

Title (en)

METHOD FOR EXPANDING AND FORMATTING PROFILED METAL STRIP MATERIAL TO FORM A NETTING-LIKE MAT STRUCTURE AND APPARATUS FOR CARRYING OUT THE METHOD

Title (de)

VERFAHREN ZUM AUSBREITEN UND FORMATIEREN VON PROFILIERTEM METALLISCHEN BANDMATERIAL ZU EINER NETZARTIGEN MATTENSTRUKTUR UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ POUR DÉPLOYER ET METTRE AU FORMAT UN MATERIAU MÉTALLIQUE PROFILÉ EN BANDE DE MANIÈRE À OBTENIR UNE STRUCTURE DE NATTE DE TYPE TREILLIS ET DISPOSITIF POUR RÉALISER LE PROCÉDÉ

Publication

EP 3691808 A1 20200812 (DE)

Application

EP 18778360 A 20180818

Priority

- DE 102017009311 A 20171007
- DE 2018000245 W 20180818

Abstract (en)

[origin: WO2019068274A1] The method serves for expanding and formatting profiled metal strip material (1) to form a netting-like mat structure (2) of a predetermined mesh width by a continuous drawing-open process. For this purpose, the strip material (1) is provided with notches (3), which extend in the longitudinal direction of the strip, are of a limited length and between them form metal strands (11), wherein, after the expanding and formatting, the unnotched regions form netting nodes (4) and initially the metal strands (11) are connected to one another by way of adjoining webs in the base of the notch. The webs have fatigue-fracture induced incipient tears formed by flexural deformation. The remaining web is then severed by a separating roll, so that the metal strands (11) are reliably separated from one another in the notch region and the strip material (1) can be drawn open to form the netting-like structure. The strip material (1) is first drawn open at the beginning of the strip to the intended mesh width in such a way that some rows of mesh are aligned orthogonally and oriented at right angles to the edge of the strip with respect to their mesh diagonal. The prepared beginning of the strip is placed with the meshes onto the spikes (5) of a spiked roll (5.1) of a pair of rolls (5), after which the pressure roll (5.2) of the pair of rolls (5) is moved towards the spiked roll (5.1) and with it forms a rolling gap. In this case, the arrangement of the spikes (6) is chosen such that every second mesh - in both orthogonal directions - is shaped by a spike (6), in that the spikes (6) of the spiked roll (5.1) enter the clearances (7) in the pressure roll (5.2).

IPC 8 full level

B21D 31/04 (2006.01)

CPC (source: EA EP US)

B21D 31/043 (2013.01 - EA EP US)

Citation (search report)

See references of WO 2019068274A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2019068274 A1 20190411; BR 112020006308 A2 20200924; CN 111315504 A 20200619; CN 111315504 B 20221122;
DE 102017009311 A1 20190411; EA 202090869 A1 20200626; EP 3691808 A1 20200812; EP 3691808 B1 20211124; ES 2907179 T3 20220422;
HU E057401 T2 20220528; JP 2020536739 A 20201217; JP 7097955 B2 20220708; PL 3691808 T3 20220419; US 11458522 B2 20221004;
US 2020230684 A1 20200723

DOCDB simple family (application)

DE 2018000245 W 20180818; BR 112020006308 A 20180818; CN 201880065340 A 20180818; DE 102017009311 A 20171007;
EA 202090869 A 20180818; EP 18778360 A 20180818; ES 18778360 T 20180818; HU E18778360 A 20180818; JP 2020519438 A 20180818;
PL 18778360 T 20180818; US 201816634723 A 20180818