

Title (en)
SUBMERGED ENTRY NOZZLE WITH DYNAMIC STABILIZATION

Title (de)
DÜSE MIT UNTERGETAUCHTEM EINLASS UND DYNAMISCHER STABILISIERUNG

Title (fr)
BUSE A ENTREE IMMERGEE A STABILISATION DYNAMIQUE

Publication
EP 1603697 B1 20060816 (EN)

Application
EP 04718823 A 20040309

Priority
• US 2004007184 W 20040309
• US 45515503 P 20030317

Abstract (en)
[origin: WO2004082871A1] The present invention relates to a pour tube for casting molten metal. The pour tube is adapted to reduce turbulence and mold disturbances, thereby producing a more stable, uniform outflow. The pour tube includes an exit port with at least one tongue to provide at least two slots on either side of the tongue. The slots generate counter-rotating flows, which result in a more diffusive and more homogeneous outflow. Advantageously, such an outflow can reduce detrimental asymmetry and alumina clogging in the pour tube.

IPC 8 full level
B22D 41/50 (2006.01); **B22D 11/00** (2006.01)

CPC (source: EP KR US)
B22D 11/103 (2013.01 - KR); **B22D 11/16** (2013.01 - KR); **B22D 37/00** (2013.01 - KR); **B22D 41/50** (2013.01 - EP KR US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2004082871 A1 20040930; AT E336319 T1 20060915; AU 2004221863 A1 20040930; AU 2004221863 B2 20090409; BR PI0408340 A 20060321; CA 2519050 A1 20040930; CN 100346909 C 20071107; CN 1761543 A 20060419; DE 602004001980 D1 20060928; DE 602004001980 T2 20070201; EP 1603697 A1 20051214; EP 1603697 B1 20060816; ES 2267057 T3 20070301; JP 2006520694 A 20060914; KR 20050113230 A 20051201; MX PA05009852 A 20051206; RU 2005130062 A 20060210; RU 2331496 C2 20080820; UA 85179 C2 20090112; US 2006169728 A1 20060803; ZA 200507285 B 20061227

DOCDB simple family (application)
US 2004007184 W 20040309; AT 04718823 T 20040309; AU 2004221863 A 20040309; BR PI0408340 A 20040309; CA 2519050 A 20040309; CN 200480007093 A 20040309; DE 602004001980 T 20040309; EP 04718823 A 20040309; ES 04718823 T 20040309; JP 2006507001 A 20040309; KR 20057017348 A 20050915; MX PA05009852 A 20040309; RU 2005130062 A 20040309; UA 2005008787 A 20040309; US 54916505 A 20050914; ZA 200507285 A 20040309