

Title (en)

Manually operated pump sprayer with liquid-tight venting means

Title (de)

Handbetätigte Sprühhvorrichtung mit Flüssigkeitsdichter Belüftung

Title (fr)

Pulvérisateur manuel avec un évent étanche aux liquides

Publication

EP 0867229 A1 19980930 (EN)

Application

EP 97830153 A 19970328

Priority

EP 97830153 A 19970328

Abstract (en)

Manually-operated pump for spraying liquids comprising a trigger (13), a piston (17), which is actuated by the said trigger in opposition to a reaction spring (35) and can move axially inside a first cylindrical chamber (2) where the compression takes place of the liquid (24) sucked up from a container (23) that can be gripped in one hand, a suction tube (18, 22), one end of which dips into the container (23) and the other end (28) of which is connected to the said first cylindrical chamber (2), a dispensing tube (10) that communicates, on the one hand, with the said first cylindrical chamber (2) and, on the other hand, with an atomizer member (11), first valve means (4, 15, 16, 55) located between the said dispensing tube (10) and the said first chamber (2), second valve means (27) located between the suction tube (18) and the said first cylindrical chamber (2), and a standard element (8, 9) for mounting the pump on to the said container (23) and supporting the said first cylindrical chamber (2) and the said dispensing tube (10). The pump includes a second cylindrical chamber (31), an extension (30) of the said piston (17) that extends axially outside the said first cylindrical chamber (2) and that engages in a sliding manner inside the said second chamber (31). The bottom wall (40) of the said second chamber (31), which faces the said container (23) with the liquid, has a hole (41) through which the said suction tube (18, 21) passes in a sliding manner, the edge of the said hole (41) engaging with the external surface (42) of the said tube (21) and forming a seal with this surface, which seal is liquid-tight but not tight with regard to the air pressurized inside the said second cylindrical chamber (31) by the extension (30) of the said piston. The above-described structure makes it possible for the container and the spray pump to be used even in the upturned position, and for the container for the liquid to be made of plastic with thin walls without the container caving in as a result of an internal drop in pressure. <IMAGE>

IPC 1-7

B05B 11/00

IPC 8 full level

B05B 11/00 (2006.01)

CPC (source: EP)

B05B 11/0044 (2018.07); **B05B 11/0059** (2013.01); **B05B 11/1004** (2023.01); **B05B 11/1011** (2023.01); **B05B 11/1016** (2023.01)

Citation (search report)

- [AD] US 4161288 A 19790717 - MCKINNEY JAMES C [US]
- [A] EP 0391292 A1 19901010 - HODEK JIRI [DE]
- [A] FR 2075992 A1 19711015 - DIAMOND INT CORP
- [A] WO 9103321 A1 19910321 - MEGAPLAST DOSIERSYSTEME [DE]
- [A] FR 2593243 A1 19870724 - AEROSOL INVENTIONS DEV [CH]
- [A] GB 2141186 A 19841212 - CORSETTE DOUGLAS FRANK

Cited by

CN112244584A; CN112461375A; CN112004755A; EP2233213A4; US11389813B2

Designated contracting state (EPC)

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

DOCDB simple family (publication)

EP 0867229 A1 19980930

DOCDB simple family (application)

EP 97830153 A 19970328