

Title (en)

COMBINATION OF A PREFORM AND DEVICE AND METHOD FOR PRODUCING A LIGHTWEIGHT METAL WHEEL

Title (de)

KOMBINATION EINER VORRICHTUNG UND EINER VORFORM UND VERFAHREN ZUM HERSTELLEN EINES LEICHT-METALLRADES

Title (fr)

COMBINATION D'UNE PREFORME ET DISPOSITIF ET PROCÉDÉ DE FABRICATION D'UNE ROUE EN ALLIAGE LÉGER

Publication

EP 2771137 A1 20140903 (DE)

Application

EP 12818482 A 20121024

Priority

- DE 102011117034 A 20111027
- EP 2012004444 W 20121024

Abstract (en)

[origin: WO2013060451A1] The invention relates to a device for producing a metal wheel (1) from a preform, with stretching rollers (3) which act on the rim region of the preform and by means of which a rim (1.1) is brought into its final form, which device is further characterized by freely rotatable rollers (4) that are arranged underneath the stretching rollers (3) and interact with them, for the forming of a rim flange (1.7). The invention further proposes for this purpose a method for producing a metal wheel (1) from a preform, wherein the preform of the metal wheel (1) to be produced is fitted onto a clamping mandrel (2) and set in rotation, stretching rollers (3) act on the preform and exert radial pressure on it in the upper region of a rotationally symmetrical shell thereof and move along the shell wall of the preform, while compressing and stretching the shell wall to form a rim (1.1), with a main movement component parallel to the axis of rotation (2.1) of the preform, wherein the method is characterized in that the preform is engaged from below by freely rotating rollers (4), which are arranged around the circumference of the preform at the same circumferential angles as the stretching rollers (3), and so the stretching rollers form a rim flange (1.7) by stretching preform material against the freely rotating rollers engaging from underneath.

IPC 8 full level

B21D 5/00 (2006.01); **B21D 5/04** (2006.01); **B21D 22/14** (2006.01); **B21D 53/30** (2006.01)

CPC (source: EP US)

B21B 41/00 (2013.01 - US); **B21D 5/002** (2013.01 - EP US); **B21D 5/004** (2013.01 - EP US); **B21D 5/04** (2013.01 - EP US); **B21D 22/14** (2013.01 - EP US); **B21D 22/16** (2013.01 - US); **B21D 53/30** (2013.01 - EP US)

Citation (search report)

See references of WO 2013060451A1

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)

DE 102011117034 A1 20130502; DE 102011117034 B4 20150917; EP 2771137 A1 20140903; EP 2771137 B1 20170315; EP 3189909 A1 20170712; EP 3189909 B1 20201202; ES 2627025 T3 20170726; ES 2854401 T3 20210921; HU E032294 T2 20170928; HU E053016 T2 20210628; PL 2771137 T3 20170831; PL 3189909 T3 20210531; PT 2771137 T 20170515; PT 3189909 T 20210113; TW 201338889 A 20131001; TW I600482 B 20171001; US 2014283572 A1 20140925; US 9573179 B2 20170221; WO 2013060451 A1 20130502; WO 2013060451 A8 20140501

DOCDB simple family (application)

DE 102011117034 A 20111027; EP 12818482 A 20121024; EP 16002381 A 20121024; EP 2012004444 W 20121024; ES 12818482 T 20121024; ES 16002381 T 20121024; HU E12818482 A 20121024; HU E16002381 A 20121024; PL 12818482 T 20121024; PL 16002381 T 20121024; PT 12818482 T 20121024; PT 16002381 T 20121024; TW 101139240 A 20121024; US 201214354245 A 20121024