

Title (en)  
CONTINUOUS CASTING METHOD AND CONTINUOUS CASTING DEVICE

Title (de)  
STRANGGIESSVERFAHREN UND STRANGGIESSVORRICHTUNG

Title (fr)  
PROCÉDÉ DE COULÉE CONTINUE ET DISPOSITIF DE COULÉE CONTINUE

Publication  
**EP 3590628 A4 20200108 (EN)**

Application  
**EP 18760588 A 20180302**

Priority  
• JP 2017040658 A 20170303  
• JP 2017024528 W 20170704  
• JP 2018008066 W 20180302

Abstract (en)  
[origin: EP3590628A1] Capture of a foreign matter into a solidified shell is effectively suppressed. A continuous casting method is a method which is carried out with use of a continuous casting device, and includes: a discharging step of discharging molten steel through a discharge hole (41A); and a stirring step of stirring the molten steel so that a stirring region includes a whole line segment via which the discharge hole (41A) and a reached location (P) are connected to each other, the reached location (P) being a location on a surface (S) of the molten steel in a mold which location is reached by the molten steel in a case where the molten steel discharged in the discharging step proceeds straight.

IPC 8 full level  
**B22D 11/10** (2006.01); **B22D 11/114** (2006.01); **B22D 11/115** (2006.01); **B22D 41/50** (2006.01); **B22D 41/62** (2006.01)

CPC (source: EP KR US)  
**B22D 11/115** (2013.01 - EP KR US); **B22D 41/50** (2013.01 - EP); **B22D 41/62** (2013.01 - KR US)

Citation (search report)  
• [X] EP 2092998 A1 20090826 - NIPPON STEEL CORP [JP]  
• [X] JP 3817209 B2 20060906  
• [X] US 4042007 A 19770816 - ZAVARAS ALEXANDER A, et al  
• [X] JP 2007319923 A 20071213 - NIPPON STEEL CORP  
• [A] EP 2038081 A1 20090325 - ABB AB [SE]  
• [A] JP 2016022493 A 20160208 - NIPPON STEEL & SUMITOMO METAL CORP  
• [A] JP 5791234 B2 20151007  
• [A] WO 2004050277 A1 20040617 - ABB AB [SE], et al  
• [A] EP 2151291 A1 20100210 - SUMITOMO METAL IND [JP]  
• [A] JP 2010029936 A 20100212 - JFE STEEL CORP  
• See references of WO 2018159821A1

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 3590628 A1 20200108**; **EP 3590628 A4 20200108**; **EP 3590628 B1 20220518**; CN 110382137 A 20191025; CN 110382137 B 20210910; ES 2920053 T3 20220801; JP 7044699 B2 20220330; JP WO2018159821 A1 20191226; KR 102265880 B1 20210615; KR 20190122799 A 20191030; MY 196682 A 20230430; TW 201834765 A 20181001; TW I679072 B 20191211; US 2020009650 A1 20200109; WO 2018159821 A1 20180907; ZA 201906308 B 20210526

DOCDB simple family (application)  
**EP 18760588 A 20180302**; CN 201880015434 A 20180302; ES 18760588 T 20180302; JP 2018008066 W 20180302; JP 2018513683 A 20180302; KR 20197028892 A 20180302; MY PI2019005021 A 20180302; TW 107107244 A 20180305; US 201816490251 A 20180302; ZA 201906308 A 20190925