Feb. 20, 1923. 1,445,729

H. E. TOWNSEND

CLOSURE

Filed Sept. 3, 1921

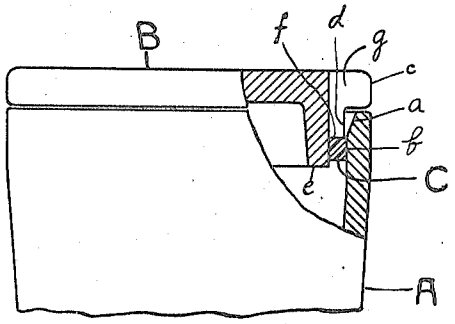


FIG. 1.

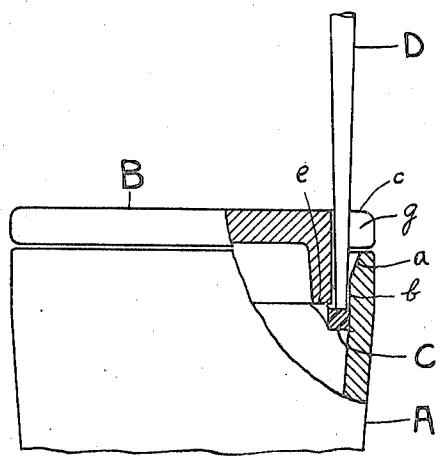


FIG. 2.

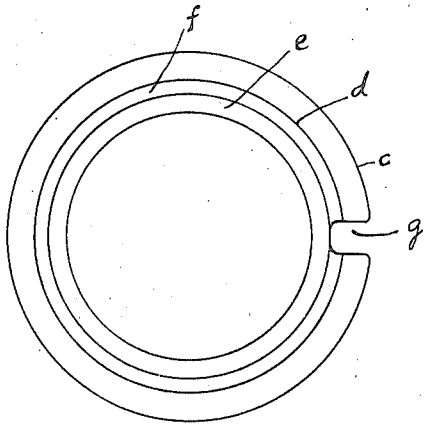


FIG. 3.

INVENTOR.

Harry E. Townsend

Patented Feb. 20, 1923. 1,445,729

UNITED STATES PATENT OFFICE.

HARRY E. TOWNSEND, OF BROOKLYN, NEW YORK.

CLOSURE.

Application filed September 3, 1921. Serial No. 498,464.

To all whom it may concern:

Be it known that I, HARRY E. TOWNSEND, a citizen of the United States, and a resident of New York, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Closures, of which the following is a specification.

My invention relates to closures adapted for use in connection with jars, or other similar containers, and has for its object the provision of a closure, made of glass, or other non-puncturable material, that can be more readily removed from the container than has heretofore been the case, particularly when the container is sealed in a vacuum, and that can be so removed without injury to the container, closure or gasket.

The nature of my improvement will be best understood as described in connection with the drawings, in which—

Fig. 1 is an elevation of a container and closure made according to my invention, the container being shown partly in section, or rather broken away, and the closure being shown partly in section on one side; Fig. 2, a similar elevation showing the gasket displaced from sealing position; and Fig. 3, a plan view of the closure viewed from its lower side.

A is a container having an inwardly tapering mouth as shown at *a*, and an approximately cylindrical surface *b*, below the taper.

B is the closure, provided with a peripheral flange *c*, adapted to extend over, and rest on, the top of the container when sealed thereon. Extending down from the flange *c*, is a cylindrical portion *d*, which is adapted to enter the mouth of the container for a considerable distance, preferably, a distance equal to the depth of the tapered portion *a*. Below this portion *d*, is a further cylindrical extension *e*, of smaller diameter, at the top of which is formed a shoulder *f*. C is a gasket, of compressible material, located on the lower cylindrical extension *e*, and against the shoulder *f*, of the closure. This gasket when positioned on the closure, and uncompressed, is of slightly larger diameter than the cylindrically walled portion *b*, of the container, so that when the closure is forced down into the mouth of the container the gasket is laterally compressed in passing over the tapered portion *a*, and when finally seated against the cylindrical surface *b*, remains in a state of lateral compression between the cylindrical surface *b*, of the container, and the cylindrical extension *e*, of the closure.

