

Title (en)

TOOL FOR THE MECHANICAL CONNECTION OF PLATES

Title (de)

WERKZEUG ZUM MECHANISCHEN VERBINDEN VON PLATTEN

Title (fr)

OUTIL SERVANT A RELIER DES PLAQUES D'UN POINT DE VUE MECANIQUE

Publication

EP 1385649 A1 20040204 (DE)

Application

EP 02732422 A 20020513

Priority

- DE 0201711 W 20020513
- DE 10123007 A 20010511

Abstract (en)

[origin: WO02092256A1] A mechanical tool is disclosed, in particular for clinch jointing, comprising a stamp (1) and a die (2), whereby both stamp and die are two-pieced embodiments. One piece (8, 13) serves for the direct machining and thus consists of a harder material, whilst the other piece (7, 12) serves for mounting the tool.

IPC 1-7

B21D 39/03

IPC 8 full level

B21D 37/02 (2006.01); **B21D 39/00** (2006.01); **B21D 39/03** (2006.01); **B21J 15/02** (2006.01)

CPC (source: EP KR US)

B21D 39/03 (2013.01 - KR); **B21D 39/031** (2013.01 - EP US); **B21J 15/025** (2013.01 - EP US); **Y10T 29/49936** (2015.01 - EP US); **Y10T 29/5343** (2015.01 - EP US); **Y10T 29/53709** (2015.01 - EP US); **Y10T 29/53996** (2015.01 - EP US)

Citation (search report)

See references of WO 02092256A1

Cited by

DE102014011944B4; DE102014011944A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 02092256 A1 20021121; AT E338593 T1 20060915; AU 2002304903 B2 20070426; BR 0209533 A 20040309; BR 0209533 B1 20110208; CA 2446424 A1 20021121; CA 2446424 C 20071218; CN 1505548 A 20040616; CN 1505548 B 20111207; CZ 20033049 A3 20040512; DE 10221247 A1 20021205; DE 10292020 D2 20040527; DE 50208073 D1 20061019; EP 1385649 A1 20040204; EP 1385649 B1 20060906; ES 2271254 T3 20070416; JP 2004520941 A 20040715; KR 100967454 B1 20100701; KR 20040022218 A 20040311; MX PA03010137 A 20050307; PL 201638 B1 20090430; PL 363647 A1 20041129; RU 2003135847 A 20050527; RU 2306193 C2 20070920; US 2004143948 A1 20040729; US 7578055 B2 20090825

DOCDB simple family (application)

DE 0201711 W 20020513; AT 02732422 T 20020513; AU 2002304903 A 20020513; BR 0209533 A 20020513; CA 2446424 A 20020513; CN 02809083 A 20020513; CZ 20033049 A 20020513; DE 10221247 A 20020513; DE 10292020 T 20020513; DE 50208073 T 20020513; EP 02732422 A 20020513; ES 02732422 T 20020513; JP 2002589179 A 20020513; KR 20037014632 A 20020513; MX PA03010137 A 20020513; PL 36364702 A 20020513; RU 2003135847 A 20020513; US 47733503 A 20031215