Title (en)
METHOD FOR OPERATING A VACUUM MELT ASSEMBLY AND VACUUM MELT ASSEMBLY OPERATED ACCORDING TO THIS METHOD

Title (de)
VERFAHREN ZUM BETREIBEN EINER VAKUUMSCHMELZANLAGE UND NACH DIESEM VERFAHREN BETRIEBENE VAKUUMSCHMELZANLAGE

Title (fr)
PROCÉDÉ D'ACTIONNEMENT D'UNE INSTALLATION DE FUSION SOUS VIDE ET INSTALLATION DE FUSION SOUS VIDE ACTIONNÉE PAR CE PROCÉDÉ

Publication
EP 2823071 A1 20150114 (DE)

Application
EP 13714572 A 20130321

Priority
- EP 12163717 A 20120411
- EP 2013055955 W 20130321
- EP 13714572 A 20130321

Abstract (en)
[origin: EP2650387A1] The method involves detecting the acoustic signals generated in a ladle (6) which receives molten steel, by structure-borne noise detectors (30-1-30-4) which are directly or indirectly acoustically coupled to the ladle. The acoustic signals are used to determine the height (H) or thickness (d) of the foamed slag (18) found in the ladle over a molten bath (14) of the molten steel. The time derivative of the height and the thickness of the foamed slag, is determined for controlling the supply of process gas (P1,P2) in the ladle. An independent claim is included for a vacuum melting system.

IPC 8 full level
C21C 7/10 (2006.01)

CPC (source: EP RU US)
C21C 5/4673 (2013.01 - EP US); **C21C 7/076** (2013.01 - US); **C21C 7/10** (2013.01 - EP US); **F27D 19/00** (2013.01 - US); **F27D 21/00** (2013.01 - EP US); C21C 7/10 (2013.01 - RU); C21C 2005/5288 (2013.01 - EP US); C21C 2300/02 (2013.01 - EP US); F27D 19/00 (2013.01 - RU); F27D 21/04 (2013.01 - RU); F27D 2019/0006 (2013.01 - EP US); F27D 2019/0028 (2013.01 - US); Y02P 10/20 (2015.11 - EP US)

Citation (search report)
See references of WO 2013152938A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2650387 A1 20131016; CN 104245966 A 20141224; CN 104245966 B 20160316; CN 104245967 A 20141224; CN 104245967 B 20160601; EP 2823070 A1 20150114; EP 2823070 B1 20170607; EP 2823071 A1 20150114; KR 20140145591 A 20141223; KR 20140145592 A 20141223; PL 2823070 T3 20171130; RU 2014145206 A 20160610; RU 2014145229 A 20160527; RU 2630111 C2 20170905; US 2015091223 A1 20150402; US 2015108698 A1 20150423; WO 2013152936 A1 20131017; WO 2013152938 A1 20131017

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EP 12163717 A 20120411; CN 201380019373 A 20130321; CN 201380019428 A 20130321; EP 13713801 A 20130321; EP 13714572 A 20130321; EP 2013055949 W 20130321; EP 2013055955 W 20130321; KR 20147028515 A 20130321; KR 20147028518 A 20130321; PL 13713801 T 20130321; RU 2014145206 A 20130321; RU 2014145229 A 20130321; US 201314391361 A 20130321; US 201314391943 A 20130321