Title (en)

Machine tool with electromagnet for mounting on a ferromagnetic workpiece

Title (de)

Werkzeugmaschine mit einem Elektromagneten zur Befestigung an einem ferromagnetischen Werkstück

Title (fr)

Machine-outil avec électro-aimant pour la fixation à une pièce ferromagnétique

Publication

**EP 1103350 A2 20010530 (DE)**

Application

**EP 00121732 A 20001005**

Priority

DE 19956155 A 19991123

Abstract (en)

The machine tool has an electromagnet (30) used for securing a ferromagnetic workpiece and a switching device (S) with at least 2 different switch states, for controlling the electromagnet and a drive device (42) for the machine tool. The electromagnet current is reduced for securing the workpiece when the drive is not operated relative to the currrent used for securing the workpiece when the drive is operated.

Abstract (de)

Es wird eine Werkzeugmaschine (40) mit einem Elektromagneten (62) zur Befestigung an einem ferromagnetischen Werkstück (41) angegeben, mit einer Schalteinrichtung (S) mit mindestens zwei Schaltzuständen, einem Arbeitszustand, in dem der Elektromagnet (62) und eine Antriebseinrichtung (56, 58, 60) der Werkzeugmaschine (40) aktiviert sind, und einem Haltezustand, in dem der Elektromagnet (62), nicht jedoch die Antriebseinrichtung (56, 58, 60) aktiviert ist, wobei Mittel (52, 86) vorgesehen sind, durch die der Strom des Elektromagneten (62) im Haltezustand gegenüber dem Strom des Elektromagneten (62) im Arbeitszustand reduziert ist (Fig. 2). <IMAGE>

IPC 1-7 (main, further and additional classification)

**B25H 1/00**

IPC 8 full level (invention and additional information)

**B23B 45/14** (2006.01); **B25H 1/00** (2006.01)

CPC (invention and additional information)

**B25H 1/0071** (2013.01)

Citation (applicant)

US 3371257 A 19680227 - WARREN WESLEY S, et al

Cited by

EP2251154A1; EP2147755A2; DE102008035308A1; US8545139B2; US8568066B2

Designated contracting state (EPC)

CH DE FR GB IT LI

EPO simple patent family

EP 1103350 A2 20010530; EP 1103350 A3 20011219; EP 1103350 B1 20090128; DE 19956155 A1 20010531; DE 19956155 B4 20111201; DE 50015540 D1 20090319

INPADOC legal status

**2017-07-31** [PG25 DE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : DE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20170503

**2017-07-31** [PG25 FR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FR
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20161102

**2017-07-31** [PG25 CH] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CH
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20161031

**2017-07-31** [PG25 LI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LI
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20161031

**2017-07-28** [REG FR ST] NOTIFICATION OF LAPSE
- Effective date : 20170630

**2017-05-31** [REG CH PL] PATENT CEASED

**2017-05-03** [REG DE R119] APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE
- Document : DE 50015540

**2016-01-29** [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20150929
- Year of fee payment : 16

**2016-01-29** [PGFP CH] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : CH
- Payment date : 20151012
- Year of fee payment : 16

**2015-11-30** [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20150908
- Year of fee payment : 16

**2015-09-08** [REG FR PLFP] FEE PAYMENT
- Year of fee payment : 16

**2014-08-29** [PG25 IT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20131005

**2014-07-31** [PG25 GB] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GB
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20131005

**2014-06-25** [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
- Effective date : 20131005

**2013-02-28** [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20121003
- Year of fee payment : 13

**2013-02-28** [PGFP IT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IT
- Payment date : 20121012
- Year of fee payment : 13

**2010-01-06** [26N] NO OPPOSITION FILED
- Effective date : 20091029

**2009-03-19** [REF] CORRESPONDS TO:
- Document : DE 50015540 P 20090319

**2009-01-30** [REG CH EP] ENTRY IN THE NATIONAL PHASE

**2009-01-30** [REG CH NV] NEW AGENT
- Representative's name : TROESCH SCHEIDEGGER WERNER AG

**2009-01-28** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : CH DE FR GB IT LI

**2009-01-28** [REG GB FG4D] EUROPEAN PATENT GRANTED
- Free text : NOT ENGLISH

**2007-08-15** [17Q] FIRST EXAMINATION REPORT
- Effective date : 20070716

**2006-06-14** [RAP3] CORRECTION OF THE ADDRESS OR NAME OF APPLICANT
- Owner name : C. & E. FEIN GMBH

**2004-11-24** [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION
- Owner name : C. & E. FEIN GMBH

**2004-04-07** [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION

- Owner name : C. & E. FEIN GMBH

**2002-09-11** [AKX] PAYMENT OF DESIGNATION FEES
- Free text : CH DE FR GB IT LI

**2002-08-14** [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 20020612

**2001-12-19** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A3
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

**2001-12-19** [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI

**2001-05-30** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A2
- Designated State(s) : CH DE FR GB IT LI

**2001-05-30** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A2
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

**2001-05-30** [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI