

Title (en)
A SLIDE GATE FOR A MOLTEN-STEEL VESSEL

Title (de)
SCHIEBEVERSCHLUSS FÜR STAHLSCHELMELZEGEFÄSS

Title (fr)
PORTE COULISSANTE DESTINÉE À UN CONTENANT EN ACIER FONDU

Publication
EP 1944106 A4 20120711 (EN)

Application
EP 06805069 A 20061026

Priority
CN 2006002864 W 20061026

Abstract (en)
[origin: EP1944106A1] The present invention provides a ladle flow control system, which includes the base plate fixed on the ladle; A housing is fixed on this base plate, with the top of housing being connected with the driving mechanism of sliding nozzle; A carrier frame is set on this housing, and an elastic used for generating pressure is provided on the carrier frame; A slider is set on the carrier frame; notches are set on the corresponding surfaces of the housing and slider, and bottom plate and slide plate are respectively embedded in one notch, a rolling mechanism is set on said carrier frame, a guide mechanism is correspondingly set on the slider; the guide mechanism correspondingly set on the slider makes reciprocating motion relative to the rolling mechanism set on the carrier frame, so as to control the open or close of the ladle sliding nozzle. In the present invention, the rolling mechanism is symmetrically set on the carrier frame, and the guide mechanism is correspondingly set on the slider. In the relative motion between the slider and the carrier frame, the fluctuation of its pressure is obviously decreased, so that the overall stability of the system is improved. The elastic element is isolated with the high-temperature zone, which not only leads to relatively low working temperature but also to lasting pressure and long life or permanence.

IPC 8 full level
B22D 41/22 (2006.01); **B22D 41/34** (2006.01)

CPC (source: EP KR)
B22D 41/22 (2013.01 - KR); **B22D 41/24** (2013.01 - EP); **B22D 41/34** (2013.01 - EP KR)

Citation (search report)

- [X] EP 1029618 A1 20000823 - NIPPON KOKAN KK [JP], et al
- [X] DE 2736817 B1 19781109 - MARTIN & PAGENSTECHER GMBH, et al
- [Y] WO 2006027804 A1 20060316 - CO ME CA COSTRUZIONI MECCANICH [IT], et al
- [Y] WO 0006325 A2 20000210 - STOPINC AG [CH], et al
- [Y] S.P. ERON'KO: "Efficient slide-gate systems", METALLURGIST, vol. 47, no. 3-4, 2003, pages 158 - 162, XP002505144
- [A] KONONOV V A ET AL: "Modern slide valve systems for steel casting", REFRACTORIES AND INDUSTRIAL CERAMICS, KLUWER ACADEMIC PUBLISHERS-CONSULTANTS BUREAU, NE, vol. 47, no. 4, 1 July 2006 (2006-07-01), pages 201 - 203, XP019453819, ISSN: 1573-9139
- [A] L. REBOUILLAT, D. HARRIS: "New concept TN series slide gate system", 2005, UNITECR'05 - PROCEEDINGS OF THE UNIFIED INTERNATIONAL TECHNICAL CONFERENCE ON REFRACTORIES, XP009109029
- See references of WO 2008049278A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1944106 A1 20080716; EP 1944106 A4 20120711; EP 1944106 B1 20160907; CN 100522419 C 20090805; CN 101189087 A 20080528; JP 2010507483 A 20100311; JP 4995921 B2 20120808; KR 101242783 B1 20130312; KR 20090077871 A 20090716; WO 2008049278 A1 20080502

DOCDB simple family (application)
EP 06805069 A 20061026; CN 2006002864 W 20061026; CN 200680016909 A 20061026; JP 2009533640 A 20061026; KR 20087000489 A 20061026