The construction of closure and container as above described, is the same as the construction described in my pending application for Letters Patent Serial No. 274,071, filed January 30th, 1919, and is covered by the claims therein. The novel feature of this invention consists in the combination with the features above described of the notch *g*, in the flange of the closure, the function and advantage of which will be hereafter pointed out.

When a container is sealed with a closure made of glass or other non-puncturable material, considerable difficulty is usually experienced in removing the closure if there is a considerable degree of vacuum in the container. This is especially true when the closure is large, and presents a considerable area against which atmospheric pressure acts to resist an effort to lift the closure from its seat on the container. This difficulty is effectually overcome in the present improvement by providing the closure with a notch *g*, extending down through the flange *c*, and upper cylindrical portion *d*, of the closure. Through this notch, any suitable pointed implement can be inserted to puncture or dislodge the gasket, whereby air will enter the container and overcome the vacuum, after which, the closure can be readily removed.

It is difficult, however, to puncture a gasket in this manner unless the gasket can also be displaced from sealing position. This is so, because, due to the elasticity of the gasket and the compression to which it is subjected, an aperture made by a puncturing implement closes the instant the implement is removed, and before an appreciable amount of air has been admitted to the container. In my present improvement it will be observed that the inner wall of the notch *g*, coincides with the gasket seating surface on the lower extension *e*, of the closure, thus exposing the entire width of the gasket to the action of a dislodging implement inserted through the notch. It will also be observed that the seating surfaces of the container and closure, between which the gasket is held in lateral compression, are approximately parallel, and that

the inner wall of the container below the seating surface is substantially continuous therewith. With this construction, a blunt pointed implement D, can be inserted through the notch *g*, and the gasket easily pushed down to the position shown in Fig. 2, thus unsealing the container, and it will be readily understood that this can be done without injury to the container, closure or gasket, by reason of which, the parts remain in condition for re-use if that is desired.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A sealing closure for containers, having an outwardly extending flange adapted to extend over the mouth of the container, a downwardly extending cylindrical portion adapted to enter the mouth of the container and having a downward cylindrical extension of less diameter and an annular shoulder formed between the broad and narrow portions to form an abutment for a gasket fitted on the narrower cylindrical portion, in combination with a gasket fitted on the narrower cylindrical portion below the said shoulder, and a container having an inwardly tapering mouth and a substantially cylindrical seating surface for a gasket below the tapered mouth and having its inner surface below the gasket seat substantially continuous with said seat, and a notch or kerf in the flange and broader cylindrical portion of the closure through which access may be had to the gasket to push the gasket along the inner surface of the container to break the seal.

2. A sealing closure for containers having an outwardly extending flange and a downwardly extending cylindrical portion adapted to enter the mouth of the container, in combination with a gasket fitted on the said cylindrical portion, and a container having a substantially cylindrical inner surface below its mouth adapted to provide a seat for a gasket, the said inner surface below the gasket seat being substantially continuous therewith, a notch or kerf in the flange of the closure through which access may be had to the gasket to push the gasket along the inner surface of the container to break the seal.

3. A sealing closure for containers having a substantially cylindrical seating surface for a gasket, in combination with a container having a substantially cylindrical gasket seating surface, a sealing gasket positioned between the cylindrical surfaces of the closure and container and having a portion of its outer face accessible for pushing the gasket inwardly from between the said cylindrical surfaces, the closure and container being so formed inwardly from the gasket seating surfaces as not to obstruct the inward movement of the gasket.

4. The combination with a container and a closure therefor, of a sealing member adapted to form a seal between opposed faces on the container and closure and having a portion of its outer face accessible for pushing the sealing member inwardly from between the opposed faces, the said opposed faces being so formed as not to obstruct the movement inwardly of the sealing member.

HARRY E. TOWNSEND.