

Title (en)

Piezoelectric spraying system and corresponding refill

Title (de)

Piezoelektrisches Sprühsystem und entsprechende Ersatzpatrone

Title (fr)

Système de pulvérisation piézoélectrique et recharge correspondante

Publication

EP 1935505 A1 20080625 (FR)

Application

EP 07123600 A 20071219

Priority

FR 0655746 A 20061220

Abstract (en)

The piezoelectric system for pulverizing viscous liquids e.g. perfumes, comprises a casing (2) defining a housing to receive removable refills, electric motors placed in the casing, and a control circuit for operating the motors and a pulverization device (3). The removable refill comprises a tank with a pulverizer product, a part of piezoelectric pulverization device, a product supplying system with a pump, and a product supply chamber. The pulverization device comprises a vibration membrane drifted by the refill, and a piezoelectric element to carry out the vibration of the membrane. The piezoelectric system for pulverizing viscous liquids e.g. perfumes, comprises a casing (2) defining a housing to receive removable refills, electric motors placed in the casing, and a control circuit for operating the motors and a pulverization device (3). The removable refill comprises a tank with a pulverizer product, a part of piezoelectric pulverization device, a product supplying system with a pump, and a product supply chamber. The pulverization device comprises a vibration membrane drifted by the refill, and a piezoelectric element to carry out the vibration of the membrane. The piezoelectric element is drifted by the casing and removable refill. The pump comprises two organs rotating in contact with each other. The product supplying system is activated by the electric motor. The tank comprises a flexible sac. The casing comprises a base part of the electric motor, a removable hood (5) having an opening through which the product is pulverized, and a push button in an upper part to actuate the pulverization cycle. The control circuit is arranged to provide the duration of the pulverization and to deliver an information about the emptying of the tank to the user. An independent claim is included for a refill for the pulverization system.

Abstract (fr)

La présente invention concerne un système de pulvérisation piézoélectrique, comportant : - un boîtier définissant au moins un logement pour recevoir au moins une recharge amovible (10), cette dernière comportant : - au moins un réservoir (20) contenant un produit à pulvériser, - une partie au moins d'un dispositif de pulvérisation piézoélectrique (3), - au moins un système d'alimentation en produit du dispositif de pulvérisation piézoélectrique, le système de pulvérisation piézoélectrique comportant en outre : - un moteur électrique logé dans le boîtier afin d'actionner le système d'alimentation en produit de la recharge, et - un circuit de contrôle du fonctionnement du moteur et du dispositif de pulvérisation piézoélectrique.

IPC 8 full level

B05B 17/06 (2006.01)

CPC (source: EP US)

B05B 17/0607 (2013.01 - EP US); **B05B 17/0676** (2013.01 - EP US)

Citation (applicant)

US 5970974 A 19991026 - VAN DER LINDEN KLAUS [DE], et al

Citation (search report)

- [X] US 5970974 A 19991026 - VAN DER LINDEN KLAUS [DE], et al
- [DXA] WO 2005075095 A1 20050818 - MATSUSHITA ELECTRIC WORKS LTD [JP], et al
- [AD] WO 9116997 A1 19911114 - SIEMENS AG [DE]
- [A] US 4702418 A 19871027 - CARTER ROBERT E [US], et al
- [A] US 2006062408 A1 20060323 - CHO WOO-JONG [KR], et al

Cited by

FR2929862A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1935505 A1 20080625; **EP 1935505 B1 20130424**; ES 2421928 T3 20130906; FR 2910254 A1 20080627; FR 2910254 B1 20090417; JP 2008155207 A 20080710; US 2008277495 A1 20081113; US 2011114750 A1 20110519

DOCDB simple family (application)

EP 07123600 A 20071219; ES 07123600 T 20071219; FR 0655746 A 20061220; JP 2007328189 A 20071220; US 201113010965 A 20110121; US 407307 A 20071220