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[31] **139,825**

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[54] **DOUBLE-WALLED CONTAINER**
2 Claims, 3 Drawing Figs.

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220/17, 222/105
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[50] Field of Search..... **215/11,**
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ABSTRACT: A double-walled container comprises an outer casing of relatively rigid plastic material formed with an up-standing cylindrical collar from which the upper edge of a concave-bottomed inner cup, which is folded on itself through 180°, is suspended straddlewise. The inner cup is of relatively flexible plastic material and the outer surface of the folded edge and the inner surface of a closure member being formed with companion threads for sealing the assembly. The up-standing collar is formed on its outer surface with a shallow projection for engagement by the registering inner surface of said folded edge of the inner cup.

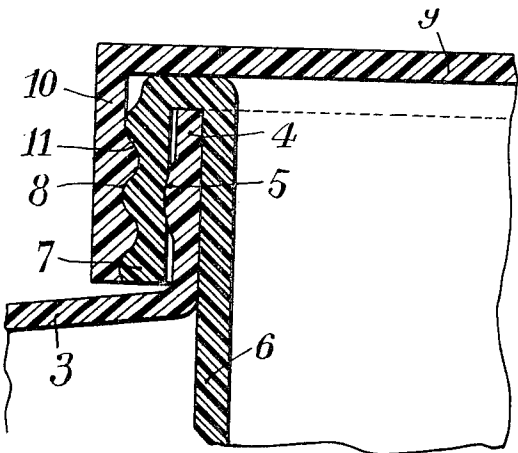


Fig. 1

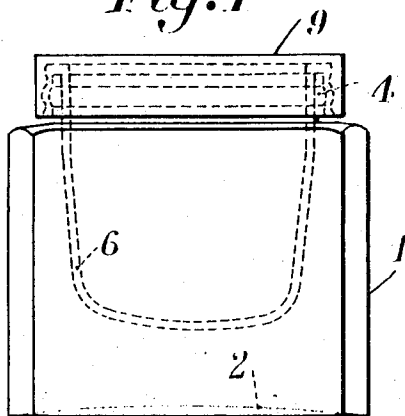


Fig. 2

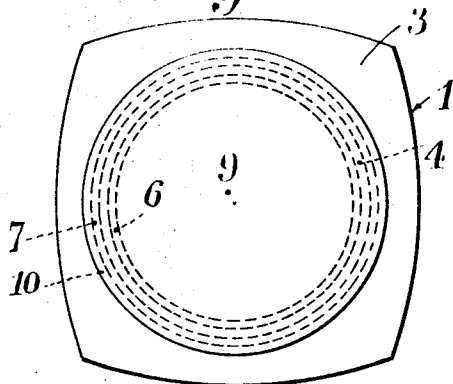
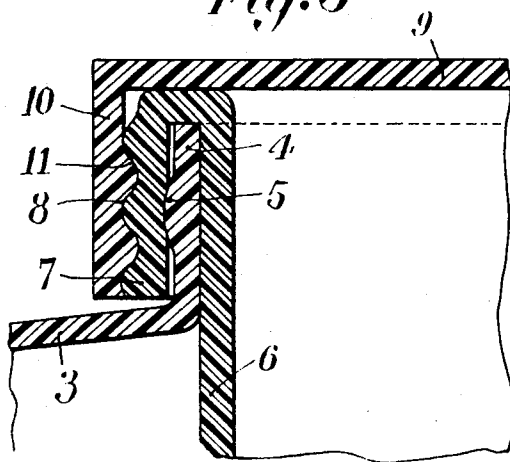


Fig. 3



DOUBLE-WALLED CONTAINER

BACKGROUND OF THE INVENTION

Double-walled containers are currently used for various products, notably ointments and liniments. As a rule, these containers comprise a cylindrical outer casing in which a cup or pan constituting the container proper is fitted, this cup or the like being secured to the outer casing by gluing and provided at its top, on its outer surface, with screw threads permitting the closing of the inner cup by means of a cover or cap having an internally threaded skirt; these three components are made in general of rigid plastic material, more particularly polystyrene; a gasket is usually inserted between the upper edge of the inner cup and the bottom of the cover or cap.

