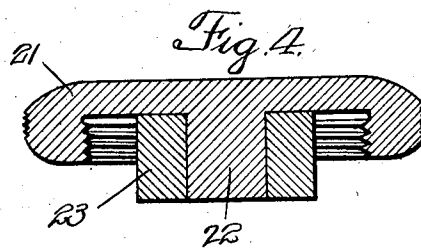
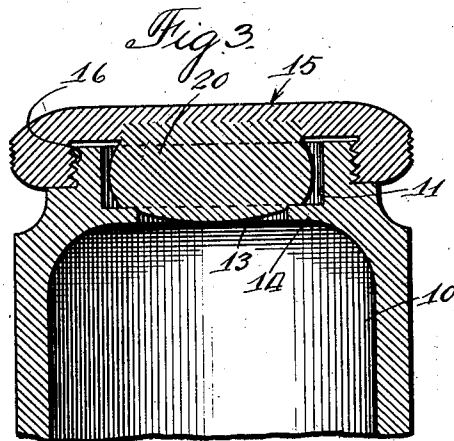
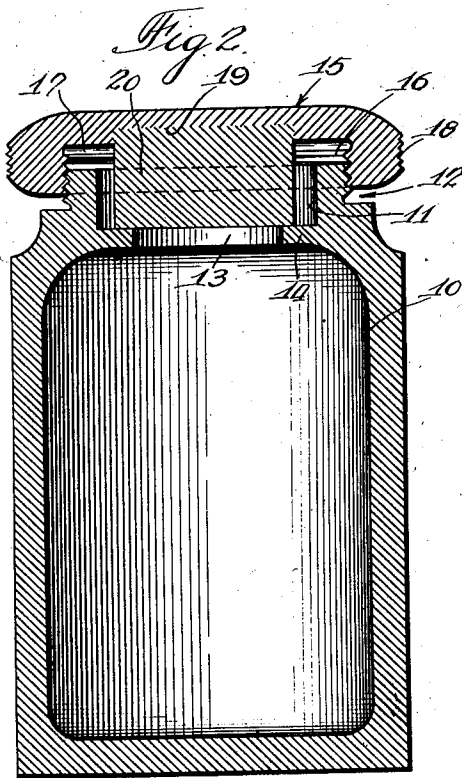
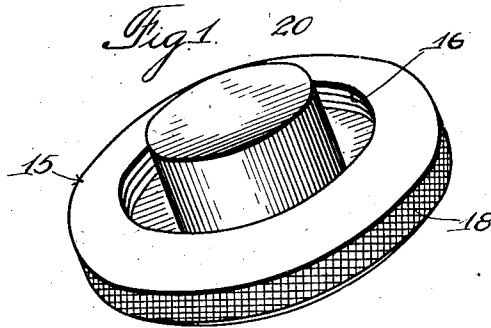


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W. A. SHEAFFER
CONTAINER

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UNITED STATES PATENT OFFICE

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CONTAINER

Application filed August 3, 1929. Serial No. 383,183.

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

More particularly, this invention relates to a container having an enlarged chamber in the lower portion thereof and a small auxiliary chamber in the upper or neck portion in communication with the enlarged chamber, the auxiliary chamber receiving the flexible or yielding portion of a 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 writing ink and that use particularly in the instance of carrying the container in a grip together 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 stopper 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 within the recessed portion and axially thereof extending outwardly therefrom to engage a seat formed interiorly of the neck of the container or in the auxiliary chamber.

One of the objects of this invention is to provide a container for liquids or semi-liquids 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.

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;

Fig. 3 is a view similar to Fig. 2 of the upper portion of the container showing the sealing means in a sealed relation therewith; and

Fig. 4 is a vertical sectional view of a modified form of sealing member.

Referring now more particularly to the drawing the container is separated into a lower enlarged chamber 10 and an upper comparatively small auxiliary chamber 11 in the neck portion 12 thereof. The chambers 10 and 11 are intercommunicating by reason of the passage 13 provided in the seat 14 formed between the chambers 10 and 11.

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 apertured seat 14 provided by the ledge at the top of the enlarged chamber and in the lower portion of the neck is preferably formed integrally with the material of the container. In the present construction the upper surface of the seat 14 is formed at substantially right angles to the vertically extending walls of the auxiliary chamber 11. However, should the side walls of the aux-

iliary chamber 11 be disposed at an angle, for the purpose of convenience in molding nevertheless, the upper surface of the seat 14 will extend substantially horizontally.

