

Title (en)  
DEVICE FOR CONTINUOUS CASTING IN VERTICAL CHARGE OF A MELTING METAL

Title (de)  
VERTIKAL-STRANGGIESSKOKILLE MIT AUFSATZ

Title (fr)  
DISPOSITIF POUR LA COULEE CONTINUE EN CHARGE VERTICALE D'UN METAL EN FUSION

Publication  
**EP 1051272 B1 20030625 (FR)**

Application  
**EP 99973265 A 19991116**

Priority  
• BE 9900148 W 19991116  
• BE 9800881 A 19981208

Abstract (en)  
[origin: WO0033991A1] The invention concerns a device for continuous casting in vertical charge of a melting metal in the form of slabs, using a copper ingot mould (1) extended by a preheater (2) made of refractory material, the preheater (2) being positioned above the ingot mould (1) such that the liquid steel level, or meniscus (S), is located during the continuous casting operation in said refractory material preheater (2) and not in the copper ingot mould (1) proper. Between the copper ingot mould (1) and the preheater (2) is arranged a joint element made of refractory material consisting of bars (3), (4), (5), (6), (7), (8). The bars are positioned such that their assembly defines a joint element with an internal shape similar to that of the ingot mould and whereof the inner surfaces are the extension of the ingot mould corresponding inner surfaces, with a choice of dimensions such that the ratio of a bar transverse cross-section, expressed in mm<sup>2</sup>, to the length of said bar, expressed in mm, is not less than 2.4 mm. Moreover, the bars are parallelepiped in shape and their cross-section has a height/length ratio ranging between 0.4 and 0.6. Each bar (4), (6) is supported against a rear stop (12), (13) serving to position it in perfect alignment, allowing for the mechanical assembly clearances, with the ingot mould surface whereof it constitutes the extension and prevent it from being pushed backwards by the slab, and each bar (4) is machined (R) to receive a maintaining clamping claw (9), the latter ensuring the double function of pressing the bar vertically so that it remains in contact with the ingot mould top edge during the oscillating motion of the latter, and to prevent the bar from moving away from the alignment with the ingot mould surface whereof it is an extension by moving towards the slab centre, in particular at the start of the operation of continuous casting in vertical charge.

IPC 1-7  
**B22D 11/04**

IPC 8 full level  
**B22D 11/041** (2006.01); **B22D 11/04** (2006.01); **B22D 11/059** (2006.01)

CPC (source: EP KR)  
**B22D 11/0401** (2013.01 - EP KR); **B22D 11/041** (2013.01 - KR); **B22D 11/053** (2013.01 - KR); **B22D 11/059** (2013.01 - KR)

Designated contracting state (EPC)  
BE DE FI SE

DOCDB simple family (publication)  
**WO 0033991 A1 20000615**; BE 1012325 A3 20000905; DE 69909052 D1 20030731; DE 69909052 T2 20040429; EP 1051272 A1 20001115; EP 1051272 B1 20030625; JP 2002531273 A 20020924; KR 20010040757 A 20010515

DOCDB simple family (application)  
**BE 9900148 W 19991116**; BE 9800881 A 19981208; DE 69909052 T 19991116; EP 99973265 A 19991116; JP 2000586472 A 19991116; KR 20007008645 A 20000808