

Title (en)  
Rolling die

Title (de)  
Walzbacke

Title (fr)  
Matrice de laminage

Publication  
**EP 2481496 A1 20120801 (DE)**

Application  
**EP 12150701 A 20120111**

Priority  
DE 102011003252 A 20110127

Abstract (en)  
The rolling die (1) comprises multiple grooves (10), which have two flanks in cross section. A portion of the grooves comprises a deformation area, in which the measurement of a profile angle that is enclosed by one of the flanks steadily decreases along the grooves. The pitch angle (omega) between the grooves and the rolling die longitudinal axis (5) in the deformation area varies along the grooves. An independent claim is also included for a method for forming a screw thread on a screw blank.

Abstract (de)  
Die Erfindung betrifft eine Walzbacke zum Formen eines Schraubengewindes an einem Schraubenrohling, mit einer Vielzahl von Nuten (10), wobei die Nuten (10) im Querschnitt jeweils zwei Flanken (11;12) aufweisen. Erfindungsgemäss ist vorgesehen, dass zumindest ein Teil der Nuten (10) einen Umformbereich aufweist, in dem die Grösse eines von den Flanken (11;12) eingeschlossenen Profilwinkels ( $\pm$ ) längs der Nuten stetig abnimmt.

IPC 8 full level  
**B21H 3/04** (2006.01); **B21H 3/06** (2006.01)

CPC (source: EP US)  
**B21H 3/04** (2013.01 - EP US); **B21H 3/06** (2013.01 - EP US)

Citation (applicant)  
• EP 0533456 B1 19960403 - PCC SPEC PROD INC [US]  
• DE 1283791 B 19681128 - ILLINOIS TOOL WORKS  
• US 3069941 A 19621225 - BAUBLES RICHARD C

Citation (search report)  
• [XD] EP 0533456 B1 19960403 - PCC SPEC PROD INC [US]  
• [X] US 6324887 B1 20011204 - SHARP BILL O [US]  
• [X] JP H1029030 A 19980203 - MINEBEA CO LTD  
• [A] GB 2063740 A 19810610 - GKN FASTENERS LTD  
• [A] US 618262 A 18990124  
• [A] JP S4838066 B1 19731115  
• [X] FLANAGAN J D ET AL: "FLACHBACKEN-GEWINDEWALZEN OHNE OBERFLACHENFEHLER. ÖFLAT DIE THREAD ROLLING WITHOUT SURFACE FAILURES", UMFORMTECHNIK, MEISENBACH, BAMBERG, DE, vol. 27, no. 4, 1 August 1993 (1993-08-01), pages 288/289, XP000396772, ISSN: 0300-3167

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IT202000032609A1; WO2014195061A1

Designated contracting state (EPC)  
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Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2481496 A1 20120801; EP 2481496 B1 20131204**; CN 102615226 A 20120801; CN 102615226 B 20160427;  
DE 102011003252 A1 20120802; ES 2443880 T3 20140220; TW 201242686 A 20121101; TW I593481 B 20170801;  
US 2012328393 A1 20121227; US 9586255 B2 20170307

DOCDB simple family (application)  
**EP 12150701 A 20120111**; CN 201210015839 A 20120119; DE 102011003252 A 20110127; ES 12150701 T 20120111;  
TW 100149070 A 20111228; US 201213359335 A 20120126