

Title (en)  
Convertible spray nozzle.

Title (de)  
Umbaubare Sprühdüse.

Title (fr)  
Buse transformable pour la pulvérisation.

Publication  
**EP 0271316 A2 19880615 (EN)**

Application  
**EP 87310777 A 19871208**

Priority  
US 94029086 A 19861211

Abstract (en)  
A spray nozzle in which a nozzle body is formed with an elongated chamber (56) having an air inlet port (62) communicating with the side of the chamber, a liquid inlet port (16) communicating with one end of the chamber, and a nozzle tip (20) communicating with the opposite end of the chamber. The spray nozzle may be operated in a hydraulic or non-air assisted mode and with a relatively high flow rate by closing off the air inlet port and causing liquid to stream directly from the liquid inlet port to the nozzle tip. The nozzle also may be converted to an air assisted mode in which a stream of pressurized air is injected into the air inlet port and impinges transversely against the liquid stream to preliminarily break up or preatomize the liquid before the liquid is discharged from the nozzle tip. The conversion is effected by placing into the nozzle body (11) an insert (40) for reducing the flow rate of the liquid stream and for causing the air and liquid streams to interact to effect preatomization of the liquid.

IPC 1-7  
**B05B 7/04**

IPC 8 full level  
**A01M 7/00** (2006.01); **B05B 1/12** (2006.01); **B05B 1/26** (2006.01); **B05B 7/04** (2006.01); **B05B 7/12** (2006.01); **B05B 7/26** (2006.01); **B05B 9/01** (2006.01); **B05B 1/28** (2006.01)

CPC (source: EP KR)  
**B05B 1/12** (2013.01 - KR); **B05B 1/267** (2013.01 - EP); **B05B 7/0483** (2013.01 - EP); **B05B 7/1254** (2013.01 - EP); **B05B 1/28** (2013.01 - EP); **B05B 1/3006** (2013.01 - EP)

Cited by  
EP0497255A3; EP1020571A3; EP0329449A1; CN107088484A; CN100355502C; EP3068545A4; US7584908B2; US9925508B2

Designated contracting state (EPC)  
DE FR GB IT NL SE

DOCDB simple family (publication)  
**EP 0271316 A2 19880615; EP 0271316 A3 19900110; EP 0271316 B1 19920902**; AU 610098 B2 19910516; AU 8207187 A 19880616; BR 8706761 A 19880719; CA 1291781 C 19911105; DE 3781529 D1 19921008; DE 3781529 T2 19930204; DK 169611 B1 19941227; DK 648987 A 19880612; DK 648987 D0 19871210; JP 2802496 B2 19980924; JP S63185469 A 19880801; KR 880007134 A 19880826; KR 950000003 B1 19950107; MX 164218 B 19920727

DOCDB simple family (application)  
**EP 87310777 A 19871208**; AU 8207187 A 19871203; BR 8706761 A 19871211; CA 553854 A 19871209; DE 3781529 T 19871208; DK 648987 A 19871210; JP 31393787 A 19871211; KR 870014174 A 19871211; MX 970187 A 19871210