Moreover, in hitherto known double-walled containers of this general type the outer casing comprises as a rule on the inner surface of its bottom a crown to which a concentric inner or outer ring is attached by gluing, this ring being provided to this end under the bottom of the inner cup.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a double-walled container of the type set forth hereinabove wherein the bottom of the outer casing and inner cup are completely independent of each other and the inner cup is suspended from the outer casing, whereby the inner cup and outer casing are connected without resorting to any gluing operation; to this end, according to a specific form of embodiment of the present invention, the outer casing comprises at its upper portion a circular collar and the circular edge of the inner cup is folded outwardly through 180° so that it can straddle said collar and be suspended therefrom. With this arrangement the respective shapes or dimensions of the outer casing and inner cup can be different to a considerably greater extent than heretofore while avoiding the use of a gasket for obtaining the desired fluidtightness. Thus, notably, the outer casing may have any desired configuration, for example a circular or square-shaped cross-sectional configuration, while preserving for the inner cup the usual and convenient shape of containers for ointments and liniments, i.e., cylindrical with a concave bottom.

Moreover, according to the present invention it was found that a stronger assembly and a higher degree of fluidtightness could be achieved between the outer casing and the inner cup by making these two elements from different plastic materials; thus, very satisfactory results have been obtained by using for the outer casing a material having a greater rigidity than the material used for the inner cup.

More particularly, a rigid, expanded plastic material such as polystyrene or polyvinyl resin may be used for making the outer casing, and a flexible or semirigid injected plastic material such as polyethylene may be used for making the inner cup; thus, the required seal between the edge of the inner cup and the bottom of the cover or cap can be obtained without resorting to any intermediate gasket.

In order to improve the assembling between the outer casing and the inner cup and, if desired, to avoid any possibility of relative rotation between these members, the inner or outer surface of the collar portion of said outer casing, or the outer surface of the upper portion of the inner cup, externally of its folded edge, or on the inner surface of this edge, or alternately a plurality of these surfaces, may be formed with projections,

bosses, beadings, splines, ribs, knurled impressions, grooves, conjugated studs or the like, or any other means capable of ensuring a perfect anchoring of the inner cup to the outer casing, possibly of the force-fitting type; the outer surface of the folded edge of the inner cup is formed with screw threads adapted to engage companion inner threads formed on the cap or cover.

BRIEF DESCRIPTION OF THE DRAWING

The attached drawing illustrates diagrammatically by way of example a typical form of embodiment of the present invention wherein:

FIG. 1 is an elevation view thereof;

FIG. 2 is a plan view from above and;

FIG. 3 is a fragmentary radial section showing details on a larger section.

DESCRIPTION OF THE PREFERRED EMBODIMENT

An outer casing made of relatively rigid and possibly expanded plastic comprises a lateral wall 1 of any desired and suitable configuration, for example square-sectioned with slightly rounded corners, a bottom 2 and an upper portion 3 connecting the lateral wall 1 to a circular collar 4 having shallow beads or like projections 5 formed on its outer surface.

An inner cup 6 made, for example, of injection polyethylene consists of a surface of revolution and has a concave bottom; its upper portion comprises a folded edge 7 whose outer surface is formed with screw threads 8 so that the cup 6 can on the one hand be secured by suspension on the collar 4 of outer casing 1 and, on the other hand, be closed by screwing a cover or cap 9 having a skirt 10 formed with corresponding inner threads 11.

Of course, the specific form of embodiment of the invention which is illustrated by way of example in the attached drawing and described hereinabove should not be construed as limiting the scope of the invention since many modifications may be brought thereto without departing from the basic principles of the invention as set forth in the appended claims; thus, notably, a circular groove may be formed in the upper portion 3 of the outer casing which connects its lateral wall to its circular collar for receiving the folded edge 7 of the inner cup and thus prevent any distortion of this folded edge.

What I claim is:

1. A double wall container comprising an external vessel with a cylindrical neck, an independent inner cup with a cylindrical bent outwards on itself 180° and straddling the neck of the external vessel in tight-fitting relation therewith on both the inner and outer surfaces thereof, the bent neck of the inner cup having an outer surface with screw threads thereon, and a cap with a peripheral skirt having internal screw threads threaded on the screw threads on the bent neck, said vessel and cap being constituted of relatively rigid plastic material and said inner cup being constituted of relatively flexible plastic material to provide a fluidtight joint between the cup and vessel, said neck of the vessel having an outer surface facing an inner surface of the outwardly bent neck and including an annular projection thereon engaged with said outwardly bent neck to anchor the same together.

2. A container as claimed in claim 1 wherein said vessel and cap are polystyrene and the inner cup is polyethylene.

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