Be it known that I, CHARLES R. KEERAN, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Receptacle-Closures, of which the following is a specification.

The present invention relates to a closure in the nature of a plug which is intended to be forced into the interior of the neck of a receptacle, and is more particularly adapted for use with that class of receptacles intended to be sealed by a vacuum seal.

The objects of the present invention are to provide a closure of the nature above specified which will accommodate itself to any imperfections which may be present in the mouth of the receptacle, thus insuring a tight and efficient engagement between the receptacle and closure; and to provide a closure having the above property which is cheap and simple of construction.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings: Figure 1 is a vertical section of a receptacle provided with the closure of the present invention; Fig. 2 an elevation of said closure with the lower portion partially broken away; and Fig. 3 a detail on an enlarged scale showing the manner in which the closure conforms to the configuration of the receptacle.

It is a well known fact to those versed in the art to which the present invention relates that it is a matter of impossibility to produce any substantial number of receptacles which are perfect in formation about the open end or neck thereof. Certain irregularities and flaws occur in large numbers of them, which ofttimes prevent a perfect engagement between the receptacle and closure, and thus produces a leak causing an inefficient seal, which in a receptacle sealed by the vacuum process is a fatal defect.

It is one of the primary objects of the present invention to eliminate such defective seals by making the closure of a nature which will at all times configure itself in conformity to the configuration of the open end or neck of the receptacle, and this without increasing the cost of manufacture of the closure or complicating the parts thereof.

Referring to the drawings, the closure of the present invention is shown as applied to a receptacle 4 which may be of any suitable size or configuration, and the receptacle terminates in a neck 5 constituting the open end thereof. In practice the inner walls 6 of said open end are somewhat tapered and against said walls bears the closure when the same is placed in operative position.

The closure of the present invention is formed of a single piece of spring metal and stamped by a suitable operation into a configuration providing a top portion 7 constituting the cover of the same, an outer rim or edge portion 8, and a vertically depending flange 9. Said flange is pressed inward adjacent to its lower end to provide a groove 10 adapted to receive a sealing gasket 11 of any suitable formation. The flange 9 will be slightly compressed, when forced into the neck of the receptacle, and owing to the resilient nature of the metal of which it is composed, it will be placed under a spring tension, so that should there be an imperfect surface in the inner walls of said neck, said flange will spring outward or inward and accommodate itself to such imperfection. This feature will be well understood by referring to Fig. 3, in which the flange is shown as compressed at one point, owing to a bulge being present in a portion of the wall 6. By this arrangement, the closure will accommodate itself to the configuration of the inner war of the neck, and thus insure a close fit between the neck and closure, thereby eliminating any leakage which would otherwise occur, owing to the difference in configuration between the neck and the vertical flange of the closure.

The top surface 7 is preferably normally convex in formation, and owing to the spring property of the metal of which the closure is formed, said top surface will flex inward by reason of the outside pressure when a vacuum is created within the receptacle, and this flexing action will give an indication of the creation of a vacuum within the receptacle. It is understood that the flexing of the top surface is brought about solely and entirely by the relation of pressure within the interior of the receptacle and the outside thereof, and the surface is not intended to be flexed by manual means.

The rim 8 bears against the top surface of the neck as usual, and it will be noted

that said rim is formed of a double thickness of metal, so that it has sufficient rigidity to maintain the closure in proper position. In order to insure against any corrosion around the inner raw edges of the flange 9, I cover said edges with a coat of paraffin or other non-corrosive material 12, as best illustrated in Fig. 2.

In use, the closure is forced into the neck of the receptacle after the fashion of a cork, and when so forced and after the vacuum has formed within the receptacle it will be held against removal until the top surface is punctured or the plug loosened from the neck, either of which operations establishes communications between the outside air and the interior of the receptacle, breaking the vacuum.

I claim:

1. A closure for glass receptacles made from a single piece of spring metal stamped to provide a cover, and a vertical ring-like portion depending therefrom, said ring-like portion being pressed inward at its lower edge to provide a circumferential groove to receive a sealing gasket, said ring-like portion being entirely open at its lower end to permit of expansion and contraction thereof, and said ring-like portion being placed under spring tension when inserted in the mouth, whereby it configures itself to any irregularities of the inner wall of said mouth.

2. A closure for glass receptacles made from a single piece of spring metal stamped to provide a cover, a vertical ring-like portion depending therefrom, said ring-like portion being pressed inward at its lower edge to provide a circumferential groove to receive a sealing gasket, said ring-like portion being entirely open at its lower end to permit of expansion and contraction thereof, and said ring-like portion being placed under spring tension when inserted in the mouth whereby it configures itself to any irregularities of the inner wall of said mouth, and a coating of substance about the lower edge of said ring-like portion to prevent corrosion of the raw metal at said edge, substantially as described.

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Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."