

Title (en)  
Fastener for planar tools

Title (de)  
Befestigungsmittel für flächige Werkzeuge

Title (fr)  
Organe d'assemblage d'outils plans

Publication  
**EP 1431012 A2 20040623 (FR)**

Application  
**EP 03026318 A 20031117**

Priority  
CH 21582002 A 20021218

Abstract (en)  
The connector for flat parallel tools (1) in a package making machine has a cylindrical shaft (4) of rotationally symmetrical shape with stop shoulders (7) for the tools. The latter are retained by end lugs (5) on the shaft which are formed with ramp surfaces (25) to engage the tools, which have correspondingly shaped openings and are rotated into place. The lugs fit into the openings without play.

Abstract (fr)  
Organe d'assemblage (1) d'outils plans (2, 3) parallèles au travers desquels sont ménagées par paires des ouvertures (13) non taraudées. L'organe d'assemblage (1) comprend un corps cylindrique (4), d'axe de rotation (12), contre lequel sont rapportés au moins deux moyens (5) permettant de solidariser et de serrer, sans l'adjonction d'aucune substance ni élément adhésif ni autre pièce mécanique de fixation, lesdits outils plans au travers desdites ouvertures (13) par une rotation, inférieure à 360°, de l'organe d'assemblage (1) autour de son axe de rotation (12). <IMAGE>

IPC 1-7  
**B26D 7/18**; **B31B 1/20**

IPC 8 full level  
**B30B 15/08** (2006.01); **B26D 7/18** (2006.01); **B26F 1/44** (2006.01); **B31B 50/20** (2017.01); **F16B 2/14** (2006.01); **F16B 5/10** (2006.01); **F16B 21/04** (2006.01)

CPC (source: EP KR US)  
**B26D 7/1818** (2013.01 - EP US); **B30B 15/08** (2013.01 - KR); **B26D 2007/189** (2013.01 - EP US); **B31B 50/20** (2017.07 - EP US); **Y10T 403/7005** (2015.01 - EP US)

Cited by  
EP2442956A4; DE202016100980U1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1431012 A2 20040623**; **EP 1431012 A3 20050309**; BR 0306033 A 20040831; CA 2451594 A1 20040618; CN 1507979 A 20040630; JP 2004195645 A 20040715; KR 20040054531 A 20040625; US 2004126183 A1 20040701

DOCDB simple family (application)  
**EP 03026318 A 20031117**; BR 0306033 A 20031216; CA 2451594 A 20031201; CN 200310121281 A 20031217; JP 2003418962 A 20031217; KR 20030092307 A 20031217; US 73726503 A 20031215