Title (en)

Method and device for making a hollow shaft having radial bulges by internal high pressure forming

Title (de)

Verfahren und Vorrichtung zum Herstellen einer Hohlwelle mit äusseren radialen Erhebungen durch Innenhochdruck-Umformung

Title (fr)

Méthode et dispositif pour la fabrication des arbres creux ayant des bosses radiales par le procédé de formage par pression interne

Publication

**EP 0906800 B1 20020403 (DE)**

Application

**EP 98116383 A 19980829**

Priority

DE 19743863 A 19971004

Abstract (en)

[origin: EP0906800A1] The shaft is fabricated from a preformed semi- finished product with outer radial raised parts, in an internal high pressure forming process. To move material into the forming zone during the process when the tool is closed, the raised parts are charged with an axial load. The tool (11) consists of a divided block with internal shaping showing a group of raised parts. A first axial block (16) has an aperture enclosing a raised part (7,5,3), while its end face (18) facing the other axial block (15) loads the next raised part (8). The second block loads the neighboring raised part (9). A central block (12) encloses the semi-finished product (1) between the loaded parts.

IPC 1-7

**B21D 53/84**; B21D 26/02; B21D 15/10

IPC 8 full level

**B21D 15/10** (2006.01); **B21D 26/02** (2011.01); **B21D 26/047** (2011.01); **B21D 53/84** (2006.01)

CPC (source: EP)

**B21D 15/10** (2013.01); **B21D 26/047** (2013.01); **B21D 53/845** (2013.01)

Cited by

WO2014096988A1; EP1900451A1; EP1657007A1; EP2745951A1; DE102004030545B3; EP1609545A3; EP1801250A1; WO2012065739A1; US10124397B2

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