

Title (en)

System and method for mechanical closure of container openings

Title (de)

System und Verfahren zum mechanischen verschliessen von Behälteröffnungen

Title (fr)

Système et méthode de fermeture mécanique pour orifices de récipient

Publication

**EP 0863086 A3 19990414 (EN)**

Application

**EP 98301238 A 19980219**

Priority

US 80871697 A 19970228

Abstract (en)

[origin: EP0863086A2] 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. <IMAGE>

IPC 1-7

**B65D 41/18**

IPC 8 full level

**B65D 41/28** (2006.01); **B65D 41/18** (2006.01); **B65D 53/02** (2006.01)

CPC (source: EP KR)

**B65D 41/023** (2013.01 - KR); **B65D 41/18** (2013.01 - EP); **B65D 51/18** (2013.01 - KR); **B65D 53/02** (2013.01 - KR)

Citation (search report)

- [A] EP 0537920 A2 19930421 - UNILEVER PLC [GB], et al
- [A] DE 603165 C 19340924 - ADOLF SCHWIEGER
- [A] FR 1089047 A 19550314 - FRANCO SUISSE D EMBOUTISSAGE
- [A] CH 424512 A 19661115 - BUEHLER JOSEF [CH]

Cited by

EP1237607A4

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

**EP 0863086 A2 19980909**; **EP 0863086 A3 19990414**; AU 5639398 A 19980903; CA 2229944 A1 19980828; JP H10273155 A 19981013; KR 19980071816 A 19981026

DOCDB simple family (application)

**EP 98301238 A 19980219**; AU 5639398 A 19980227; CA 2229944 A 19980219; JP 4924098 A 19980302; KR 19980006439 A 19980227