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## LIQUID DISPENSERS

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3 Claims. (Cl. 215—12)

The present invention relates to liquid dispensers and in particular to a structural arrangement for preventing the breakage of such liquid dispensers.

In the past liquid dispensers, such as liquid glass dispensers, have been glued to the casing in which it is housed in order to prevent the breaking of the liquid dispenser when subjected to sudden impacts or the like. The primary purpose of gluing the dispenser to the casing is to prevent the former from moving within the latter. It is apparent that with such arrangements casings must be manufactured with extremely small tolerances to permit the effective gluing of the dispenser to the casing. The manufacture of a casing with extremely small tolerances renders the cost of the product prohibitive.

Other known arrangements involve the effective clamping of the dispenser in a casing between the top and bottom body portions of the casing. Such arrangements result in the placing of undue stress on the glass dispenser and eventually results in the breaking thereof and the loss of whatever liquid may have been stored in the dispenser.

With a view to overcoming the above set forth disadvantages, it is an object of the present invention to provide a container for fluids which is simple to manufacture.

It is yet another object of the present invention to provide a container for fluids and the like which does not require close manufacturing tolerances.

An additional object of the present invention is to provide a container for liquids which is not susceptible to breakage.

Yet another object of the present invention is to provide a container for liquids and the like which may be economically manufactured.

With the above objects in view the present invention mainly consists of a container for liquids and the like, comprising, an outer elongated tubular member, an inner elongated tubular member located within the outer elongated tubular member and being spaced at all points therefrom, the inner tubular member having a top open end adapted to be closed and opened for closing and opening the container, one of the tubular members having a bottom end portion provided in its side surface with a projection extending toward a side surface of the other of the members, and a layer of flexible material located between the members and being pressed by the projection against the side surface of the other of the members so as to frictionally clamp the members to each other while providing a certain degree of movement of the members with respect to each other.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description

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of specific embodiments when read in connection with the accompanying drawings, in which:

Fig. 1 is a side elevation of the individual parts making up the container in accordance with the invention;

Fig. 2 is a view similar to Fig. 1 with the individual parts thereof assembled, the closing cap having been omitted in this view; and

Fig. 3 is a vertical section through line 2—2 of Fig. 2 in the direction of the arrows.

Referring to Fig. 1 a glass dispenser 5 for storing a liquid, as for example perfume, is shown in the form of an inner elongated tubular member. The glass dispenser 5 has a top open end portion 6 having external threads and is adapted to be closed and opened by an internally threaded cap 11. The dispenser 5 has a bottom closed end portion 7 having a side surface formed with corrugations, or indentations. The number of corrugations, or indentations is not critical, the arrangement in accordance with the invention being operative with but a single indentation. An outer elongated tubular member 8, preferably of metal but not restricted thereto, serves to enclose the dispenser 5 along a substantial length thereof and to protect the same from external impacts. The outer tubular member 8 has a bottom end portion provided with an inwardly extending projecting portion 9. A flexible cap 10, which may be of plastic or rubber material, is formed with a recess large enough to slidably engage the bottom end portion 7 of the dispenser 5 and to enclose the corrugations or indentations formed in the bottom end portion 7.

Fig. 2 is a vertical view of the assembled individual parts making up the container for liquids, in accordance with the invention, the threaded cap 11 having been omitted in this figure. Fig. 3 is a vertical section of Fig. 2 and shows more clearly how the individual parts are assembled. The flexible cap 10 is first slipped onto the closed bottom end portion 7 of the dispenser 5 so that the flexible cap 10 completely encloses the indentations formed in the bottom end portion 7. The dispenser 5 and flexible cap 10 are then inserted through the open bottom end of the elongated tubular member 8 and pushed in forward direction until the flanged surface 12 of the flexible cap 10 touches the bottom edge of the elongated tubular member 8. In this position the inwardly extending projecting portion 9 in the bottom end portion of the tubular member 8 engages the outer surface of the flexible cap 10 and presses a part of its surface into one of the indentations provided in the bottom end portion 7 of the dispenser 5 to effectively lock the dispenser 5 with the elongated tubular member 8 in such manner that the dispenser 5 is maintained out of contact at all points thereof with the tubular member 8 while allowing at the same time a certain degree of movement between the dispenser 5 and the elongated tubular member 8. The container 13 made up of the dispenser 5, the elongated tubular member 8 and the flexible cap 10, in its assembled form, has the top open end portion of the dispenser projecting beyond the top of the outer elongated tubular member 8 to afford easy access to the liquid stored in the dispenser 5.

