

Title (en)
APPARATUS FOR AUTOMATICALLY DETECTING THE POSITION OF THE CUTTING TOOL IN THE COMPUTERIZED NUMERICALLY CONTROLLED LATHE

Title (de)
VORRICHTUNG ZUR AUTOMATISCHEN ERFASSUNG DER POSITION DES SCHNEIDWERKZEUGS IN DER COMPUTERISIERTEN NUMERISCH GESTEUERTEN DREHMASCHINE

Title (fr)
DISPOSITIF PERMETTANT DE DETECTER AUTOMATIQUEMENT LA POSITION DE L'OUTIL TRANCHANT DANS LE TOUR INFORMATISE A COMMANDE NUMERIQUE

Publication
EP 1753568 A4 20170111 (EN)

Application
EP 04734434 A 20040521

Priority
KR 2004001212 W 20040521

Abstract (en)
[origin: WO2005113180A1] Disclosed is an apparatus for automatically detecting the position of the cutting tool in the computerized numerically controlled lathe which is capable of preventing over-load operation of a driving motor by allowing an arm having a touch sensor mounted thereto to be safely stop at a position of detecting the cutting tool while the driving motor stops operating. A bearing housing is fixedly mounted to one side of a housing main body fixed to one side of a headstock. A stopper is fixedly mounted to the bearing housing. A touch sensor is mounted to a front end of the arm and is pivoted by means of a gear assembly driven by receiving a driving force from a driving motor. A camshaft is fixedly installed at a radial outer circumferential surface of the arm. When the arm is rotated and reaches at a proper position, the worm and the worm wheel of the gear assembly are rotated until the camshaft is brought into contact with the stopper. The arm is moved toward the cutting tool and the cutting tool is brought into contact with the touch sensor in accordance with a program that is preprogramedly input into the computerized numerically controlled lathe. At this time, the touch sensor generates a sensing signal and provides the control part with it. After reaching at a position for sensing the position of the front end of the cutting tool, the arm can be fixed at this position due to the operation of an elastic member while the driving motor stops operating.

IPC 8 full level
B23B 25/04 (2006.01); **B23B 25/06** (2006.01)

CPC (source: EP US)
B23B 25/06 (2013.01 - EP US); **B23Q 17/2233** (2013.01 - EP US); **Y10T 82/2502** (2015.01 - EP US); **Y10T 82/2572** (2015.01 - EP US); **Y10T 408/175** (2015.01 - EP US)

Citation (search report)

- [X] US 6082016 A 20000704 - OTANI ATSUSHI [JP], et al
- See references of WO 2005113180A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2005113180 A1 20051201; CN 100462166 C 20090218; CN 1942273 A 20070404; EP 1753568 A1 20070221; EP 1753568 A4 20170111; JP 2008500200 A 20080110; JP 4704430 B2 20110615

DOCDB simple family (application)
KR 2004001212 W 20040521; CN 200480042896 A 20040521; EP 04734434 A 20040521; JP 2007526960 A 20040521