

Title (en)

A WETTING-RESISTANT NOZZLE FOR DISPENSING SMALL VOLUMES OF LIQUID AND A METHOD FOR MANUFACTURING A WETTING-RESISTANT NOZZLE

Title (de)

BENETZUNGSBESTÄNDIGE DÜSE ZUM AUSTRAGEN KLEINER VOLUMEN FLÜSSIGKEIT UND EIN VERFAHREN ZUR HERSTELLUNG EINER SOLCHEN DÜSE

Title (fr)

PROCEDE ET APPAREIL POUR DISTRIBUER DE PETITS VOLUMES DE LIQUIDE, NOTAMMENT AU MOYEN D'UNE BUSE RESISTANTE AU MOUILLAGE

Publication

**EP 1370365 A2 20031217 (EN)**

Application

**EP 01989987 A 20011113**

Priority

- US 0147041 W 20011113
- US 24717600 P 20001110
- US 28478301 P 20010418
- US 28802501 P 20010501

Abstract (en)

[origin: WO0238280A2] A wetting-resistant nozzle for accurately and precisely dispensing small volumes of liquids. The nozzle comprises an internal flowpath, and an external surface that recedes from the discharge point at an angle greater than 90 degrees, and an exceptionally low surface energy for the external surface. The low surface energy material may exist as a coating on top of a shaped substrate. A flat land region may be included and may have sharp edges, one of which may define the boundary of the low surface energy region. Another embodiment includes the low surface energy material as a bulk material through which a hole is drilled. The internal flowpath inside the nozzle may be smoothly tapered. Liquid being dispensed tends not to advance past the edge of the low surface energy region, which may coincide with a geometrically sharp edge. Such nozzles provide improved dispensing of liquids that have both low surface tension and low viscosity, such as organic solvents.

IPC 1-7

**B05B 1/00**

IPC 8 full level

**B01L 3/02** (2006.01); **B05B 1/00** (2006.01); **B05C 5/02** (2006.01); **B05C 13/02** (2006.01); **B41J 2/14** (2006.01); **B05B 13/02** (2006.01)

CPC (source: EP US)

**B01L 3/0241** (2013.01 - EP US); **B05B 1/00** (2013.01 - EP US); **B05C 5/0212** (2013.01 - EP US); **B05C 13/025** (2013.01 - EP US); **B41J 2/14** (2013.01 - EP US); **B01L 2300/166** (2013.01 - EP US); **B05B 13/0228** (2013.01 - EP US)

Citation (search report)

See references of WO 0238280A2

Designated contracting state (EPC)

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

DOCDB simple family (publication)

**WO 0238280 A2 20020516**; **WO 0238280 A3 20031009**; AU 2886402 A 20020521; EP 1370365 A2 20031217; US 2002084290 A1 20020704

DOCDB simple family (application)

**US 0147041 W 20011113**; AU 2886402 A 20011113; EP 01989987 A 20011113; US 1210201 A 20011113