

Title (en)

METHOD OF STRENGTHENING METAL MATERIAL AND APPARATUS THEREFOR

Publication

EP 0338682 A3 19910918 (EN)

Application

EP 89302878 A 19890322

Priority

JP 6726488 A 19880323

Abstract (en)

[origin: EP0338682A2] A method of strengthening a metal material of a cast product consisting of a unidirectionally solidified structure of crystals extending long in a direction of casting, and an apparatus for realizing this method. The cast product (12) is passed through a zigzag path formed by contact with circumferential surfaces of rotatable rolls (16, 18, 22, 26, 28, 31), so that repeatedly bending deformation is applied to the cast product to thereby harden the cast product. The repeatedly bending deformation grows dislocation in crystals of the cast product competitively, so that free movement in dislocation of crystals cannot be made any more. As a result of the growth competition of crystals, a strengthened metal material is obtained.

IPC 1-7

C21D 7/02; **C22F 1/00**

IPC 8 full level

C22F 1/04 (2006.01); **C21D 7/02** (2006.01); **C21D 8/00** (2006.01); **C22F 1/00** (2006.01)

CPC (source: EP)

C21D 7/02 (2013.01); **C22F 1/00** (2013.01)

Citation (search report)

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- [Y] PATENT ABSTRACTS OF JAPAN vol. 9, no. 142 (M-388)(1865), 18 June 1985; & JP - A - 6021163 (OO SHII SHII K.K.) 02.02.1985

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