

Title (en)

Method and apparatus for manufacturing thin metal products by continuous casting.

Title (de)

Verfahren und Vorrichtung zur Herstellung von dünnen Metallprodukten mittels Strangguss.

Title (fr)

Procédé et dispositif d'obtention de produits métalliques minces par coulée continue.

Publication

EP 0391822 A1 19901010 (FR)

Application

EP 90470007 A 19900316

Priority

FR 8904862 A 19890406

Abstract (en)

The invention relates to a method and an apparatus for obtaining thin metal products by continuous casting. The device comprises an ingot mould 2 and pinch rolls 6, 6' intended to cause, by reduction of the thickness of the said product, the closure of the solidification pool. The separation force F exerted on the pinch rolls by the product is measured, and to the core of the still molten product is applied, by means of inductors 8, 8' housed in the pinch rolls or upstream of the latter, a variable magnet field slaved by slaving means 9 to the said separation force so that the latter does not exceed, on a long- term basis, an upper limit value given in advance which represents the stress which can be tolerated momentarily by the pinch rolls without damage. <IMAGE>

IPC 1-7

B22D 11/12; **B22D 11/16**

IPC 8 full level

B22D 11/10 (2006.01); **B22D 11/115** (2006.01); **B22D 11/12** (2006.01); **B22D 11/16** (2006.01); **B22D 11/20** (2006.01)

CPC (source: EP KR US)

B22D 11/06 (2013.01 - KR); **B22D 11/1206** (2013.01 - EP US); **B22D 11/1213** (2013.01 - EP US); **B22D 11/122** (2013.01 - EP US); **B22D 11/16** (2013.01 - EP US)

Citation (search report)

- [A] DE 1583608 A1 19700820 - DEMAG AG
- [AD] LU 67753 A1 19731214
- [A] PATENT ABSTRACTS OF JAPAN, vol. 10, no. 105 (M-471)[2162], 19 avril 1986; & JP-A-60 238 001 (ISHIKAWAJIMA HARIMA JUKOGYO K.K.) 26-11-1985
- [A] PATENT ABSTRACTS OF JAPAN, vol. 9, no. 5 (C-260)[1728], 10 janvier 1985; & JP-A-59 159 934 (KAWASAKI SEITETSU K.K.) 10-09-1984
- [A] PATENT ABSTRACTS OF JAPAN, vol. 12, no. 142 (M-692)[2989], 30 avril 1988; & JP-A-62 263 854 (KAWASAKI STEEL CORP.) 16-11-1987

Designated contracting state (EPC)

AT BE CH DE DK ES GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0391822 A1 19901010; **EP 0391822 B1 19920902**; AT E80072 T1 19920915; CA 2013853 A1 19901006; CS 163790 A2 19911015; DD 293284 A5 19910829; DE 69000282 D1 19921008; DE 69000282 T2 19930211; DK 0391822 T3 19921221; ES 2035737 T3 19930416; FR 2645462 A1 19901012; FR 2645462 B1 19910531; GR 3006443 T3 19930621; HU 208267 B 19930928; HU 902045 D0 19900828; HU T57100 A 19911128; JP H02295659 A 19901206; KR 900015838 A 19901110; PL 284678 A1 19910826; RU 1795927 C 19930215; US 5027884 A 19910702

DOCDB simple family (application)

EP 90470007 A 19900316; AT 90470007 T 19900316; CA 2013853 A 19900404; CS 163790 A 19900403; DD 33948890 A 19900406; DE 69000282 T 19900316; DK 90470007 T 19900316; ES 90470007 T 19900316; FR 8904862 A 19890406; GR 920402807 T 19921202; HU 204590 A 19900402; JP 9196890 A 19900406; KR 900004728 A 19900406; PL 28467890 A 19900406; SU 4743487 A 19900404; US 50386490 A 19900403