

Title (en)

METHOD FOR MANUFACTURING A PISTON ROD UNIT AND A HOLLOW SHAFT

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER KOLBENSTANGEN-EINHEIT SOWIE EINER HOHLEN WELLE

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE UNITÉ TIGE DE PISTON ET D'UN ARBRE CREUX

Publication

**EP 3458224 A1 20190327 (DE)**

Application

**EP 17736564 A 20170621**

Priority

- DE 102016007593 A 20160621
- EP 2017000723 W 20170621

Abstract (en)

[origin: WO2017220202A1] The invention relates to a method for manufacturing a lightweight piston rod unit or shaft comprising a rod (20) that is drilled hollow as a deep hole (21) is drilled into the rod shank, whereupon the opening created in the rod is closed using a forging process.

IPC 8 full level

**B23P 15/10** (2006.01); **E02F 9/22** (2006.01); **F15B 15/14** (2006.01)

CPC (source: EP US)

**B23P 15/10** (2013.01 - EP US); **F15B 15/1457** (2013.01 - EP US); **F16J 7/00** (2013.01 - EP US); **B23P 2700/04** (2013.01 - US); **F15B 15/1447** (2013.01 - US)

Citation (search report)

See references of WO 2017220202A1

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)

**DE 102016007593 A1 20171221**; AU 2017280498 A1 20190117; AU 2017280498 B2 20230202; EP 3458224 A1 20190327; US 11193511 B2 20211207; US 11841034 B2 20231212; US 2019186507 A1 20190620; US 2022120296 A1 20220421; WO 2017220202 A1 20171228; WO 2017220202 A9 20180222

DOCDB simple family (application)

**DE 102016007593 A 20160621**; AU 2017280498 A 20170621; EP 17736564 A 20170621; EP 2017000723 W 20170621; US 201716311382 A 20170621; US 202117453482 A 20211103