

Title (en)
METHOD FOR REGULATING THE LEVEL OF THE CONTACT LINE OF THE FREE METAL SURFACE WITH THE INGOT MOULD IN A CONTINUOUS VERTICAL CASTING.

Title (de)
VERFAHREN ZUM EINSTELLEN DER BERÜHRUNGSLINIE DER FREIEN METALLOBERFLÄCHE MIT DER GIESSFORM BEIM SENKRECHTSTRANGGIESSEN.

Title (fr)
PROCEDE DE REGLAGE DU NIVEAU DE LA LIGNE DE CONTACT DE LA SURFACE LIBRE DU METAL AVEC LA LINGOTIERE DANS UNE COULEE VERTICALE CONTINUE.

Publication
EP 0195793 A1 19861001 (FR)

Application
EP 85904639 A 19850918

Priority
FR 8414740 A 19840919

Abstract (en)
[origin: US4807694A] In a continuous vertical casting operation carried out in a mould 3, a coil 7 applies a periodic magnetic field of variable strength whose direction is substantially parallel to the axis of the mould 3 to the liquid 5 as it solidifies, in order to regulate the level of the line of contact of the free surface of the metal 5 with the mould 3. The height of the contact of the metal with the mould can be reduced from h1 to h2 by applying the magnetic field, and the strength of the field is adjusted in dependence on the desired level. The procedure is used in casting semifinished metallurgical products, in particular in aluminium and its alloys, in which there is a wish to obtain a cortical region of zero thickness, a fine grain without the preliminary addition of refining agents, and an absence of pitting.

Abstract (fr)
Procédé de réglage du niveau de la ligne de contact de la surface libre du métal avec la lingotière (3) dans une coulée verticale continue. L'invention consiste à appliquer au liquide en cours de solidification un champ magnétique périodique variable et de direction (9) sensiblement parallèle à l'axe de la lingotière (3) et à adapter l'intensité de ce champ en fonction du niveau souhaité. Elle trouve son application dans la coulée de semi-produits métallurgiques, notamment en aluminium et ses alliages tels que les alliages au lithium et dans lesquels on veut obtenir à la fois une zone corticale d'épaisseur nulle, un grain fin sans ajout préalable d'agents d'affinage et une absence de picots.

IPC 1-7
B22D 11/10

IPC 8 full level
B22D 11/04 (2006.01); **B22D 11/041** (2006.01); **B22D 11/049** (2006.01); **B22D 11/10** (2006.01); **B22D 11/115** (2006.01); **B22D 11/16** (2006.01); **B22D 11/18** (2006.01); **B22D 27/02** (2006.01)

CPC (source: EP KR US)
B22D 11/115 (2013.01 - EP US); **B22D 11/16** (2013.01 - EP US); **B22D 27/02** (2013.01 - KR)

Citation (search report)
See references of WO 8601756A1

Designated contracting state (EPC)
AT BE CH DE IT LI LU NL SE

DOCDB simple family (publication)
US 4807694 A 19890228; AT E30218 T1 19871015; AU 4860485 A 19860408; AU 572700 B2 19880512; BR 8506926 A 19861223; CA 1256669 A 19890704; DD 239546 A5 19861001; DE 3560766 D1 19871119; DK 227986 A 19860516; DK 227986 D0 19860516; EP 0195793 A1 19861001; EP 0195793 B1 19871014; ES 547082 A0 19860716; ES 8608963 A1 19860716; FI 862091 A0 19860519; FI 862091 A 19860519; FR 2570304 A1 19860321; FR 2570304 B1 19861114; GB 2164280 A 19860319; GB 2164280 B 19870923; GB 8522940 D0 19851023; GR 852251 B 19851212; IL 76406 A0 19860131; IS 1336 B6 19890113; IS 3042 A7 19860320; JP S61502108 A 19860925; JP S6339337 B2 19880804; KR 860002326 A 19860424; KR 900002038 B1 19900331; NO 165581 B 19901126; NO 165581 C 19910306; NO 861808 L 19860506; NZ 213486 A 19880429; PT 81155 A 19851001; PT 81155 B 19920529; SG 2388 G 19880617; SU 1473700 A3 19890415; UA 5582 A1 19941228; WO 8601756 A1 19860327

DOCDB simple family (application)
US 12435787 A 19871118; AT 85904639 T 19850918; AU 4860485 A 19850918; BR 8506926 A 19850918; CA 491022 A 19850918; DD 28075285 A 19850918; DE 3560766 T 19850918; DK 227986 A 19860516; EP 85904639 A 19850918; ES 547082 A 19850918; FI 862091 A 19860519; FR 8414740 A 19840919; FR 8500252 W 19850918; GB 8522940 A 19850917; GR 850102251 A 19850916; IL 7640685 A 19850918; IS 3042 A 19850917; JP 50409785 A 19850918; KR 850006809 A 19850918; NO 861808 A 19860506; NZ 21348685 A 19850916; PT 8115585 A 19850918; SG 2388 A 19880107; SU 4027490 A 19860516; UA 4027490 A 19850918