

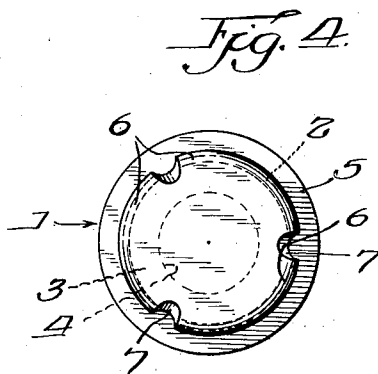
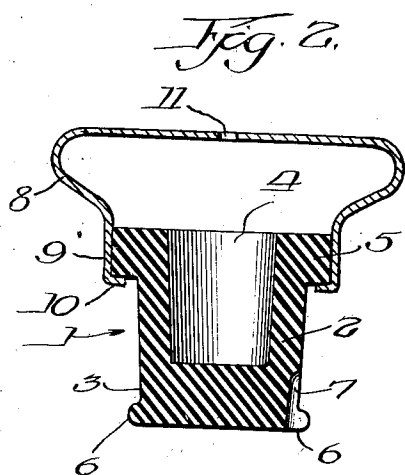
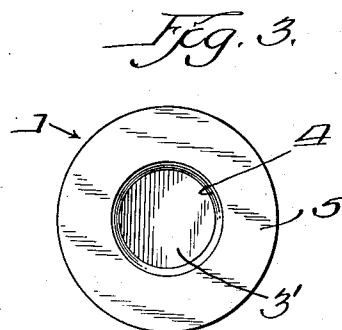
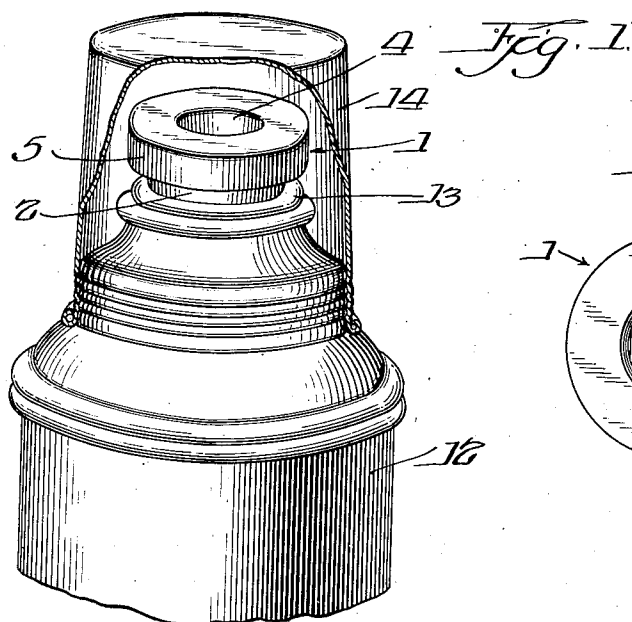
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4 Claims. (Cl. 215-47)

My invention belongs to that general class of sealing devices, and more particularly to an improved cork or closure for containers, the same being particularly adapted for use on vacuum bottles or the like.

The invention has among its objects the production of a simple, sanitary, convenient, durable, inexpensive and efficient sealing device or closure for use wherever found applicable.

More particularly the device has among its objects the production of a cork of the kind described of yieldable, resilient or elastic material of cylindrical formation, which may be readily applied to the container or removed therefrom.

The same has particularly as an object a closure of the kind described that may be readily removed from a container in which hot liquids have been placed and which may have cooled to a more or less extent, tending to create a vacuum in a bottle or container, making it more or less difficult to remove the ordinary closure.

It also has as an object the production of a closure or cork of the kind described which is sanitary in that it will not absorb liquid and retain it, whereby it might sour or smell and become rancid, and which cork may be readily washed and even boiled and sterilized without disintegration.

The same has particularly as an object the production of a cork of the kind described for use on thermos or like bottles which may be carried in lunch kits or pockets and which will at all times efficiently and tightly seal the vacuum bottle, not only retaining the heat therein, but also preventing leakage when the bottle is laid down on its side or carried in the pocket or lunch kit.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawing, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a perspective view of a cork or closure applied to a thermos bottle, only a portion of the thermos bottle being shown;

Fig. 2 is a sectional view through the preferred form of closure;

Fig. 3 is a top end view; and

Fig. 4 is a bottom view in elevation.

Referring to the drawing, the cork is indicated generally by the character 1, the same consisting of a body part 2, which is preferably tapered as indicated at 3. The body is provided with a recess 4 which extends inwardly at one end, to wit, from the large or outer end, to adjacent the opposite end or bottom wall 3'. The wall of recess 4 is preferably but not necessarily tapered to correspond with the taper at the exterior of the body of the cork at 3. The cork is provided with a flange or enlarged portion 5 at the outer end and is also preferably formed with a rib or flange 6 at the inner end and extending circumferentially about the body of the cork. This flange 6 is narrow, rounded and may not be continuous as hereinafter explained. Generally the cork is made of rubber or like resilient or elastic material, the provision of the recess adding to the flexibility of the cork so that it may fit rather tightly the vacuum bottle to which it may be applied regardless of slight variation in the internal diameter of the mouth of the bottle. This is important since the corks for vacuum bottles must be of a size to fit bottles with comparatively large mouths. It also permits a somewhat more durable and dense rubber material to be used, and this is desirable since it permits the use of a rubber that may be boiled or otherwise treated to maintain the same in a sweet and sanitary condition. A grade of rubber or composition which would be satisfactory for this might be too unelastic if a large solid cork were used.

