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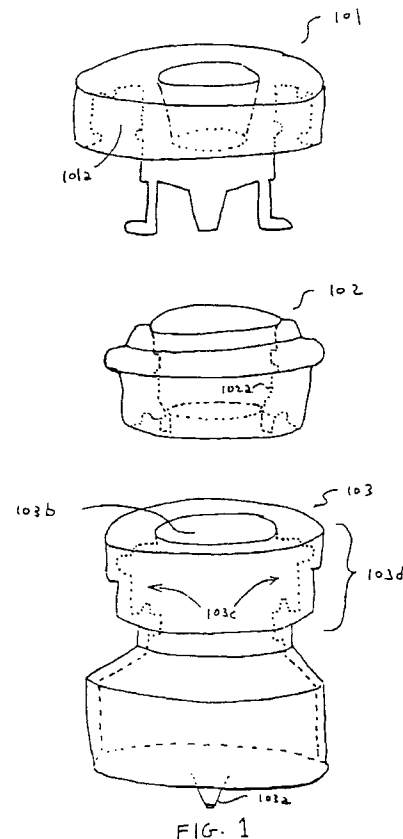
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(54) System and method for mechanical closure of container openings

(57) A mechanical lid or a plug (101) interacts with an opening (1036) of a pouch or a container (103), as well as with a rigid ring (102) placed inside the container (103) opening to provide a tight seal of the opening (1036). The mechanical plug (101) compresses both the outside of the opening (1036) and the inner face of the ring (102) placed inside the container opening (1036). The radial edge of the inner face of the mechanical plug (101) has an arch-shaped annular recess (101a) extending around the plug (101) such that the radial edge of the plug (101) is adapted to hug the perimeter of the container opening (1036). In addition, attached to the inner face of the mechanical plug (101) are two or more legs (1011) which extend perpendicular to the inner face of the mechanical plug (101) and engage the bottom of the rigid ring/radial groove combination. The outside surface of the neck region of the container opening (1036) and the interior surface of the annular recess of the mechanical plug (101) each has one or more protrusions (1013,1014,1015) which force the container material displaced by compression to be confined within a defined area, thereby ensuring the tightness of the seal for a prolonged period of time. The lower surface of the mechanical plug (101) is sloped downward in the direction of the centre, to which a plunger (1017) is attached for insertion into the liquid content of the container before the mechanical plug (101) is snapped into the container opening (1036), thereby substantially eliminating the residual air bubbles which may otherwise remain trapped between the surface of the liquid and the lower surface of the mechanical plug (101), which allows

airless filling of the container without the need for a vacuum condition.



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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 1238

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The present search report has been drawn up for all claims			
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BERLIN	19 February 1999	Olsson, B	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons	
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