

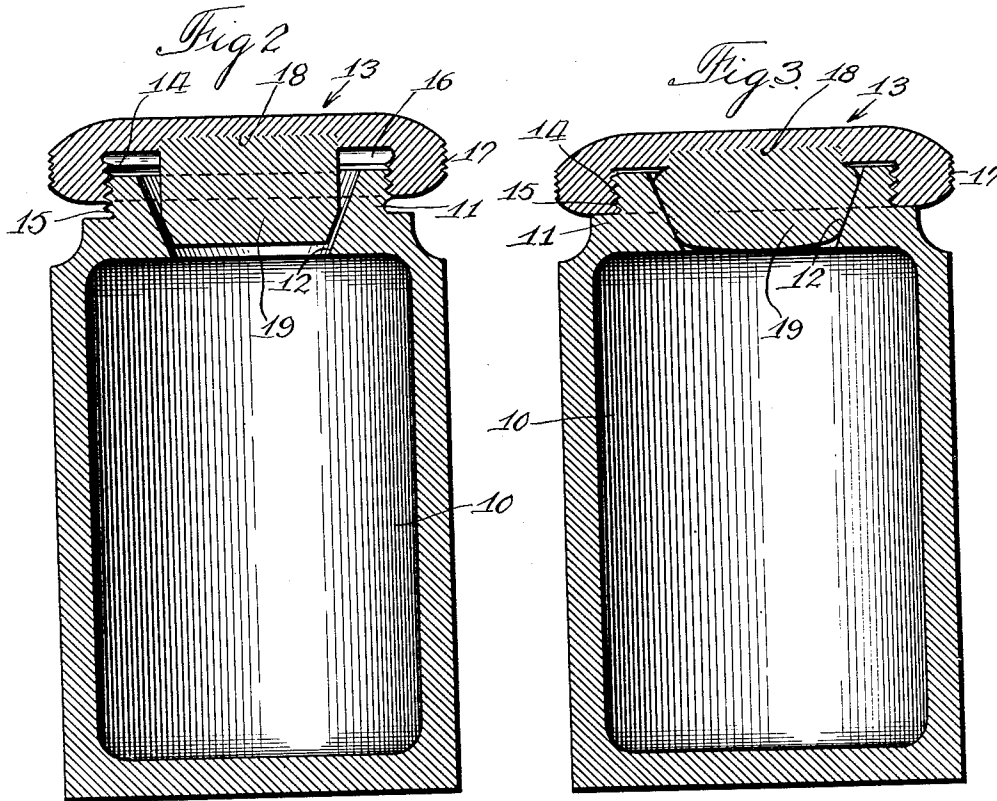
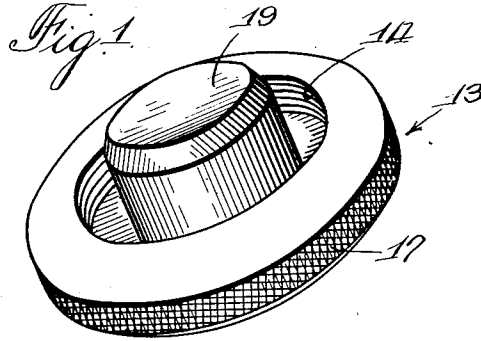
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CONTAINER

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UNITED STATES PATENT OFFICE

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CONTAINER

Application filed July 22, 1929. Serial No. 379,957.

This invention relates to a container and has special reference to a liquid-tight container for holding liquids and semi-liquids.

More particularly, this invention relates to a container having an enlarged chamber in the lower portion thereof and an open-ended neck portion in communication with the enlarged chamber, a seat in the neck portion engaging the flexible or yieldable portion of a stopper, the stopper having a rigid or non-yieldable internally threaded portion for engaging the exteriorly threaded neck portion to seal effectively the container and retain surplus liquid in the container after use.

One of the uses to which the present container may be employed is that of holding ink and that use particularly in the instance of carrying the container in a grip with clothes. Travelling salesmen, tourists and the like are confronted with this problem daily and everyone generally encounters it occasionally. Besides being leak proof, to be desirable the container must retain the surplus ink in the bottle and not permit any to soil the outer surfaces thereof after the stopper has been removed, the ink used and the stopper replaced.

The specific construction illustrated herein contemplates the use of a hard rubber stopped having a recessed portion which is peripherally threaded to engage the external threads on the neck of a container and having a soft rubber sealing portion vulcanized thereto internally and axially thereof extending outwardly therefrom to engage a tapered seat formed interiorly of the neck of the container.

One of the objects of this invention is to provide a container for liquid wherein the seal is effected within the neck thereof to prevent the soiling of the exterior surfaces of the bottle and to retain the surplus liquid in the chamber of the neck.

Another object of this invention is to pro-

vide a container for liquids or semi-liquids having a sealing means therefor comprising a hard rubber portion having a soft rubber portion vulcanized thereto.

A further object of this invention is to provide a non-breakable liquid-tight container which may be comparatively inexpensive to manufacture and light in weight.

Other objects and advantages will hereinafter be more fully pointed out and for a more complete understanding of the nature, scope and characteristic features of this invention, reference may be had to the following description when taken together with the accompanying drawing, in which latter:

Figure 1 is a perspective view of the sealing means for the container;

Fig. 2 is a central vertical sectional view of the container showing the sealing means in an initial position thereon; and

Fig. 3 is a view similar to Fig. 2 showing the sealing means in a sealed relation with the container.