As will be noted in Figs. 2 and 4, the body of the cork is provided at the exterior with a groove 7 extending from a desired point below the flange 5 to the lower end of the cork. Where the lower flange 6 is provided on the cork the grooves 7 cut through the same as shown in Figs. 2 and 4. This not only facilitates the removal of the cork or closure from the bottle but likewise permits the escape of air from the interior of the bottle when applying the cork, so that there is less air pressure built up within the bottle when seating the cork. Generally where a cork fits tight from end to end it tends to compress a portion of the air within the bottle or container above the liquid contents, the liquid of course being non-compressible. The result is that with a non-grooved cork an air pressure may be built up within the container that will tend to move the cork outwardly after it has been seated. With the groove 7 formed in the body of the cork a substantial amount of air within the bottle or container may be expelled prior to the final seat-

ing of the closure. Also, the cooling and contraction of the liquid may often cause a vacuum to be formed in the bottle, and when the cork is removed the vacuum is broken earlier, making it easier to remove the cork.

As was previously mentioned, the provision of the recess in the cork affords greater resiliency or yieldability to the cork, affording a tight fit within the bottle. The flanged portion 6 also gives considerable flexibility at the external inner end of the cork, it can compress, flex or pucker and insure a close fit in the event that the mouth of the container is slightly oversized. In seating the cork the index finger may be inserted in the hole or recess so that the inner end of the cork may be fully pushed inwardly even though the bottle mouth was undersized or a little small and would in that case tend to cause a compression in the body of the cork from end to end and which might have a tendency, if the cork could not be pushed in fully, to thereafter expand at the compressed outer end of the cork outwardly of the bottle. Likewise in removing the cork, the flange 5 may be grasped and the index finger inserted in the recess to assist in breaking the cork loose and freeing it from the walls of the mouth of the bottle should it stick. Other advantages of the recess in the cork while not so important, may be mentioned as follows: It enables the weight of the cork to be materially reduced, and likewise, at the present time when rubber supplies are limited, it does conserve some rubber. This reduction in weight and conservation of rubber however is merely incidental.

I have shown in Fig. 2 how a metal cap or top may be applied to the preferred cork and the cap may be of a shape as indicated at 8 and 9 to engage the flange 5 as at 10. When such a top is employed it is generally preferred to provide a vent 11 to relieve the excess internal pressure in the cork that might be caused by compressing the body of the cork when seating the same in the bottle. However, the use of the top on the cork is for appearance and generally is undesirable since it destroys or nullifies many of the advantages of my cork as hereinbefore pointed out. Whether the cork 1 is provided with or without the cap is a matter of choice.

In Fig. 1 the closure 1 is shown applied to a vacuum bottle 12 having the usual inter-liner 13, 14 being a cap or cup which generally is mounted on a vacuum bottle such as shown in the drawing.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A corking device of the kind described con-

sisting of a tapered smooth faced body of resilient material provided with a recess extending internally at the outer end of the body and with a sealing flange extending interruptedly about and contiguous with the body at the extreme inner end of the body, said recess extending inwardly and near to the flanged inner end of the body to provide a flexible tapered wall for the sealing end of the body and a compressible bottom wall, whereby said sealing flange may flex therewith in a direction vertically and toward the axial center of said body.

2. A vacuum bottle cork of the kind described consisting of a semi-elastic rubber body provided with a recess of substantial depth in the face at the outer end and provided with circumferential flanges extending exteriorly at the outer and inner ends of the cork, the cork being provided with a plurality of shallow grooves on the exterior extending lengthwise from the inner end toward the outer end and terminating substantially in a line with the bottom of said recess, said grooves dividing the flange and the walled end of the body into a plurality of segmental sealing members capable of bodily radial contraction combined with a flexing of the flange when the cork is in use.

3. A vacuum bottle cork of the kind described consisting of a semi-elastic tapered smooth faced rubber body provided with a recess at the outer end and extending inwardly toward the opposite inner end of the cork to form thin side walls and a transverse bottom wall capable of flexing radially inwardly relative to said side walls, said bottom wall having an inwardly compressible rounded flange disposed about the outer end of said bottom wall adapted to flex therewith and relative thereto, and there being grooves traversing said flange and the adjacent side wall of the bottom wall to allow radial contraction of the flange when said cork is in use.

4. A bottle cork comprising an elastic body with a top flange, tapered smooth faced side walls adapted for sealing contact within a bottle opening, said side walls converging from said flange and terminating in a peripheral rounded flange at the end of said body, a recess in said body to permit inward flexing of the side walls and to form a flexible bottom wall for said body, the outer peripheral diameter of the flange being substantially equal to the greatest outer diameter of the tapered side walls, and vertical notches dividing the flange and the end wall portion of said body into segments to permit contraction of said flange and said wall radially inwardly of the body and to allow flexing of said flange with respect to the end wall, whereby the circumferential interrupted flange ends are brought together and the outside peripheral diameter of said flange reduced to coincide substantially with the compressed outer diameter of said side walls when said cord is in use.

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