Title (en)

A method of rolling extrusion with regulated axis spacing of axi-symmetrical stepped parts

Title (de)

Verfahren zum Walzen/Fliesspressen mit geregeltem Achsabstand von axialsymmetrisch gestuften Teilen

Title (fr)

Procédé de laminage à régulation d'espacement à axe régulé de parties étagées à axes symétriques

Publication

**EP 2842649 B1 20160518 (EN)**

Application

**EP 13461569 A 20131230**

Priority

PL 40429413 A 20130612

Abstract (en)

[origin: EP2842649A1] The way of rolling extrusion with regulated axis spacing of axi-symmetrical stepped parts is characterized in that a formed semi-finished product ( 3 ) in the form of a bar or tube part is placed in the seat of the front rotary holder ( 1 ) and in the seat of the back rotary holder (2 ), next, the front rotational holder ( 1 ) and back rotational holder ( 2 ) together with semi-finished product ( 3 ) move with a translational motion with constant velocity ( V ) into the workspace, which is made by the same three ( 4a ), ( 4b ) and ( 4c ) formed rolls, next the same three ( 4a ), ( 4b ) and ( 4c ) formed rolls are put into rotational motion in the same direction and with the same velocity ( n 1 ), then revolution motion of the same three ( 4a ), ( 4b ) and ( 4c ) formed rolls is activated with the velocity ( n 2 ) and the same three ( 4a ), ( 4b ) and ( 4c ) formed rolls are brought closer to the semi-finished product ( 1 ), yet rotary movement trajectories ( 7a ), ( 7b ) and (7 c ) of the same three ( 4a ), ( 4b ) and ( 4c ) formed rolls are of spiral shape, next the semi-finished product ( 3) is affected by the ( 4a ), ( 4b ) and ( 4c ) formed rolls working ( 4a 1 ), ( 4a 2 ), ( 4b 1 ), ( 4b 2 ), ( 4c 1 ) and ( 4c 2 ) surfaces and the semi-finished product ( 3 ) is put into rotary motion with constant velocity ( n 3 ) in the direction opposite to the direction of rotations of the same three ( 4a ), ( 4b ) and (4 c ) formed rolls.

IPC 8 full level

**B21D 22/14** (2006.01); B21H 1/18 (2006.01)

CPC (source: EP)

**B21D 22/14** (2013.01); B21H 1/18 (2013.01)

Citation (opposition)

Opponent : Leifeld Metal Spinning AG

- EP 2422896 A1 20120229 - LUBELSKA POLT [PL]
- JP S58110137 A 19830630 - TOKYO SHIBAURA ELECTRIC CO
- US 2003140674 A1 20030731 - SUZUKI YUKINORI [JP], et al
- EP 2127775 A1 20091202 - REPKON MACHINE AND TOOL INDUST [TR]
- DE 102007041149 B3 20090402 - UNIV DRESDEN TECH [DE], et al
- DE 3144695 A1 19830519 - MITSUBISHI HEAVY IND LTD [JP]
- EP 2210682 B1 20120314 - LEIFELD METAL SPINNING AG [DE]
- EP 2422897 A1 20120229 - LUBELSKA POLT [PL]

Cited by

EP3733322A1; CN114160605A; WO2022122645A1; US11484924B2

Designated contracting state (EPC)

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DOCDB simple family (publication)

**EP 2842649 A1 20150304**; **EP 2842649 B1 20160518**; PL 224268 B1 20161230; PL 404294 A1 20141222

DOCDB simple family (application)

**EP 13461569 A 20131230**; PL 40429413 A 20130612