

Title (en)

Dispensing device for a composition having a concentration gradient

Title (de)

Abgabeeinrichtung einer Zusammensetzung mit Konzentrationsgradienten

Title (fr)

Dispositif de distribution d'une composition à gradient de concentration

Publication

EP 1092642 B2 20090506 (FR)

Application

EP 00402570 A 20000918

Priority

- FR 9912708 A 19991012
- FR 9913024 A 19991019

Abstract (en)

[origin: EP1092642A1] Container (1) has a first chamber (11) for a product to be dispensed e.g. via a manually-operated pump (5), and a second chamber (12) holding a substance which maintains a pressure on the product to ensure that a constant volume of the product is dispensed. The second chamber is connected to the first via a siphon (30) which allows through a portion of the compression substance each time the dispenser is used.

IPC 8 full level

A45D 34/02 (2006.01); **B65D 47/20** (2006.01); **B01F 3/08** (2006.01); **B05B 11/00** (2006.01); **B65D 47/34** (2006.01); **B65D 81/32** (2006.01); **B65D 83/76** (2006.01)

CPC (source: EP US)

B01F 23/45 (2022.01 - EP US); **B05B 11/0037** (2013.01 - EP US); **B05B 11/0078** (2013.01 - EP US); **B05B 11/1081** (2023.01 - EP US)

Citation (opposition)

Opponent :

- US 4893729 A 19900116 - IGGULDEN JERRY R [US], et al & 1980, WALTER DE GRUYTER, BERLIN,NEW YORK, ISBN: 3110078066, article TERRANCE G. COOPER: "Biochemische Arbeitsmethoden", pages: 140 - 143
- US 5009342 A 19910423 - LAWRENCE RONALD L [US], et al & "Gentechnische Methoden", 1991, GUSTAV FISCHER VERLAG, STUTTGART,JENA,NEW YORK, ISBN: 3437204742, article S. BERTRAM, H.G. GASSEN: "Eine Sammlung von Arbeitsanleitungen für das molekularbiologische Labor", pages: 53 - 54
- US 5848732 A 19981215 - BRUGGER GERHARD [DE]
- DE 29512627 U
- DE 4432517 A1 19960215 - LINEA CONCEPTION SOFTWARE GMBH [DE]
- DE 69323727 T2 19990722 - HENLOPEN MFG CO INC [US]
- US 4088246 A 19780509 - KLINGAMAN RICHARD JAMES

Cited by

EP2246122A3; WO2017137799A1

Designated contracting state (EPC)

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

DOCDB simple family (publication)

EP 1092642 A1 20010418; **EP 1092642 B1 20030521**; **EP 1092642 B2 20090506**; AR 023274 A1 20020904; AT E240880 T1 20030615; BR 0004860 A 20010529; BR 0004860 B1 20100921; CA 2323132 A1 20010412; CA 2323132 C 20050308; CN 1131824 C 20031224; CN 1297839 A 20010606; DE 60002813 D1 20030626; DE 60002813 T2 20040408; DE 60002813 T3 20091203; ES 2199127 T3 20040216; ES 2199127 T5 20091005; FR 2799444 A1 20010413; FR 2799444 B1 20011214; JP 2001139077 A 20010522; JP 3416106 B2 20030616; MX PA00009772 A 20021216; US 2002113081 A1 20020822; US 6450366 B1 20020917; US 6736169 B2 20040518

DOCDB simple family (application)

EP 00402570 A 20000918; AR P000105324 A 20001010; AT 00402570 T 20000918; BR 0004860 A 20001009; CA 2323132 A 20001005; CN 00133164 A 20001011; DE 60002813 T 20000918; ES 00402570 T 20000918; FR 9913024 A 19991019; JP 2000312700 A 20001012; MX PA00009772 A 20001005; US 13108402 A 20020425; US 68687400 A 20001012