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FIG. 1.

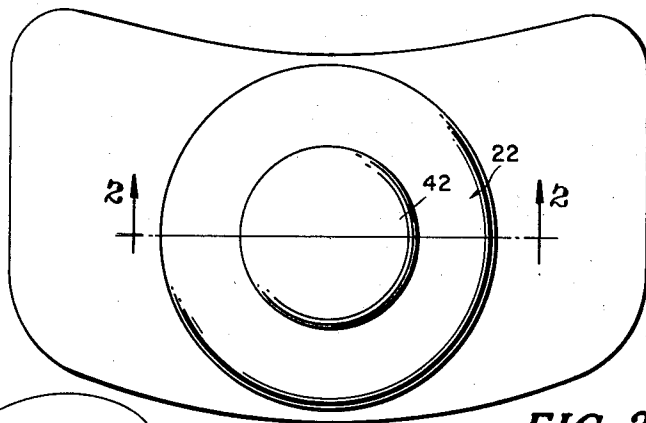


FIG. 2.

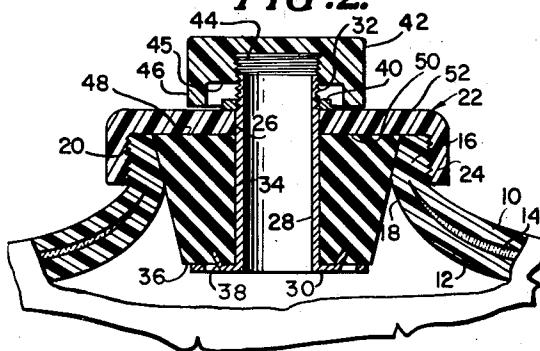


FIG. 3.

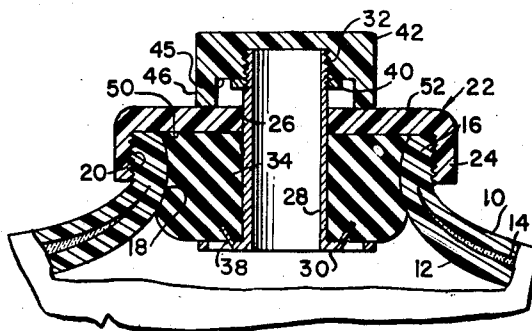
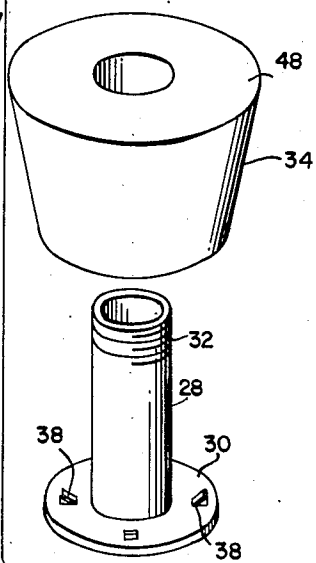


FIG. 4.



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This invention relates to an improved canteen suitable for use by troops and campers in the field.

The arts concerning the design and construction of canteens have been relatively static for a long period of time. It has been felt that a canteen will sufficiently fulfill its function and purpose if it is merely provided with an opening which is small enough to conveniently engage the lips. Unfortunately, the provision of such a small opening on a canteen has one serious disadvantage, inasmuch as the filling of such a canteen is rather difficult and time consuming and frequently results in an unnecessarily large amount of waste and spillage. Further, it has not been considered practical to issue soup, coffee, or other hot beverages to troops in the field because the conventional canteen, having such a small opening, is difficult to fill and practically impossible to properly clean.

It is therefore within the contemplation of this invention to provide a new and improved canteen having a relatively large filling opening so that beverages may be quickly and easily poured into the canteen, and further, so that the canteen may be easily cleaned.

It is also within the contemplation of this invention to provide such a wide-mouthed canteen with a closure which includes the relatively small drinking tube, having an independent closing means, which comfortably fits the lips of the user.

Bearing the above in mind, it is an object of this invention to provide a new improved canteen which is quickly and easily filled.

It is another object of this invention to provide a canteen which can be easily cleaned.

It is another object of this invention to provide a canteen which has a relatively small drinking tube which comfortably fits the mouth of the user.

It is another object of this invention to provide a canteen which may be tightly sealed to prevent leakage and to prevent contamination of its contents.

It is another object of this invention to provide such a canteen which may be quickly and economically manufactured and mass produced.

It is another object of this invention to provide a canteen which is simple, durable, and able to withstand the rough usage of troops in the field.

