

Title (en)

METHOD AND DEVICE FOR GRINDING A ROTATIONALLY SYMMETRIC MACHINE PART

Title (de)

VERFAHREN UND VORRICHTUNG ZUM SCHLEIFEN EINES ROTATIONSSYMMETRISCHEN MASCHINENBAUTEILS

Title (fr)

PROCEDE ET DISPOSITIF POUR RECTIFIER UN ELEMENT DE MACHINE A SYMETRIE DE REVOLUTION

Publication

**EP 1525073 B1 20060524 (DE)**

Application

**EP 03766346 A 20030729**

Priority

- DE 10234707 A 20020730
- EP 0308374 W 20030729

Abstract (en)

[origin: WO2004012903A1] Disclosed are a method and a device for grinding a machine part (17) that comprises two shaft elements (18, 19) and a central element (20) having a significantly increased diameter (D). The central element (20) is provided with an effective surface (22), a portion of which is embodied in the form of a flat truncated cone (21). In order to grind the excess material (25) off the effective surface (22), the machine part (17) is clamped between pins (6, 7) that are provided with shafts (4, 5), the shaft (5) located at the tailstock (3) being supported by a steady rest (27). The machine part (17) is movable in the direction of the longitudinal axis (23) thereof. The effective surface (22) of the machine part (17) can be placed against the grinding disk (15) at the line of contact (28), vertical grinding being done by means of the cylindrical outer contour of the first grinding disk (15) such that the cutting speed is constant across the entire axial dimension of the first grinding disk (15) and a very good grinding result is obtained. The first grinding disk (15) is mounted in a floating manner on a grinding spindle (14) along with a second, narrower grinding disk (16). The second grinding disk (16) can be brought into an operating position, in which the cylindrical peripheral areas of the machine part are to be machined by means of longitudinal grinding, by swiveling the spindle (14) about two swiveling axes that are located perpendicular to each other and by displacing the grinding spindle (14) perpendicular to the longitudinal axis (23), the machine part remaining in the same clamped position. The inventive working method results in shortened cycle times while providing for a very good grinding result.

IPC 8 full level

**B24B 5/02** (2006.01); **B24B 5/14** (2006.01); **B24B 27/00** (2006.01); **B24B 41/02** (2006.01); **B24B 41/04** (2006.01); **B24B 41/06** (2006.01)

CPC (source: EP KR US)

**B24B 5/14** (2013.01 - EP KR US); **B24B 27/00** (2013.01 - KR); **B24B 27/0084** (2013.01 - EP US); **B24B 41/02** (2013.01 - EP KR US); **B24B 41/06** (2013.01 - KR); **B24B 41/062** (2013.01 - EP US)

Designated contracting state (EPC)

CZ DE ES FR GB IT

DOCDB simple family (publication)

**WO 2004012903 A1 20040212**; AU 2003251663 A1 20040223; BR 0313061 A 20050628; CA 2491686 A1 20040212; CA 2491686 C 20101019; CN 100333876 C 20070829; CN 1671508 A 20050921; DE 10234707 A1 20040226; DE 10234707 B4 20070802; DE 50303495 D1 20060629; EP 1525073 A1 20050427; EP 1525073 B1 20060524; ES 2263030 T3 20061201; JP 2005534509 A 20051117; JP 4169739 B2 20081022; KR 101002609 B1 20101220; KR 20050023436 A 20050309; RU 2005105317 A 20050727; RU 2318648 C2 20080310; US 2005255793 A1 20051117; US 7147547 B2 20061212

DOCDB simple family (application)

**EP 0308374 W 20030729**; AU 2003251663 A 20030729; BR 0313061 A 20030729; CA 2491686 A 20030729; CN 03818265 A 20030729; DE 10234707 A 20020730; DE 50303495 T 20030729; EP 03766346 A 20030729; ES 03766346 T 20030729; JP 2004525365 A 20030729; KR 20057000915 A 20030729; RU 2005105317 A 20030729; US 52326905 A 20050131