With the arrangement set forth above it is apparent that close manufacturing tolerances are completely avoided while at the same time permitting an arrangement of a dispenser and an elongated tubular member which is rugged and which may be cheaply manufactured.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of containers differing from the types described above.

While the invention has been illustrated and described as embodied in perfume dispensers, it is not intended to be limited to the details shown, since various modi-



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fications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A covered container for liquids or the like, comprising, in combination, a tubular cover open at both ends, the inner surface of said cover having an inwardly projecting portion near the lower end thereof; a cup-shaped resilient bottom member consisting of a disc-shaped resilient bottom wall and a resilient annular side wall and having an outer diameter substantially equal to the inner diameter of said tubular cover and a length being substantially smaller than the length of said cover, said cup-shaped bottom member arranged in said tubular cover at one end thereof so as to close said tubular cover with said disc-shaped resilient bottom wall and serving as a resilient bottom wall for said cover, said resilient annular side wall meshing with said inwardly projecting portion; an elongated container having an opening at the top and a closed bottom end, the outer surface of said container having at least one annular indentation near the lower end thereof, said container further having a smaller diameter than said cover and arranged within the same spaced from the walls thereof and closely fitting into said cup-shaped bottom member resiliently supported by the same at its closed bottom end, said inwardly projecting portion compressing part of said resilient annular side wall into said annular indentation; and closing means for closing said open end of said container.

2. A covered container for liquids or the like, consisting of a tubular cover open at both ends; a flanged cup-shaped bottom member consisting of a disc-shaped resilient bottom wall and a resilient annular side wall and having an outer diameter substantially equal to the inner diameter of said tubular cover and a length substantially smaller than the length of said cover, said cup-shaped bottom member arranged with said resilient annular side wall thereof in said tubular member at one end thereof with said end of said cover in abutment with the flange of said bottom member so as to

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close said tubular cover with said disc-shaped resilient bottom wall and serve as the only bottom wall for said cover; an elongated container having an opening at the top and a closed bottom end, said container having a smaller diameter than said cover and arranged within the same entirely spaced from the walls thereof and closely fitting only into and frictionally engaging said cup-shaped bottom member resiliently supported exclusively by the same at its closed bottom end by said disc-shaped resilient bottom wall and along the peripheral surface portions adjacent to said bottom end by said resilient annular side wall of said cup-shaped resilient bottom member; and closing means for closing said open end of said container.

3. A covered container for liquids or the like, consisting of a tubular cover open at both ends, the inner surface of said cover having an inwardly projecting portion; a flanged cup-shaped bottom member consisting of a disc-shaped resilient bottom wall and a resilient annular side wall and having an outer diameter substantially equal to the inner diameter of said tubular cover and a length substantially smaller than the length of said cover, said cup-shaped resilient bottom member arranged in said tubular cover at one end thereof with said end of said cover in abutment with the flange of said bottom member so as to close said tubular cover with said disc-shaped resilient bottom wall to serve as the only bottom wall for said cover, the resilient annular side wall of said bottom member meshing with said inwardly projecting portion; an elongated container having an opening at the top and a closed bottom end, said container having a smaller diameter than said cover and arranged within the same entirely spaced from the walls thereof and closely fitting only into and frictionally engaging said cup-shaped bottom member resiliently supported exclusively by the same at its closed bottom end by said disc-shaped resilient bottom wall and along the peripheral surface portions adjacent to said bottom end by said resilient annular side wall of said cup-shaped resilient bottom member; and closing means for closing said open end of said container.

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