

Title (en)
MOLTEN METAL PUMP AND FURNACE FOR USE THEREWITH

Title (de)
PUMPE FÜR SCHMELZFLÜSSIGES METALL UND DIESE VERWENDENDER OFEN

Title (fr)
POMPE A METAL EN FUSION ET FOUR A CET EFFET

Publication
EP 1423546 A1 20040602 (EN)

Application
EP 02798146 A 20020905

Priority
• US 0228390 W 20020905
• US 94842301 A 20010907

Abstract (en)
[origin: EP1512764A1] A metal-melting furnace comprises a main chamber (26), a circulation chamber (28) in operative communication with the main chamber and a well block (38) disposed within the circulation chamber (28). A vortex well (84) is formed within the well block and is adapted to hold a maximum quantity of molten metal therein. The vortex well has an exit outlet (96) for recovering molten metal therefrom. A containment means (108) is emplaced over the vortex well (84). A gas bubble actuated molten metal pump (48) is contained within an end block (36) which engages the well block (38) and has an entry port in operative communication with the circulation chamber (28) and an exit port (64) in operative communication with the vortex well (84). The exit port is tangentially arranged with respect to the periphery of the vortex well. <IMAGE>

IPC 1-7
C22B 9/16; **C22B 7/00**; **F27D 3/00**

IPC 8 full level
C22B 7/00 (2006.01); **C22B 9/16** (2006.01); **C22B 21/00** (2006.01); **F27B 3/04** (2006.01); **F27B 3/19** (2006.01); **F27D 3/00** (2006.01); **F27D 3/08** (2006.01); **F27D 3/14** (2006.01); **F27D 27/00** (2010.01); **F27D 3/16** (2006.01)

CPC (source: EP US)
C22B 7/003 (2013.01 - EP US); **C22B 9/16** (2013.01 - EP US); **C22B 21/0092** (2013.01 - EP US); **F27B 3/045** (2013.01 - EP US); **F27B 3/19** (2013.01 - EP US); **F27D 3/0025** (2013.01 - EP US); **F27D 3/0033** (2013.01 - EP US); **F27D 3/08** (2013.01 - EP US); **F27D 3/14** (2013.01 - EP US); **F27D 27/00** (2013.01 - EP US); **F27D 3/0026** (2013.01 - EP US); **F27D 3/16** (2013.01 - EP US); **F27D 27/005** (2013.01 - EP US); **F27D 2003/0054** (2013.01 - EP US); **F27D 2027/002** (2013.01 - EP US); **Y02P 10/20** (2015.11 - EP US)

Cited by
US9445361B2

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

DOCDB simple family (publication)
WO 03023078 A1 20030320; AT E389735 T1 20080415; AU 2002332887 A2 20030324; BR 0205975 A 20030930; CA 2459889 A1 20030320; DE 60225724 D1 20080430; DE 60225724 T2 20090423; EP 1423546 A1 20040602; EP 1423546 A4 20041027; EP 1512764 A1 20050309; EP 1512764 B1 20080319; ES 2303623 T3 20080816; US 2003047850 A1 20030313

DOCDB simple family (application)
US 0228390 W 20020905; AT 04027642 T 20020905; AU 2002332887 A 20020905; BR 0205975 A 20020905; CA 2459889 A 20020905; DE 60225724 T 20020905; EP 02798146 A 20020905; EP 04027642 A 20020905; ES 04027642 T 20020905; US 94842301 A 20010907