

Title (en)
CASTING PIPE CHANGING DEVICE AT THE SPOUT OF A METALLURGICAL VESSEL

Title (de)
GIESSROHRWECHSELVORRICHTUNG AM AUSGUSS EINES METALLURGISCHEN BEHÄLTERS

Title (fr)
DISPOSITIF DE CHANGEMENT D'UNE Busette de coulée dans l'orifice de décharge d'un récipiënt métallurgique

Publication
EP 2448700 A1 20120509 (DE)

Application
EP 10730085 A 20100630

Priority

- EP 2010003855 W 20100630
- EP 09008614 A 20090701
- EP 10730085 A 20100630

Abstract (en)
[origin: EP2269751A1] The pouring nozzle comprises an elongated, tubular part (10), defining a lower part of a pouring channel (12) with a central longitudinal axis (L), a plate-like part (14), provided with a flow-through opening (16) between its surface (18) opposite the tubular part (10) and its section (20) adjacent said tubular part (10). As may be seen from figure (2) the flow-through opening (16) defines an upper part (12o) of the pouring channel (12). The peripheral area (22) between said surface (18) and said section (20) comprises four segments, namely two inclined bearing surfaces (24), opposite to each other, and two planar surface sections (26), arranged opposite and parallel to each other between said two distinct bearing surfaces (24). Each bearing surface (24) is curved with respect to the central longitudinal axis (L) of the pouring channel (12), as may be best seen from figure 3. The curvature is therefore concave with respect to the central longitudinal axis (L) and in view of the opposite arrangement of the bearing surfaces (24) the said bearing surfaces are arranged inversely to each other.

IPC 8 full level
B22D 41/56 (2006.01)

CPC (source: EP KR US)
B22D 41/56 (2013.01 - EP KR US)

Cited by
WO2021110259A1

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 SE SI SK SM TR

DOCDB simple family (publication)
EP 2269751 A1 20110105; EP 2269751 B1 20110525; AR 077271 A1 20110817; AT E510641 T1 20110615; AU 2010268453 A1 20111208; AU 2010268453 B2 20121129; BR PI1011182 A2 20161227; BR PI1011182 B1 20220510; BR PI1011243 A2 20161129; BR PI1011243 B1 20211026; CA 2762164 A1 20110106; CA 2762164 C 20131001; CN 102427899 A 20120425; CN 102427899 B 20140528; CN 102548687 A 20120704; CN 102548687 B 20131120; EP 2448700 A1 20120509; EP 2448700 B1 20141105; EP 2448700 B8 20141231; ES 2364737 T3 20110913; ES 2527821 T3 20150130; JP 2012531310 A 20121210; JP 5379301 B2 20131225; KR 101377870 B1 20140324; KR 101714808 B1 20170309; KR 20120027304 A 20120321; KR 20120040193 A 20120426; KR 20140011428 A 20140128; MX 2011013084 A 20120127; PL 2269751 T3 20110930; PL 2448700 T3 20150731; RS 20110549 A1 20120831; RS 53047 B 20140430; RU 2011146066 A 20130520; RU 2012103341 A 20130810; RU 2509624 C2 20140320; RU 2545853 C2 20150410; SA 110310547 B1 20140313; TW 201102191 A 20110116; TW I454326 B 20141001; UA 99086 C2 20120710; US 2012043354 A1 20120223; US 2012119486 A1 20120517; US 8887969 B2 20141118; US 9314841 B2 20160419; WO 2011000468 A1 20110106; WO 2011000517 A1 20110106; ZA 201109363 B 20120829; ZA 201109390 B 20130130

DOCDB simple family (application)
EP 09008614 A 20090701; AR P100102289 A 20100628; AT 09008614 T 20090701; AU 2010268453 A 20100611; BR PI1011182 A 20100630; BR PI1011243 A 20100611; CA 2762164 A 20100611; CN 201080022341 A 20100611; CN 201080030246 A 20100630; EP 10730085 A 20100630; EP 2010003520 W 20100611; EP 2010003855 W 20100630; ES 09008614 T 20090701; ES 10730085 T 20100630; JP 2012516548 A 20100611; KR 20117029141 A 20100611; KR 20127001264 A 20100630; KR 20147000672 A 20100611; MX 2011013084 A 20100611; PL 09008614 T 20090701; PL 10730085 T 20100630; RS P20110549 A 20100611; RU 2011146066 A 20100611; RU 2012103341 A 20100630; SA 110310547 A 20100628; TW 99120794 A 20100625; UA A201114761 A 20100611; US 201013266518 A 20100611; US 201013380635 A 20100630; ZA 201109363 A 20111220; ZA 201109390 A 20111220