

Title (en)

Fluid dispenser and method for producing a dispenser or the like

Title (de)

Austragvorrichtung für Medien und Verfahren zur Herstellung einer Austragvorrichtung od.dgl.

Title (fr)

Distributeur de fluides et procédé de fabrication d'un distributeur ou équivalent

Publication

EP 0790079 A3 19980429 (DE)

Application

EP 97102026 A 19970208

Priority

DE 19605153 A 19960213

Abstract (en)

[origin: US5992704A] A spiral spring (30) for a discharge device (1) is made of a plastic material with polygonal cross sections (50), and is made integral with at least one dimensionally rigid connecting body (45, 46), such that the spring (30) may also be integrated with further functional parts of the discharge device (1), thereby reducing a number of components in a discharge pump to as few as two components. The components can be produced in integral form in an injection mold before being translated into a working position with respect to each other prior to final removal from the mold.

IPC 1-7

B05B 11/00

IPC 8 full level

B05B 11/00 (2006.01); **B29C 45/00** (2006.01); **B29D 99/00** (2010.01); **B05B 1/34** (2006.01); **B29L 31/00** (2006.01)

CPC (source: EP KR US)

B05B 11/0005 (2013.01 - EP US); **B05B 11/0064** (2013.01 - EP US); **B05B 11/1001** (2023.01 - EP US); **B05B 11/1023** (2023.01 - EP US); **B05B 11/1026** (2023.01 - EP US); **B05B 11/1067** (2023.01 - EP US); **B05B 11/1074** (2023.01 - EP US); **B05B 11/1077** (2023.01 - EP US); **B05C 5/0225** (2013.01 - KR); **B05B 1/3431** (2013.01 - EP US)

Citation (search report)

- [X] DE 29504817 U1 19951109 - PIEPENSTOCK FRIEDHELM [DE], et al
- [X] EP 0691161 A1 19960110 - SAR SPA [IT]
- [X] US 4762475 A 19880809 - FUCHS KARL-HEINZ [DE]
- [X] DE 3512649 A1 19861016 - SCHUCKMANN ALFRED VON
- [X] EP 0073918 A1 19830316 - FINKE ROBERT KG [DE]
- [X] DE 4411031 A1 19950126 - MECKENSTOCK FRITZ GMBH [DE]
- [X] EP 0529254 A1 19930303 - COSTER TECNOLOGIE SPECIALI SPA [IT]
- [X] US 4593607 A 19860610 - BENNETT ROBERT A [US]
- [X] US 4191313 A 19800304 - BLAKE WILLIAM S [US], et al
- [X] US 5341965 A 19940830 - MAAS WILHELMUS J J [NL], et al
- [X] DE 2632320 A1 19770217 - SPATZ CORP
- [X] EP 0390922 A1 19901010 - TERUMO CORP [JP]

Cited by

EP1016464A1; US6830163B2; FR2787731A1; AU755236B2; EP0945185A3; EP0945185A2; US6367711B1; EP1162001A1; FR2809713A1; US6622931B2

Designated contracting state (EPC)

AT CH DE ES FR GB IE IT LI SE

DOCDB simple family (publication)

US 5992704 A 19991130; AT E286434 T1 20050115; AU 1236397 A 19970821; AU 711137 B2 19991007; BR 9700941 A 19980901; DE 19605153 A1 19970814; DE 59712152 D1 20050210; EP 0790079 A2 19970820; EP 0790079 A3 19980429; EP 0790079 B1 20050105; ES 2236762 T3 20050716; JP H09225360 A 19970902; KR 970061374 A 19970912

DOCDB simple family (application)

US 79498397 A 19970205; AT 97102026 T 19970208; AU 1236397 A 19970129; BR 9700941 A 19970212; DE 19605153 A 19960213; DE 59712152 T 19970208; EP 97102026 A 19970208; ES 97102026 T 19970208; JP 4143197 A 19970212; KR 19970004105 A 19970212