

Title (en)

DEVICE FOR ANCHORING AT LEAST ONE FASTENING ELEMENT IN A LAMINATE STRUCTURE HAVING AT LEAST TWO LAYERS

Title (de)

VORRICHTUNG ZUM VERANKERN WENIGSTENS EINES BEFESTIGUNGSELEMENTS IN EINER WENIGSTENS ZWEI LAGEN AUFWEISENDEN LAMINATSTRUKTUR

Title (fr)

DISPOSITIF D'ANCRAGE D'AU MOINS UN ÉLÉMENT DE FIXATION DANS UNE STRUCTURE STRATIFIÉE POURVUE D'AU MOINS DEUX COUCHES

Publication

**EP 3071847 A1 20160928 (DE)**

Application

**EP 15711129 A 20150318**

Priority

- DE 102014103947 A 20140321
- EP 2015055598 W 20150318

Abstract (en)

[origin: WO2015140190A1] The invention relates to a device for anchoring at least one fastening element (8) in a laminate structure (1) comprising at least two layers (2, 3) having a fastening element (8) and a carrier assembly (4), to which the fastening element (8) is attached. The carrier assembly (4) is designed having a protruding rib structure (5), which surrounds the fastening element or at least one fastening element (8) radially outside. Thus, an introduction of force into the laminate structure that is conducive to a long period of stability of the anchoring is achieved.

IPC 8 full level

**F16B 37/02** (2006.01); **F16B 37/04** (2006.01)

CPC (source: CN EP KR US)

**E04C 3/14** (2013.01 - US); **F16B 1/00** (2013.01 - CN); **F16B 9/00** (2013.01 - CN); **F16B 11/00** (2013.01 - US); **F16B 11/006** (2013.01 - US); **F16B 37/02** (2013.01 - EP KR US); **F16B 37/04** (2013.01 - US); **F16B 37/042** (2013.01 - EP KR US); **F16B 37/048** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2015140190A1

Citation (examination)

- US 5204148 A 19930420 - ALEXANDER BRIAN S [US], et al
- DE 4342261 A1 19950614 - SFS IND HOLDING AG [CH]
- US 5803693 A 19980908 - CHOINIÈRE STANLEY W [US], et al
- US 4747241 A 19880531 - WHITMAN ROBERT E [US]

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2015140190 A1 20150924**; CN 106104018 A 20161109; DE 102014103947 A1 20150924; EP 3071847 A1 20160928;  
JP 2017514072 A 20170601; KR 20160133402 A 20161122; US 10344788 B2 20190709; US 2017159690 A1 20170608

DOCDB simple family (application)

**EP 2015055598 W 20150318**; CN 201580012199 A 20150318; DE 102014103947 A 20140321; EP 15711129 A 20150318;  
JP 2016555817 A 20150318; KR 20167016509 A 20150318; US 201515124015 A 20150318