These and other objects of this invention will be fully understood from the following detailed description of a typical preferred form and application of the invention, throughout which description reference is made to the accompanying drawings in which:

Figure 1 is a plan view of a canteen embodying the invention;

Figure 2 is a section taken on line 2-2 of Figure 1 and illustrating the stopper in a relaxed form;

Figure 3 is a view similar to Figure 2 except that the filling cap is in the fully closed position and that the stopper is radially distended to form a tight seal; and

Figure 4 is an exploded view of the closure assembly. Referring to Figure 1, there is illustrated a canteen

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having general overall configuration similar to that of a conventional military canteen. As shown in Figures 1 and 2, in a preferred embodiment the canteen is constructed of two layers 10 and 12 of durable plastic material, with a relatively thin layer 14, of insulation, such as asbestos, fiber glass, or the like, disposed between the inner and outer layers of plastic. Preferably, the outer layer 10 of plastic would be particularly selected from those plastics having high strength characteristics, while the inner layer 12 would be selected from those plastics which are inert and which do not affect the taste of liquids confined therewithin.

The canteen is formed with a relatively wide circular mouth 16 which has its inner periphery 18 curved to present a convex radial section, and has its outer periphery exteriorly threaded at 20.

The closure assembly of the canteen is best illustrated in the exploded view of Figure 4. A filling cap, generally indicated at 22, has a depending rim 24 which has its inner periphery threaded for engagement with the threads 20 on the outer periphery of the mouth 16. The outer periphery of the rim 24 of the filling cap 22 is knurled, or otherwise provided with means forming a convenient gripping surface. The filling cap 22 has a centrally disposed circular aperture 26 which is approximately the same size as, and forms a close fit with, a drinking tube 28 which extends therethrough. The drinking tube 28 has an outwardly extending flange 30 fixed, or integrally formed, on the free end which is on the inner, or lower, side of the filling cap 22. The opposite, or upper, free end of the drinking tube 28 is exteriorly threaded at 32, as will be discussed in detail hereinafter.

A resilient annular stopper 34, which may be formed of rubber or plastic material, circumscribes the portion of the drinking tube 28 located on the inner, or lower, side of the filling cap 22. The stopper 34 is, when relaxed, generally frusto-conical in overall configuration and has its minor planar surface 36 (Fig. 2) contacting the upper planar surface of the flange 30. The flange 30 is engaged with the stopper 34 in any suitable manner, although in the preferred embodiment illustrated the flange has small tabs 38 punched upwardly to pierce and engage the soft, resilient body of the stopper.

An internally threaded washer 40 is threaded on the upper end of the drinking tube 28 to a position in spaced relation to the free end thereof. As will be explained in detail hereinafter, the washer 40 defines an abutment surface and may, in some embodiments, be replaced by an integral collar formed on the drinking tube. In the preferred embodiment here illustrated, the lock washer 40 is merely threaded to the drinking tube as a matter of convenience of assembly.

The drinking tube 28 has a drinking tube cap 42 which has a threaded counterbore 44 (Fig. 2) in its inner planar surface 45 to threadedly engage the upper free end of the drinking tube. The drinking cap 42 has a depending peripheral rim 46 which has an interior diameter somewhat greater than the exterior diameter of the lock washer 40. The exterior peripheral surface of the drinking cap 42 is knurled, or otherwise provided with means forming a convenient gripping surface.

Operation

Referring to Figure 2, in which the stopper 34 is loosely fitted within the mouth 16 of the canteen, it will be seen that the body of the stopper is in its relaxed form, that is to say, it has a frusto-conical configuration. The minor planar surface of the stopper 36 contacts the upper planar surface of the flange 30, while the major, or upper, planar surface 48 of the stopper is flush against the inner, or lower, planar surface 50 of the filling cap 22. The lower planar

surface of the lock washer 40 abuts the outside, or upper, planar surface 52 of the filling cap 22 as the drinking cap 42 is oriented over the upper free end of the drinking tube 28. As is also shown in Figure 2, when the drinking cap 42 begins its threaded engagement with the upper free end of the drinking tube, that is to say, when only one or two threads of the drinking cap and the drinking tube, respectively, coact, the depending rim 46 of the drinking cap is spaced from the outer, or upper, planar surface 52 of the filling cap 22. It will be readily seen that threading rotation of the drinking cap 42 will bring the depending rim 46 into abutting engagement with the outer, or upper, planar surface 52 of the filling cap 22, and hence will draw the drinking tube 28 outwardly, or upwardly, to the position illustrated in Figure 3. It will be noted that the axial movement of the drinking tube raises the lock washer 40 from the upper planar surface 50 of the filling cap 22, and, in a preferred embodiment, into abutting engagement with inner planar surface 45 of the drinking cap 42. It will therefore be seen that the lock washer 40 serves a dual purpose in that it both prevents a withdrawal of the drinking tube 28 from the filling cap and also serves as a stop means to limit the outward axial movement of the drinking tube.

