

Title (en)
METHOD FOR PRODUCING NETWORK-LIKE METAL MATS AND APPARATUS FOR CARRYING OUT THE METHOD

Title (de)
VERFAHREN ZUR HERSTELLUNG VON NETZARTIGEN METALLMATTEN, VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS
SOWIE DERART HERGESTELLTE METALLMATTE

Title (fr)
PROCÉDÉ DE FABRICATION DE TREILLIS MÉTALLIQUES RÉCULAIRES ET DISPOSITIF POUR LA MISE EN OEUVRE DE CE PROCÉDÉ

Publication
EP 2613898 B1 20141029 (DE)

Application
EP 11804920 A 20110720

Priority
• DE 102010044695 A 20100908
• DE 2011001503 W 20110720

Abstract (en)
[origin: CA2809043A1] The method serves for producing network-like metal mats from metallic strip material, for which purpose the strip material is first provided with notches (2), running parallel to one another, for the forming of metal wires (1), by means of notching rollers. The notches (2) are thereby formed to such depths, depending on the material, that as far as possible no sliding fractures are formed. The notches (2) are interrupted by unnotched regions - the mutual spacing of which in the respective notch (2) determines the later possible mesh width - at least in such a way that they later form network nodes (4). The network nodes (4) are offset by approximately half a network node spacing in the respectively adjacent notches (2). Then, the strip, formed in this manner, is subjected to a flexing process, in which the webs (3) adjoining the base of the notch and still connecting the metal wires (1) to one another undergo multiple bending deformation about the longitudinal axis thereof in such a way that incipient cracks occur as a result of fatigue fracture. This leads to the complete separation of the metal wires (1) in the region of the webs (3), while no incipient cracks form at the network nodes (4). Finally, the strip material is subjected to transverse tensile forces acting on both its peripheral metal wires (1), whereby a widening deformation of the wire strip (5) into a network-like structure takes place. The invention also relates to an apparatus for carrying out the method and to a metal mat produced by said method.

IPC 8 full level
B21H 8/00 (2006.01); **B21D 31/04** (2006.01); **B23D 31/00** (2006.01)

CPC (source: EP KR US)
B21D 31/04 (2013.01 - US); **B21D 31/043** (2013.01 - EP US); **B21F 27/02** (2013.01 - KR); **B21F 27/12** (2013.01 - KR);
B21F 27/16 (2013.01 - KR); **B21H 8/005** (2013.01 - EP US); **B26D 3/085** (2013.01 - EP US); **B26F 3/002** (2013.01 - EP US);
B26F 3/02 (2013.01 - EP US); **Y10T 29/18** (2015.01 - EP US); **Y10T 29/185** (2015.01 - EP US); **Y10T 83/0341** (2015.04 - EP US);
Y10T 83/0385 (2015.04 - EP US); **Y10T 83/0424** (2015.04 - EP US); **Y10T 83/323** (2015.04 - EP US); **Y10T 225/12** (2015.04 - EP US);
Y10T 428/12361 (2015.01 - EP US)

Cited by
WO2019068274A1; DE102017009311A1

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

DOCDB simple family (publication)
DE 102010044695 A1 20120308; AU 2011300965 A1 20130328; AU 2011300965 B2 20150528; BR 112013005650 A2 20160503;
BR 112013005650 B1 20200630; CA 2809043 A1 20120315; CA 2809043 C 20160607; CN 103209781 A 20130717; CN 103209781 B 20160120;
DK 2613898 T3 20150126; EA 026285 B1 20170331; EA 201390348 A1 20130730; EP 2613898 A2 20130717; EP 2613898 B1 20141029;
ES 2528959 T3 20150213; HR P20150076 T1 20150410; JP 2013537851 A 20131007; JP 6193123 B2 20170906; KR 101991523 B1 20190620;
KR 20130100143 A 20130909; MA 34513 B1 20130902; MY 166307 A 20180625; NZ 608658 A 20150424; PL 2613898 T3 20150430;
PT 2613898 E 20150209; SG 188468 A1 20130430; UA 107262 C2 20141210; US 2013216851 A1 20130822; US 9180602 B2 20151110;
WO 2012031577 A2 20120315; WO 2012031577 A3 20120607

DOCDB simple family (application)
DE 102010044695 A 20100908; AU 2011300965 A 20110720; BR 112013005650 A 20110720; CA 2809043 A 20110720;
CN 201180043401 A 20110720; DE 2011001503 W 20110720; DK 11804920 T 20110720; EA 201390348 A 20110720;
EP 11804920 A 20110720; ES 11804920 T 20110720; HR P20150076 T 20150120; JP 2013527469 A 20110720; KR 20137007384 A 20110720;
MA 35715 A 20130306; MY PI2013000684 A 20110720; NZ 60865811 A 20110720; PL 11804920 T 20110720; PT 11804920 T 20110720;
SG 2013017363 A 20110720; UA A201304224 A 20110720; US 201113810693 A 20110720