Referring now more particularly to the drawing the container comprises an enlarged chamber 10 having an open-ended neck portion 11 formed thereon, the neck, of course, being in communication with the chamber. A tapered seat 12 is formed on the inside of the neck portion 11 and extends the entire length thereof although it is to be understood that the taper may merely extend substantially that length to perform the function thereof satisfactorily.

The material of the container is preferably of hard rubber, although for purposes of ornamentation it may be of any color and of a cellulose composition or material such as is known to the trade as radite, bakelite and the like, wherein a mottled color effect may be obtained in the material. Aside from the ornamental value, the purpose of providing such materials is to obtain a non-breakable container which is also light in weight. However, it is to be understood that a bottle of glass

may be substituted for this material, although this is not believed to be particularly desirable in the present invention, or if desirable, would be covered with a thin shell of composition such as has been hereinbefore suggested.

The seat 12, provided by the converging side walls of the neck portion, when viewed in cross section, is preferably formed integrally with the material of the container although it is readily apparent that the seat may be formed by an insert. The seat, besides serving to cooperate with the sealing means as will hereinafter be described, serves as a drip-edge for returning the surplus of material back into the lower chamber when the stopper is removed and the container is in use. The neck is of comparatively great length as is usual in bottles and provides a combination seat and drip-edge of maximum efficiency.

The sealing means for the container comprises preferably of hard rubber stopper 13 which is interiorly threaded at 14 to engage external threads 15 on the neck 11 of the container. In order to obtain such a construction, a substantially disc-shaped member is provided with a circular recess on one face side thereof as at 16 a substantial distance into and axially of the disc-shaped member, whereafter the peripheral wall of the aperture is provided with the threads 14. The outer periphery of the disc-shaped member is knurled as at 17 to provide a gripping surface for the manual operation thereof. In the drawing the receptacle and the sealing means have been shown as being of circular cross section. It is obvious that the cross section thereof may be of any desired polygonal shape with, of course, the exception of the threaded portion which of necessity must be circular unless a different form of retaining means be employed. The stopper 13 is recessed as at 18 within the circular recess 16 to receive a soft rubber sealing portion 19 which extends outwardly therefrom a substantial distance beyond the apertured face side of the stopper 13 and in axial alignment therewith. The engaging surfaces of the sealing member 19 and the material surrounding the aperture portion 18 are preferably vulcanized together in order to provide a fixed relation therebetween. Thus is formed a rigid body portion capable of receiving threads for snug engagement with external threads of the container having soft resilient material for serving the purpose of sealing the receptacle within the neck portion.

Referring now more particularly to Fig. 2 of the drawing the extending portion of the soft rubber sealing member 19 is of greater length than the depth of the seat in the neck 11. The diameter of the sealing member 19 is substantially uniform and is greater than

the smallest diameter of the opening in the neck and is substantially smaller than the greatest diameter of the opening in the neck. The side walls of the sealing member 19 are substantially vertical with a slightly converging extreme outer end. The lower portion of the sealing member 19 engages the seat 12 considerably prior to the time that the stopper 13 is fully threaded on the receptacle.

Referring now more particularly to Fig. 3 a view is shown whereby the stopper 13 is threaded home or threaded tightly on the shoulder or seat 12 provided in the neck portion. The excess of material of the soft rubber sealing member 19 is expanded at the upper portion and is compressed at the lower end to snugly engage substantially the full length of the seat 12. A liquid-tight container is thus formed wherein the seal is provided within the neck of the bottle and the seat for the sealing member provides an efficient retainer. Hereinbefore, in so far as applicant is aware, the sealing gaskets have contacted with the upper surface of the neck of the bottle or have been provided on the outside of the neck of the bottle. The present invention provides a seal within the neck of the bottle before the ink reaches the threads 15 of the neck, or the recess 16 of the stopper.

When the stopper is removed and the bottle is used, as for example, in filling a fountain pen, any surplus ink is retained in the neck of the bottle and the threads 15 are kept free from ink. When not in use the sealing means prevents ink from being displaced in the chamber 10 by reason of the sealing means abutting the seat 12. When the bottle is tilted to a horizontal position, or even to an upside down position, no liquid is permitted to reach the threads 15 nor the top of the neck 11. Therefore, when the stopper is removed there is no danger of the outside of the bottle becoming soiled. This, as before stated, is particularly desirable in the instance of travelling people where a supply of ink must be carried along in grips with wearing apparel.

As a result of this invention a container for liquid is provided wherein the seal is effected within the neck of the bottle to prevent the soiling of the exterior surfaces of the bottle and to retain the surplus liquid within the neck. Furthermore applicant contemplates the idea of providing a stopper of hard rubber and a sealing means vulcanized thereto of soft rubber. The container may also be made very ornamental since it is preferable to provide the same of a non-breakable material such as compositions known to the trade as radite, bakelite or the like. Such a material, besides being ornamental, is ordinarily of a substantially lighter weight than glass and this is also to be greatly desired.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications

thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is to be limited only by the scope of the
5 appended claim and the prior art.

I claim:

A receptacle for liquids having an open-ended neck portion, and removable closure means comprising a hard rubber portion for
10 engagement with said neck and a soft rubber portion vulcanized thereto and extending into said neck to effect a seal therein.

In witness whereof, I have hereunto subscribed my name.

15 WILLIAM R. CUTHBERT.

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