

Title (en)

A SLIDE GATE FOR A MOLTEN-STEEL VESSEL AND ASSEMBLING METHOD THEREOF

Title (de)

SCHIEBEVERSCHLUSS FÜR STAHLSCHEMELZEGERÄß UND MONTAGEVERFAHREN DAFÜR

Title (fr)

PORTE COULISSANTE DESTINÉE À UN Récipient pour ACIER FONDU ET PROCÉDÉ D'ASSEMBLAGE ASSOCIÉ

Publication

**EP 2085165 A1 20090805 (EN)**

Application

**EP 06805070 A 20061026**

Priority

CN 2006002865 W 20061026

Abstract (en)

The present invention provides a ladle flow control system and its assembly method. This ladle flow control system includes ladle base plate; A housing is fixed on this base plate, with the top of housing being connected with the driving mechanism of ladle sliding nozzle; A carrier frame is set on this housing, and an elastic is provided on the carrier frame; A slider is also 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 the notch; mutually jointed rails are correspondingly set on the carrier frame and the slider, and the carrier frame and the slider make relative motion through the surface contact of the rails respectively set; A long groove is set on the housing, and a blocking part is set at one end of this long groove along the inner wall in the direction towards the carrier frame; On the carrier frame, a rolling mechanism is set corresponding to this long groove, and this rolling mechanism is embedded in the long groove; A guide rail is set on the inner side of blocking part. In the assembly process, the rolling mechanism on the carrier frame moves toward the long groove along the guide rail and is oriented at the blocking part. After the orientation, the elastic on carrier frame that is connected with the rolling mechanism is deformed under pressure and thus generates pre-tightening force, so as to orient the carrier frame on the housing. The driving mechanism can independently drive the slider to make reciprocating motion on the carrier frame, so as to control the open or close of ladle sliding nozzle. In the present invention, the rolling mechanism is set on the carrier frame, and the guide rail is correspondingly set on the slider. In the relative motion between the slider and the carrier frame, the fluctuation in the slide plate interface pressure is obviously decreased, so that the overall stability of the system is improved. The elastic is isolated with the high- temperature zone, which leads to low relative operating temperature, lasting pressure and long life or permanence; According to the assembly method of present invention, the hold-down force of elastic is generated by sliding the rail wheel on the carrier frame to the rail of housing part. After the generation of slide plate interface pressure, there is no fluctuation in the pressure with the movement of slider, so that the stability of pressure is obviously improved. Furthermore, the fixing mechanism for the bottom plate and slide plate is featured by reasonable structure, convenient and practical operation and high safety and reliability.

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); **B22D 41/38** (2013.01 - KR)

Cited by

WO2016037732A1

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 2085165 A1 20090805**; **EP 2085165 A4 20120711**; **EP 2085165 B1 20160601**; CN 101405100 A 20090408; CN 101405100 B 20100414; ES 2590353 T3 20161121; JP 2010507484 A 20100311; JP 5064509 B2 20121031; KR 101241490 B1 20130308; KR 20090089248 A 20090821; WO 2008049279 A1 20080502

DOCDB simple family (application)

**EP 06805070 A 20061026**; CN 2006002865 W 20061026; CN 200680016910 A 20061026; ES 06805070 T 20061026; JP 2009533641 A 20061026; KR 20087001073 A 20061026