

Title (en)  
IMPROVED METHODS FOR FINISHING EXTRUDED TITANIUM PRODUCTS

Title (de)  
VERBESSERTE VERFAHREN ZUR ENDBEARBEITUNG EXTRUDIERTER TITANERZEUGNISSE

Title (fr)  
PROCÉDÉS AMÉLIORÉS DE FINITION DE PRODUITS EXTRUDÉS EN TITANE

Publication  
**EP 3445888 B1 20231220 (EN)**

Application  
**EP 17786791 A 20170424**

Priority  
• US 201662326243 P 20160422  
• US 2017029064 W 20170424

Abstract (en)  
[origin: US2017306467A1] The present disclosure relates to methods of finishing extruded titanium alloy workpieces by generating an extruded near net shape workpiece, cooling the extruded near net shape workpiece to a cooled temperature below the beta transus temperature, and then rolling the extruded near net shape workpiece one or more times at a rolling temperature to yield a final shape workpiece with desired properties.

IPC 8 full level  
**C22F 1/18** (2006.01); **B21B 1/092** (2006.01); **B21B 3/00** (2006.01); **B21C 23/00** (2006.01); **B21C 29/00** (2006.01); **C22C 14/00** (2006.01)

CPC (source: EP KR RU US)  
**B21B 1/092** (2013.01 - KR RU); **B21B 3/00** (2013.01 - KR RU US); **B21C 23/002** (2013.01 - EP US); **B21C 23/32** (2013.01 - US); **B21C 29/003** (2013.01 - EP US); **C22C 14/00** (2013.01 - EP US); **C22F 1/183** (2013.01 - EP KR RU 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

DOCDB simple family (publication)  
**US 2017306467 A1 20171026**; BR 112018067749 A2 20190115; CA 3016443 A1 20171026; CA 3016443 C 20210119; CN 109072390 A 20181221; CN 109072390 B 20210511; EP 3445888 A1 20190227; EP 3445888 A4 20190925; EP 3445888 B1 20231220; EP 3445888 C0 20231220; ES 2970914 T3 20240531; JP 2019512603 A 20190516; JP 6871938 B2 20210519; KR 102221443 B1 20210226; KR 20180107269 A 20181001; RU 2709568 C1 20191218; UA 123406 C2 20210331; WO 2017185079 A1 20171026

DOCDB simple family (application)  
**US 201715494844 A 20170424**; BR 112018067749 A 20170424; CA 3016443 A 20170424; CN 201780021843 A 20170424; EP 17786791 A 20170424; ES 17786791 T 20170424; JP 2018548388 A 20170424; KR 20187026525 A 20170424; RU 2018135552 A 20170424; UA A201810091 A 20170424; US 2017029064 W 20170424