

Title (en)
DEVICE AND METHOD FOR CONTINUOUS REMOVAL OF IMPURITIES FROM MOLTEN METAL

Title (de)
VORRICHTUNG UND VERFAHREN ZUM KONTINUIERLICHEN ENTFERNEN VON VERUNREINIGUNGEN AUS GESCHMOLZENEM METALL

Title (fr)
DISPOSITIF ET PROCÉDÉ D'ÉLIMINATION CONTINUE D'IMPURETÉS DANS DU MÉTAL FONDU

Publication
EP 3711878 A4 20210512 (EN)

Application
EP 18878774 A 20180823

Priority
• JP 2017220376 A 20171115
• JP 2018031232 W 20180823

Abstract (en)
[origin: US2020261970A1] A device for continuously removing impurities from molten metal includes a molten metal flow path body, an inlet-side closed end plate and an outlet-side closed end plate are provided in the molten metal flow path body so as to form an impurity removal space, an electrode device composed of an inlet-side electrode and an outlet-side electrode that face each other in a longitudinal direction of the molten metal flow path body, a magnetic field device composed of a pair of permanent magnets that face each other in a width direction, sandwich the impurity removal space, and an urging device composed of the electrode device and the magnetic field device applies a Lorentz force downward to molten metal in the impurity removal space so as to increase a density of the molten metal and cause impurities in the molten metal to rise up to a surface of the molten metal.

IPC 8 full level
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CPC (source: EP US)
B22D 1/00 (2013.01 - EP); **B22D 11/045** (2013.01 - US); **B22D 11/103** (2013.01 - EP); **B22D 11/115** (2013.01 - EP US); **B22D 11/118** (2013.01 - EP); **B22D 11/119** (2013.01 - US); **B22D 27/02** (2013.01 - US); **B22D 41/00** (2013.01 - EP); **B22D 41/04** (2013.01 - EP); **B22D 41/56** (2013.01 - US); **F27D 3/1545** (2013.01 - EP); **F27D 3/159** (2013.01 - EP); **F27D 11/12** (2013.01 - EP); **F27D 25/00** (2013.01 - EP); **F27D 2003/0039** (2013.01 - EP)

Citation (search report)
• [X] EP 3097994 A1 20161130 - TAKAHASHI KENZO [JP]
• [X] JP 4772407 B2 20110914
• [X] EP 2650063 A1 20131016 - TAKAHASHI KENZO [JP]
• [X] JP H02122011 A 19900509 - DAIDO STEEL CO LTD
• [X] CN 107119192 A 20170901 - UNIV SHANGHAI
• See references of WO 2019097799A1

Designated contracting state (EPC)
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US 2020261970 A1 20200820; AU 2018368019 A1 20200604; CA 3081826 A1 20190523; EP 3711878 A1 20200923; EP 3711878 A4 20210512; JP 2019089112 A 20190613; JP 6526769 B1 20190605; WO 2019097799 A1 20190523

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