Title (en)
   Strapping unit and method

Title (de)
   Umreifungseinheit und Verfahren

Title (fr)
   Unité et procédé de cerclage

Publication
   EP 2243708 A1 20101027 (EN)

Application
   EP 09158691 A 20090424

Priority
   EP 09158691 A 20090424

Abstract (en)
   A strapping unit (1) comprising main punch members (11a, 11b), a security punch member (21), main die members (31a-d) forming a first and a second main jaw and security die members (41a, 41b) forming a first and a second auxiliary jaw. The punch members are displaceable to and fro between a retracted position and an advanced punching position. The jaws are moveable towards and away from each other between a retracted open position and an advanced active position, and the auxiliary jaws are moveable in relation to the main jaws. The main die members and the main punch members are arranged to co-operate so as to cut mutually interlocking incisions in overlapping portions at the ends of a loop of metal strap received in the strapping unit. The security die members and the security punch member are arranged to co-operate so as to cut security incisions in said overlapping metal strap portions.

IPC 8 full level
   B65B 13/30 (2006.01)

CPC (source: EP)
   B65B 13/30 (2013.01)

Citation (applicant)
   • US 4154158 A 19790515 - CROSBY GEORGE A [US], et al
   • US 3794086 A 19740226 - HALL M, et al
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Citation (search report)
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   • [A] DE 675862 C 19390519 - ALEXANDRE GIBAUSSET, et al
   • [A] CH 307502 A 19550531 - TIMMERBEIL ERICH [DE], et al
   • [A] GB 1336950 A 19731114 - TITAN VERPACKUNGSSYSTEME GMBH

Cited by
   CN102530294A; US11718430B2; US10227149B2; US11597547B2; EP3670366A1; WO2020126202A1

Designated contracting state (EPC)
   AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
   AL BA RS

DOCDB simple family (publication)
   EP 2243708 A1 20101027; **EP 2243708 A8 20110427**; **EP 2243708 B1 20111026**; AT E530449 T1 20111115; CN 101870367 A 20101027; CN 101870367 B 20140409; ES 2376082 T3 20120308

DOCDB simple family (application)
   EP 09158691 A 20090424; AT 09158691 T 20090424; CN 201010214435 A 20100423; ES 09158691 T 20090424