Title (en)

Method and device for producing three-dimensional products by forming and fine-blanking operations

Title (de)

Verfahren und Werkzeug zum Herstellen von durch Umform- und Feinschneidvorgänge erzeugte dreidimensionale Beschläge

Title (fr)

Méthode et dispositif de production de pièces tridimensionnelles par des opérations de formage et de découpage fin

Publication

EP 1914022 A3 20080430 (DE)

Application

EP 06090153 A 20060901

Priority

EP 06090153 A 20060901

Abstract (en)

[origin: EP1914022A2] The method involves feeding flat strip (2) into a tool and stamping one plate out of the strip by fine blanking while forming plate in the tool. The plate is cut out of flat strip with an outer contour. The burrs developed at the outer contour during cutting out of the strip are flattened. The plate is centered according to outer contour and simultaneously oriented according to the location and one inner form e.g. impressions formed into the plate such that the burrs of the fine blanked surface is flattened directly in the tool. Independent claims are included for the following: (1) tool for producing attachments; and (2) tool module.

IPC 8 full level

B21D 28/06 (2006.01); **B21D 28/16** (2006.01); **B21D 37/08** (2006.01); B21D 53/28 (2006.01)

CPC (source: EP KR US)

B21D 28/00 (2013.01 - KR); **B21D 28/02** (2013.01 - KR); **B21D 28/06** (2013.01 - EP US); **B21D 28/14** (2013.01 - KR); **B21D 28/16** (2013.01 - EP US); **B21D 37/08** (2013.01 - EP US); **B21D 53/28** (2013.01 - EP US)

Citation (search report)

- [AD] EP 0885074 A1 19981223 - ZAHNRADFABRIK FRIEDRICHSHAFEN [DE], et al
- [A] EP 0562593 A1 19930929 - SCHMID HOLDING AG [CH]

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EP3797893A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

US 2008053181 A1 20080306; **US 8365569 B2 20130205**; AT E427798 T1 20090415; CA 2569180 A1 20080301; CA 2569180 C 20140401; DE 502006003393 D1 20090520; DK 1914022 T3 20090810; EP 1914022 A2 20080423; EP 1914022 A3 20080430; EP 1914022 B1 20090408; ES 2324678 T3 20090812; JP 2008055507 A 20080313; JP 5191151 B2 20130424; KR 101493522 B1 20150213; KR 20080020949 A 20080306; MX 2007010529 A 20090210; PL 1914022 T3 20091130; PT 1914022 E 20090604; SI 1914022 T1 20090831

DOCDB simple family (application)

US 59139006 A 20061031; AT 06090153 T 20060901; CA 2569180 A 20061129; DE 502006003393 T 20060901; DK 06090153 T 20060901; EP 06090153 A 20060901; ES 06090153 T 20060901; JP 2007075887 A 20070323; KR 20070087098 A 20070829; MX 2007010529 A 20070828; PL 06090153 T 20060901; PT 06090153 T 20060901; SI 200630306 T 20060901