As is clearly shown in Figure 3, the axial outward movement of the drinking tube 28, together with its flange 30, serves to axially compress, and hence radially distend, the resilient stopper 34. This radial distention of the stopper 34 results in its outer periphery being pressed tightly against the inner periphery 18 of the mouth of the canteen, and also serves to force the inner periphery of the stopper against the exterior surface of the drinking tube 28. It therefore follows that selective rotation of the drinking cap 42, relative to the drinking tube, will result in a tight sealing action and will serve to prevent both leakage of the contents from the canteen and the contamination of the liquid confined therein.

It is, of course, within the contemplation of this invention that a removable lock washer may be replaced by a fixed, or integral collar, or other abutment surface, and that the fixed flange may be replaced by some removable flange. These and other modifications which will be readily understood by those skilled in the art, are fully within the contemplation of this invention.

Having described only a typical preferred form and application of my invention, I do not wish to be limited or restricted to specific details herein set forth but wish to reserve to myself any variations or modifications that may appear to those skilled in the art and falling within the scope of the following claims.

I claim:

1. A canteen comprising: an exteriorly threaded mouth; a filling cap threadedly engaged with said mouth to form a liquid-tight connection therewith, said filling cap having a central aperture therein; a drinking tube extending through the aperture in said filling cap; a resilient annular sealing means circumscribing and engaged with said tube on the inner side of said filling cap; a tube cap threadedly engaged with said tube on the outer side of said filling cap and having a portion bearing against said filling cap, the engagement of said filling cap with said mouth being independent of the engagement of the tube cap with said tube, whereby relative rotation of said tube cap and said tube will axially shift said tube relative to said filling cap and radially distend said sealing means into sealing engagement with the interior of said mouth and with said tube.

2. A canteen comprising: an exteriorly threaded mouth;

a filling cap engaged with the exterior surface of said mouth to form a liquid-tight connection therewith, said filling cap having a central aperture therein; a drinking tube extending through the aperture in said filling cap; a resilient annular sealing means circumscribing and engaged with said tube on the inner side of said filling cap; a tube cap threadedly engaged with the exterior surface of a free end of the tube; the engagement of said filling cap with said mouth being independent of the engagement of the tube cap with said tube; said tube cap having a depending peripheral portion bearing against the outer surface of said filling cap, whereby threading said tube cap on said tube will draw said tube axially of said filling cap and whereby said tube will axially compress and radially distend said sealing means into sealing engagement with said tube and with the inner surface of said mouth.

3. The canteen defined in claim 2 and further comprising a radially extending abutment means on the exterior surface of said drinking tube, said abutment means being axially located intermediate the outer side of said filling cap and the threaded end of said tube.

4. A canteen comprising: an exteriorly threaded circular mouth; a filling cap engaged with the exterior surface of said mouth to form a liquid-tight connection therewith, said filling cap having a central aperture therein; a drinking tube extending through the aperture in said filling cap and having the free end on the outer side of said filling cap exteriorly threaded; a resilient annular sealing means circumscribing and engaged with said tube on the inner side of said filling cap; a tube cap having a threaded counterbore for a threaded engagement with the threaded end of the drinking tube; the engagement of said filling cap with said mouth being independent of the engagement of the tube cap with said tube; said tube cap having a depending peripheral portion for bearing against the outer surface of said filling cap; a radially extending abutment means on the exterior surface of said drinking tube, said abutment means being axially located intermediate the outer side of the filling cap and the threaded end of the tube; said abutment means having a maximum overall diametric dimension less than the interior diameter of said depending peripheral portion, whereby threading said tube cap on said tube will draw the tube axially of the filling cap until said abutment means engages said filling cap and whereby the axial movement of said tube will axially compress and radially distend the said sealing means into sealing engagement with said tube and with the inner surface of said mouth.

5. The canteen defined in claim 4, in which said resilient annular sealing means has a relaxed configuration of a frusto-cone; the interior of said mouth portion having a convex radial section and being dimensioned to slidably receive said sealing means when said sealing means is in its relaxed form.

6. The canteen defined in claim 5 and further comprising a flange formed on the free end of the drinking tube inside of said filling cap, and a means on said flange engaging said sealing means.

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