

Title (en)
Fastener for planar tools

Title (de)
Befestigungsmittel für flächige Werkzeuge

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

Publication
EP 1431012 A3 20050309 (FR)

Application
EP 03026318 A 20031117

Priority
CH 21582002 A 20021218

Abstract (en)
[origin: EP1431012A2] 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.

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)

Citation (search report)

- [X] FR 2721074 A1 19951215 - OTIS ELEVATOR CO [US]
- [X] US 6421846 B1 20020723 - SHAANAN GAD [CA], et al
- [X] US 6267543 B1 20010731 - DAVID ANTHONY JOSEPH [US], et al

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