Title (en)

METHOD AND DEVICE FOR THE STRETCH-BEND LEVELING OF A METAL STRIP

Title (de)

VERFAHREN UND VORRICHTUNG ZUM STRECKBIEGERICHTEN EINES METALLBANDES

Title (fr)

PROCÉDÉ ET DISPOSITIF DE DRESSAGE D'UNE BANDE MÉTALLIQUE PAR ÉTIRAGE ET FLEXION

Publication

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Application

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Abstract (en)

[origin: CA3040160A1] The invention relates to a method and to a device for the stretch-bend leveling of a metal strip (B), wherein the metal strip (B) is alternately bent around stretching rollers (1-5) under a tensile stress and the degree of stretching is thus increased, wherein one or more stretching rollers (1-5) are provided with a non-metal coating. The method and the device are characterized in that one or more stretching rollers are provided with a coating (8) of plastic.

IPC 8 full level

B21D 1/05 (2006.01)

CPC (source: EP RU US)

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Citation (opposition)

Opponent : ANDRITZ Metals Germany GmbH

- DE 3828159 A1 19900222 - BWG BERGWERK WALZWERK [DE]
- DE 69514010 T2 20000608 - KVAERNER METALS CLECIM COURBEV [FR]
- DE 19509067 A1 19960919 - BWG BERGWERK WALZWERK [DE]
- EP 2119514 A1 20091118 - BWG BERGWERK WALZWERK [DE]
- EP 2813299 A1 20141217 - BWG BERGWERK WALZWERK [DE]
- EP 1029819 A2 20000823 - SUMITOMO HEAVY INDUSTRIES [JP]
- EP 0393301 A2 19901024 - BWG BERGWERK WALZWERK [DE]
- DE 102004043150 A1 20060309 - BETR FORSCH INST ANGEW FORSCH [DE]
- EP 0276614 A1 19880803 - CLECIM SA [FR]
- JP S63199023 A 19880817 - FUJI PHOTO FILM CO LTD
- JP S63199024 A 19880817 - FUJI PHOTO FILM CO LTD
- DE 102009041852 A1 20110407 - BWG BERGWERK WALZWERK [DE]
- DE 4024794 A1 19920206 - SUNDWIGER EISEN MASCHINEN [DE]
- SU 517353 A1 19760615
- EP 0551658 A1 19930721 - SCHLOEMANN SIEMAG AG [DE]

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