6 The sealing means for the container comprises preferably a hard rubber stopper 15 which is interiorally threaded at 16 to engage external threads on the neck 12 of the container. In order to obtain such a construction, a disc-shaped member is provided with 10 a circular recess on one face side thereof as at 17 a substantial distance axially of the disc-shaped member, whereafter the peripheral wall of the aperture is provided with the 15 threads 16. The outer periphery of the disc-shaped member is knurled as at 18 to provide a grip surface for the manual operation thereof. In the drawing the receptacle and the sealing means have been shown as being of 20 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 25 of retaining means be employed. The stopper 15 is recessed as at 19 within the circular recess 17 to receive a soft rubber sealing portion 20 which extends outwardly therefrom a substantial distance beyond the apertured 30 face side of the stopper 15 and in axial alignment therewith. The engaging surfaces of the sealing member 20 and the material surrounding the aperture portion 19 are preferably vulcanized together in order to provide 35 a fixed relation therebetween. Thus is formed a rigid body portion capable of receiving threads for snug engagement with external threads of the container, the rigid portion having a projecting member of a 40 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 or 45 the soft rubber sealing member 20 is shown as of greater length than the depth of the auxiliary chamber 11. The diameter of the sealing member 20 is substantially greater than the intercommunicating passage 13 and 50 substantially smaller than the diameter of the auxiliary chamber 11. The side walls of the sealing member 20 are substantially vertical. The lower surface of the sealing member 20 engages the seat 14 considerably prior 55 to the time that the stopper 15 is fully threaded on the receptacle.

Referring now more particularly to Fig. 3 a view is shown whereby the stopper 15 is 60 threaded home or threaded tightly on the shoulder or seat 14 provided in the neck portion. The excess of material of the soft rubber sealing member 20 is expanded within the auxiliary chamber 11 and the passageway 65 13 and a liquid-tight container is thus formed wherein the seal is provided within the neck

of the bottle. 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 neck, or in applicant's device, the auxiliary chamber 11.

70 When the stopper is removed and the bottle is used, as for example, in filling a fountain pen, any surplus ink is retained in either of the chambers 10 or 11 of the bottle and the threads 16 are kept free from ink. When 75 not in use the sealing means prevents ink from being displaced in the chamber 10 by reason of the sealing means abutting the seat 14. When the closed bottle is tilted to a horizontal position, or even to an upside 80 down position, no liquid is permitted to reach the thread 16 nor the top of the neck 12 nor even the auxiliary chamber 11. Therefore, 85 when the stopper is removed there is no danger of the outside of the bottle becoming soiled. This, as before stated, is particularly 90 desirable in the instance of travelling people where a supply of ink must be carried along in grips with wearing apparel.

In Fig. 4 of the drawing, a sealing means 95 of a modified form is illustrated in which the hard rubber or composition stopper 21 is provided with an axial circular recess on one face side thereof, the peripheral wall of the recess being threaded to engage the external 100 threads on the neck 12 of the container. However, it is to be understood that the stopper in both embodiments of this application may be externally threaded to engage 105 internal threads on the neck of the bottle without departing from the spirit of this invention.

A projection 22 of any desired cross section is preferably formed integrally with the stopper 21 axially of and within the circular recess, 110 the projection depending therefrom. A soft rubber, cork or other suitable resilient member 23 is suitably secured to the projection 22 to act in the same manner on the seat 14 as the sealing member 20 of the previously 115 described embodiment. The resilient member 22 may be in the form of a ring or a cap, either of which will operate satisfactory as a seal.

As a result of this invention a container for 120 liquid is provided wherein the seal is affected 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. Further, applicant contemplates 125 the idea of providing a stopper of hard rubber and a sealing means disposed thereon of soft rubber or other resilient material. The container may, also, be made very ornamental since it is preferable to provide the same of a 130 non-breakable material such as compositions

known to the trade as Radite, bakelite or the like. Such materials, besides being ornamental, are ordinarily of a substantially lighter weight than glass and this is 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 appended claims and the prior art.

I claim:

1. A receptacle for liquids having a main chamber and an open-ended auxiliary chamber, an apertured seat between said chambers providing communication therebetween, said aperture being of a substantially smaller diameter than the diameters of said chambers, removable rigid closure means for engaging said open end of said auxiliary chamber, and sealing means comprising a resilient member of a diameter throughout the length thereof greater than that of said aperture and smaller than that of said auxiliary chamber secured to said closure means for effecting a seal of said main chamber to prevent soiling of the upper end of said auxiliary chamber, said sealing means being of a greater height than the depth of said auxiliary chamber.

2. A receptacle for liquids having a main chamber and an open-ended auxiliary chamber, an apertured seat disposed substantially at right angles to the side walls and between said chambers providing communication therebetween, said aperture being of a substantially smaller diameter than the diameters of said chambers, removable rigid closure means for engaging said open end of said auxiliary chamber, and sealing means comprising a resilient member of a diameter throughout the length thereof greater than that of said aperture and smaller than that of said auxiliary chamber secured to said closure means for effecting a seal of said main chamber to prevent soiling of the upper end of said auxiliary chamber, said sealing means being of a greater height than the depth of said auxiliary chamber and having a substantially flat underneath surface for engaging the upper surface of said seat.

3. A receptacle for liquids having a main chamber and an open-ended auxiliary chamber, an apertured seat between said chambers providing communication therebetween, said aperture being of a substantially smaller diameter than the diameters of said chambers, removable rigid closure means for engaging said open end of said auxiliary chamber, and sealing means fixedly secured to said rigid closure means comprising a non-resilient projection on said closure means depending into said auxiliary chamber, and a resilient member which together with said projection

is of a greater height than the depth of said auxiliary chamber, said sealing means being of a greater diameter throughout the length thereof than that of said aperture and of a smaller diameter than that of said auxiliary chamber for effecting a seal of said main chamber.

In witness whereof, I have hereunto subscribed my name.

WALTER A. SHEAFFER.