

Title (en)
SELF-PIERCING RIVET APPARATUS

Title (de)
STANZNIETVORRICHTUNG

Title (fr)
APPAREIL DE RIVETAGE

Publication
EP 3424611 A1 20190109 (EN)

Application
EP 18180266 A 20180628

Priority
JP 2017131747 A 20170705

Abstract (en)
A self-piercing rivet fastening apparatus (1) drives a self-piercing rivet (10) having a large-diameter head portion (11) and a hollow leg portion (12) into member to be fastened (41, 42), and fastens it. The die is equipped with a die body (30) and a center pin (50). The die body (30) has an upper surface (31), a recessed portion formed inside the upper surface and a center pin hole (34) which passes from the center portion of the concave portion to the lower end portion (37). The center pin (50) is axially movably supported in the center pin hole and has a shaft portion (52). It is possible to have a pin flange (53) at one end portion of the shaft portion. A spring (55) pushes the center pin upward. When fastening the self-piercing rivet, the member to be fastened pushes the center pin and enters the center pin hole. After fastening, the center pin pushes out the member to be fastened.

IPC 8 full level
B21J 15/02 (2006.01); **B21J 15/10** (2006.01); **B21J 15/36** (2006.01)

CPC (source: EP)
B21J 15/025 (2013.01); **B21J 15/10** (2013.01); **B21J 15/36** (2013.01)

Citation (applicant)
• EP 2872270 A1 20150520 - NEWFREY LLC [US]
• WO 03061869 A1 20030731 - HONDA MOTOR CO LTD [JP], et al

Citation (search report)
• [X] WO 0202259 A1 20020110 - ARIEL IND PLC [GB], et al
• [X] JP 3976243 B2 20070912
• [X] DE 102004053224 A1 20060511 - DAIMLER CHRYSLER AG [DE]
• [X] JP 2003236640 A 20030826 - TOYOTA MOTOR CORP

Cited by
CN111790822A; EP4035794A1; CN114833298A; US11826817B2; WO2023057489A3

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