

Title (en)

METHOD AND APPARATUS FOR PRODUCING DIRECTIONALLY SOLIDIFIED CASTINGS

Title (de)

VERFAHREN UND VORRICHTUNG ZUM HERSTELLEN GERICHTET ERSTARRTER GUSS-STÜCKE

Title (fr)

PROCEDE ET APPAREIL PERMETTANT DE PRODUIRE DES MOULAGES A SOLIDIFICATION ORIENTEE

Publication

EP 0968065 A1 20000105 (EN)

Application

EP 98946047 A 19980914

Priority

- RU 97115515 A 19970912
- US 9819021 W 19980914

Abstract (en)

[origin: WO9912679A1] The present invention relates to an apparatus for metal casting and can be used in producing castings with directional and single crystal structure. The apparatus comprises a vacuum chamber (12) inside which there is disposed an induction melting furnace (15), a mold preheating furnace (9) with a ceramic mold (1), and a water-cooled tank (6) being shaped as a truncated cone having a bottom portion (16) and an upper portion (17) which is opened towards a heating zone (10). The heating zone (10) and the cooling zone (13) are separated by a baffle (5) articulating in a horizontal plane and consisting of segments or sectors. The apparatus allows the production of high quality castings having the directional and single crystal structure including the large sized castings by both the method of radiation cooling and the method of liquid metal cooling. Said invention gives the possibility to use successively the disclosed apparatus as a mold catch basin in the event of mold breakage and to increase the reliability and economic profitability of the apparatus' performance.

IPC 1-7

B22D 27/04

IPC 8 full level

B22D 27/04 (2006.01)

CPC (source: EP)

B22D 27/045 (2013.01)

Citation (search report)

See references of WO 9912679A1

Cited by

CN103394674A; CN106180589A; US8752611B2; US9597728B2

Designated contracting state (EPC)

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

DOCDB simple family (publication)

WO 9912679 A1 19990318; AT E283746 T1 20041215; DE 69827932 D1 20050105; EP 0968065 A1 20000105; EP 0968065 B1 20041201; RU 2117550 C1 19980820

DOCDB simple family (application)

US 9819021 W 19980914; AT 98946047 T 19980914; DE 69827932 T 19980914; EP 98946047 A 19980914; RU 97115515 A 19970912