

Title (en)
Dispenser with perforating needle for materials to be mixed during dispensing

Title (de)
Spender mit Perforationsnadel für beim Austragen zu mischende Medien

Title (fr)
Distributeur avec aiguille perforante pour matériaux à mélanger pendant la distribution

Publication
EP 1297898 B1 20040526 (DE)

Application
EP 02027186 A 19981022

Priority
• DE 19749513 A 19971108
• DE 19749514 A 19971108
• DE 19837127 A 19980817
• EP 98952735 A 19981022

Abstract (en)
[origin: US6626379B1] In order to enable application of a dry i.e. powdery or granulated active substance, said substance is kept apart from a liquid supply in a dispenser. The powder is discharged with the help of said liquid during application. The liquid serves as a carrier for the active substance and is mixed with the liquid to varying degrees prior to discharge. The dispenser (11) has a liquid chamber (21) in an ampoule (19) which is provided with a closure stopper (26) which can be pierced. The liquid flow which is released upon actuation penetrates into a medium storage chamber (43), is mixed with the medium (51) therein and exits via an opened discharge outlet (44) in the form of a spray mist, jet or drop.

IPC 1-7
B05B 11/00

IPC 8 full level
A61M 11/00 (2006.01); **B05B 11/00** (2006.01); **B05B 11/02** (2006.01); **B05B 7/24** (2006.01)

CPC (source: EP US)
B05B 11/0078 (2013.01 - EP US); **B05B 11/02** (2013.01 - EP US); **B05B 7/2405** (2013.01 - EP US)

Cited by
FR2970955A1; US11206872B2

Designated contracting state (EPC)
BE CH DE DK ES FI FR GB IT LI NL SE

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US 6626379 B1 20030930; AU 1031699 A 19990531; AU 2047599 A 19990531; CA 2307160 A1 19990520; CA 2307160 C 20090505; DE 19749514 A1 19990512; DE 19837127 A1 19990512; DE 59804744 D1 20020814; DE 59807579 D1 20030424; DE 59811482 D1 20040701; DK 1027165 T3 20030721; DK 1297898 T3 20041004; EP 1027165 A2 20000816; EP 1027165 B1 20030319; EP 1027166 A1 20000816; EP 1027166 B1 20020710; EP 1297898 A2 20030402; EP 1297898 A3 20030409; EP 1297898 B1 20040526; ES 2194360 T3 20031116; ES 2222430 T3 20050201; JP 2001522717 A 20011120; JP 2006081917 A 20060330; JP 4411374 B2 20100210; JP 4789089 B2 20111005; WO 9924170 A1 19990520; WO 9924171 A2 19990520; WO 9924171 A3 19990715

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US 55403100 A 20000508; AU 1031699 A 19981022; AU 2047599 A 19981022; CA 2307160 A 19981022; DE 19749514 A 19971108; DE 19837127 A 19980817; DE 59804744 T 19981022; DE 59807579 T 19981022; DE 59811482 T 19981022; DK 02027186 T 19981022; DK 98952735 T 19981022; EP 02027186 A 19981022; EP 9806711 W 19981022; EP 9806712 W 19981022; EP 98952735 A 19981022; EP 98965137 A 19981022; ES 02027186 T 19981022; ES 98952735 T 19981022; JP 2000520242 A 19981022; JP 2005302445 A 20051018