

Title (en)
Nozzle, vessel and spray forming.

Title (de)
Düse, Pfanne und Spritzverfahren.

Title (fr)
Buse, poche et procédé de pulvérisation.

Publication
EP 0485073 A1 19920513 (EN)

Application
EP 91309274 A 19911009

Priority
US 60087590 A 19901022

Abstract (en)
An improved nozzle which allows molten metals to be sprayed at low metal flow rates. This is useful for the Plasma Arc Melting process which used a hearth to prevent ceramic inclusions in the end product. The new nozzle design avoids metal freeze-off at the nozzle tip because a bore insert is positioned into a standard nozzle. The bore insert is a conduction heater, e.g., it is fabricated from boron nitride or the like. In use, molten metal is in contact with the insert so it maintains the insert at about the temperature of the molten metal; this then maintains the nozzle tip at a higher temperature than that of a standard nozzle. Freeze-off in the nozzle is non-occurring as long a molten metal is in the crucible. <IMAGE>

IPC 1-7
B22D 41/50; **C23C 4/12**; **F27D 3/15**

IPC 8 full level
B22D 23/00 (2006.01); **B22D 41/50** (2006.01); **B22D 41/52** (2006.01); **B22D 41/54** (2006.01); **B22F 3/115** (2006.01); **B22F 9/08** (2006.01); **C23C 4/00** (2016.01); **F27D 3/15** (2006.01)

CPC (source: EP)
B22D 41/50 (2013.01); **B22F 9/08** (2013.01); **C23C 4/123** (2016.01); **F27D 3/1518** (2013.01); **B22F 2009/0892** (2013.01); **B22F 2998/00** (2013.01); **B22F 2999/00** (2013.01)

C-Set (source: EP)
1. **B22F 2998/00** + **B22F 3/115**
2. **B22F 2999/00** + **B22F 2202/13**

Citation (search report)
• [YD] US 3909921 A 19751007 - BROOKS REGINALD GWYN
• [A] BE 659509 A 19650528
• [A] GB 861147 A 19610215 - SKF SVENSKA KULLAGERFAB AB
• [Y] PATENT ABSTRACTS OF JAPAN vol. 6, no. 39 (M-116)(917) 10 March 1982 & JP-A-56 154 269 (KAWASAKI SEITETSU K. K.) 28 November 1981

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CN101966565A; EP0911098A3

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0485073 A1 19920513; CA 2048836 A1 19920423; JP H04288956 A 19921014

DOCDB simple family (application)
EP 91309274 A 19911009; CA 2048836 A 19910808; JP 28203391 A 19911003