

Title (en)
DEVICE FOR BURNISHING CYLINDRICAL WORKPIECE SURFACES USING A BURNISHING TOOL

Publication
EP 0041248 B1 19831109 (DE)

Application
EP 81104118 A 19810529

Priority
DE 3021101 A 19800604

Abstract (en)
[origin: EP0041248A2] 1. Device for burnishing a cylindrical workpiece surface (4) comprising a burnishing tool (3) which may be constructed as tool for burnishing inner cylinder surfaces or as tool for burnishing outer cylinder surfaces, the burnishing tool (3) having a shaft (17) with a cone (6) constructed hollow in a burnishing tool for outer surfaces and with a cage (9) mounted coaxially with respect to the cone (6) and axially moveable relative to the cone, the cage having conical burnishing rollers (10) mounted radially moveable in the slots (8) of the cage and moveable on rolling contact on the conical cone (6) surface (7) facing the cylindrical workpiece surface ; comprising a drive system causing a relative rotation and axial movement of cone (6) and workpiece (5) ; and comprising a positioning system automatically moving cone (6) and cage (9) in accordance with a predetermined constant rolling pressure axially with respect to one another, the cone (6) of the burnishing tool for inner surfaces also being hollow and the dimensioning of the wall thickness of the cone (6) allowing for a deformation of the wall by the rolling pressure somewhat beyond the cone side (25) not facing the cylindrical workpiece surface, a deformation sensor (24) being positioned at this cone side (25), the output signal of the sensor being applied to one input terminal of a comparator (29), the other input terminal of which being supplied by an adjustable desired value generator (30) and the magnitude of the relative axial movement of cone (6) and cage (9) by the positioning system in response to the comparator output signal results from a balance between the output signal of the deformation sensor and the desired value, characterized in that the cone (6) is connected with a displacement transducer (37), that the desired value generator (30) includes a desired value correcting unit (39) and a base desired value generator (38) for generating a base desired value of the rolling pressure, that the output terminal of the displacement transducer (37) is connected to an input terminal of the desired value correcting unit (39), that the output terminal of the desired value correcting unit (39) is connected to the desired value input terminal of the comparator (29), that the desired value correcting unit (39) corrects the base desired value (Sg) and applies the corrected desired value (Sk) to the comparator (29).

IPC 1-7
B24B 39/02

IPC 8 full level
B24B 39/02 (2006.01)

CPC (source: EP)
B24B 39/023 (2013.01); **B24B 49/06** (2013.01)

Citation (examination)
DE 2935601 A1 19810312 - MADISON IND GMBH

Cited by
US7568370B2; EP0330734A3; EP2666590A3; US6415486B1; EP0460527A1; CN1094572C; EP0503109A1; US5247819A; US7788961B2; US6622570B1; US6926970B2

Designated contracting state (EPC)
FR GB IT SE

DOCDB simple family (publication)
EP 0041248 A2 19811209; EP 0041248 A3 19811216; EP 0041248 B1 19831109; DE 3021101 A1 19811210

DOCDB simple family (application)
EP 81104118 A 19810529; DE 3021101 A 19800604