

Title (en)

FLAT METAL, PRODUCTION DEVICE AND PRODUCTION METHOD

Title (de)

VORRICHTUNG UND VERFAHREN ZUR HERSTELLUNG VON FLACH-METALL

Title (fr)

METAL PLAT, DISPOSITIF ET PROCEDE DE PRODUCTION

Publication

EP 1368141 B1 20050309 (DE)

Application

EP 02779148 A 20021011

Priority

- DE 0203829 W 20021011
- DE 10150029 A 20011011

Abstract (en)

[origin: WO03033182A2] The invention relates to a device (1) for the production of flat metal. According to the invention, the device (1) comprises at least two rollers (2,3) extending in an essentially parallel manner and whose axes of rotation (4) are disposed on a plane (5) which extends in an approximately vertical manner with respect to the direction (7) of gravity.

IPC 1-7

B21B 13/02; B21B 45/00; B21B 1/22; B21B 1/40; B21C 47/04

IPC 8 full level

B21B 1/22 (2006.01); **B21B 1/40** (2006.01); **B21B 13/02** (2006.01); **B21B 39/02** (2006.01); **B21B 45/00** (2006.01); **B21C 47/02** (2006.01); **B21C 47/04** (2006.01); **C21D 7/00** (2006.01); **C21D 9/62** (2006.01); **B21B 15/00** (2006.01); **C21D 1/40** (2006.01)

CPC (source: EP US)

B21B 1/22 (2013.01 - EP US); **B21B 1/40** (2013.01 - EP US); **B21B 13/02** (2013.01 - EP US); **B21B 45/004** (2013.01 - EP US); **C21D 7/00** (2013.01 - EP US); **C21D 9/62** (2013.01 - EP US); **B21B 2015/0057** (2013.01 - EP US); **B21B 2201/18** (2013.01 - EP US); **C21D 1/40** (2013.01 - EP US)

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

WO 03033182 A2 20030424; **WO 03033182 A3 20031009**; CN 1568232 A 20050119; DE 50202420 D1 20050414; EP 1368141 A2 20031210; EP 1368141 B1 20050309; EP 1428588 A1 20040616; ES 2238613 T3 20050901; JP 2005505423 A 20050224; US 2005028574 A1 20050210

DOCDB simple family (application)

DE 0203829 W 20021011; CN 02819973 A 20021011; DE 50202420 T 20021011; EP 02779148 A 20021011; EP 04004990 A 20021011; ES 02779148 T 20021011; JP 2003535961 A 20021011; US 49185604 A 20041006