

Title (en)

APPARATUS AND METHOD FOR MANUFACTURING A LARGE-CALIBER PRODUCT USING HYDROFORMING

Title (de)

VORRICHTUNG UND VERFAHREN ZUR HERSTELLUNG EINES GROSSKALIBRIGEN PRODUKTS MITTELS HYDROFORMING

Title (fr)

APPAREIL ET PROCÉDÉ DE FABRICATION D'UN PRODUIT DE GROS CALIBRE PAR HYDROFORMAGE

Publication

EP 2669023 A4 20160914 (EN)

Application

EP 11856774 A 20110124

Priority

KR 2011000486 W 20110124

Abstract (en)

[origin: EP2669023A1] The present invention relates to an apparatus and method for manufacturing using a hydroforming process. The apparatus includes: upper and lower molds; first and second axial punches which are disposed on opposite sides of the steel substance so as to be movable towards each other and which have front surfaces configured so as to be insertable into each other; first and second pressurization cylinders which move the first and second axial punches towards each other and insert them into each other, thus forming a sealing space defined by the first and second axial punches and a pressurization space defined by the steel substance and the first and second axial punches; and a control unit which, through an oil-pressure passage formed in at least one of the first and second axial punches, supplies fluid into the pressurization space to pressurize the steel substance, thus forming the large caliber product.

IPC 8 full level

B21D 26/033 (2011.01); **B21D 26/045** (2011.01); **B21D 26/047** (2011.01); **B21D 53/30** (2006.01)

CPC (source: EP US)

B21D 26/041 (2013.01 - EP US); **B21D 26/045** (2013.01 - EP US); **B21D 26/047** (2013.01 - EP US); **B21D 37/12** (2013.01 - US); **B21D 53/30** (2013.01 - EP US)

Citation (search report)

- [Y] US 4414834 A 19831115 - GRATZER NELSON R [US], et al
- [Y] DE 10343868 B3 20040909 - DAIMLER CHRYSLER AG [DE]
- [Y] JP 2006122943 A 20060518 - NISSAN MOTOR
- See references of WO 2012102417A1

Cited by

CZ307376B6

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)

EP 2669023 A1 20131204; **EP 2669023 A4 20160914**; **EP 2669023 B1 20191225**; CN 103313808 A 20130918; CN 103313808 B 20150909; JP 2014501624 A 20140123; JP 5838222 B2 20160106; US 2013298628 A1 20131114; WO 2012102417 A1 20120802

DOCDB simple family (application)

EP 11856774 A 20110124; CN 201180063771 A 20110124; JP 2013545991 A 20110124; KR 2011000486 W 20110124; US 201113824608 A 20110124