Title (en)
Method for manufacturing moulded metal articles

Title (de)
Verfahren zur Herstellung von Formteilen aus Metall

Title (fr)
Procédé pour la fabrication des articles métalliques moulés

Publication
EP 0733422 B1 20000209 (DE)

Application
EP 96810144 A 19960308

Priority
CH 79795 A 19950321

Abstract (en)
[origin: EP0733422A1] The prodn. of shaped metal components, comprises pressing a thixotropic metal bar (20) by means of a piston (16) from a filler chamber (12) into the die space (30), which is evacuated at least up to the instant of entry of the metal into this space. Also claimed is the appts. for performing the above method.

IPC 1-7 (main, further and additional classification)
B22D 17/00; B22D 17/14

IPC 8 full level (invention and additional information)
B22C 9/00 (2006.01); **B22D 17/00** (2006.01); **B22D 17/14** (2006.01); **B22D 17/22** (2006.01)

CPC (invention and additional information)
B21J 5/004 (2013.01); **B22D 17/007** (2013.01); **B22D 17/14** (2013.01)

Cited by
DE102009033532A1; DE10022560A1; DE10144945A1; DE10144945B4; US6948549B2

Designated contracting state (EPC)
AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE

EPO simple patent family
EP 0733422 A1 19960925; EP 0733422 B1 20000209; AT 189634 T 20000215; CA 2170714 A1 19960922; CH 689448 A5 19990430; DE 59604390 D1 20000316; DK 0733422 T3 20000724; ES 2143743 T3 20000516; GR 3033176 T3 20000831; JP H08257729 A 19961008; NO 312182 B1 20020408; NO 961110 A 19960923; NO 961110 D0 19960319; PT 733422 E 20000630

INPADOC legal status

2008-06-30 [PG25 PT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : PT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040308

2005-06-16 [REG ES FD2A] ANNOUNCEMENT OF LAPSE IN SPAIN
- Effective date : 20040309

2005-03-08 [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 : 20050308

2005-01-07 [REG FR ST] NOTIFICATION OF LAPSE

2004-12-15 [REG IE MM4A] PATENT LAPSED

2004-12-01 [NLV4] NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE
- Effective date : 20041001

2004-11-30 [REG PT MM4A] ANNULMENT/LAPSE DUE TO NON-PAYMENT OF FEES, SEARCHED AND EXAMINED PATENT
- Free text : LAPSE DUE TO NON-PAYMENT OF FEES
- Effective date : 20040930

2004-11-30 [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 : 20041130

2004-11-15 [REG CH PL] PATENT CEASED

2004-11-02 [EUG] SE: EUROPEAN PATENT HAS LAPSED

2004-10-27 [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE

2004-10-15 [PG25 PT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : PT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20041015

2004-10-06 [PG25 GR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : GR
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20041006

2004-10-01 [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 : 20041001

2004-10-01 [PG25 NL] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : NL
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20041001

2004-09-30 [BERE] BE: LAPSED
- Owner name : *ALUSUISSE TECHNOLOGY & MANAGEMENT A.G.
- Effective date : 20040331

2004-03-31 [PG25 BE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : BE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040331

2004-03-31 [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 : 20040331

2004-03-31 [PG25 DK] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : DK
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040331

2004-03-31 [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 : 20040331

2004-03-09 [PG25 ES] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : ES
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040309

2004-03-09 [PG25 SE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : SE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040309

2004-03-08 [PG25 AT] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : AT
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040308

2004-03-08 [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 : 20040308

2004-03-08 [PG25 IE] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : IE
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040308

2003-04-03 [PGFP CH] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : CH
- Payment date : 20030403
- Year of fee payment : 8

2003-04-03 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20030403
- Year of fee payment : 8

2003-03-31 [PGFP IE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IE
- Payment date : 20030331
- Year of fee payment : 8

2003-03-25 [PGFP NL] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : NL
- Payment date : 20030325
- Year of fee payment : 8

2003-03-25 [PGFP SE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : SE
- Payment date : 20030325
- Year of fee payment : 8

2003-03-21 [PGFP AT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : AT
- Payment date : 20030321
- Year of fee payment : 8

2003-03-21 [PGFP BE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : BE
- Payment date : 20030321
- Year of fee payment : 8

2003-03-21 [PGFP DK] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DK
- Payment date : 20030321
- Year of fee payment : 8

2003-03-20 [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20030320
- Year of fee payment : 8

2003-03-07 [PGFP ES] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : ES
- Payment date : 20030307
- Year of fee payment : 8

2003-03-07 [PGFP PT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : PT
- Payment date : 20030307
- Year of fee payment : 8

2003-02-28 [PGFP GR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GR
- Payment date : 20030228
- Year of fee payment : 8

2003-02-24 [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20030224
- Year of fee payment : 8

2002-01-01 [REG GB IF02] EUROPEAN PATENT IN FORCE AS OF 2002-01-01

2001-01-24 [26N] NO OPPOSITION FILED

2000-07-24 [REG DK T3] TRANSLATION OF EP PATENT

2000-06-30 [REG PT SC4A] TRANSLATION IS AVAILABLE
- Free text : AVAILABILITY OF NATIONAL TRANSLATION
- Effective date : 20000327

2000-06-16 [ET] FR: TRANSLATION FILED

2000-05-16 [REG ES FG2A] DEFINITIVE PROTECTION
- Document : ES 2143743 T3

2000-05-03 [REG IE FG4D] EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
- Free text : GERMAN

2000-03-29 [GBT] GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977)
- Free text : ERRATUM: THE FOLLOWING EUROPEAN PATENTS WERE ADVERTISED IN ERROR IN JOURNAL 5781 DATED 1 MARCH 2000 AS HAVING BEEN FILED UNDER SECTION 77(6)(A) ON 8 FEBRUARY 2000.

2000-03-16 [REF] CORRESPONDS TO:
- Document : DE 59604390 20000316

2000-03-01 [GBT] GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977)
- Effective date : 20000209

2000-02-15 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2000-02-09 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE

2000-02-09 [REF] CORRESPONDS TO:
- Document : AT 189634 T 20000215

1999-10-21 [ITF] IT: TRANSLATION FOR A EP PATENT FILED
- Owner name : DE DOMINICIS & MAYER S.R.L.

1998-09-16 [17Q] FIRST EXAMINATION REPORT
- Effective date : 19980803

1997-05-28 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 19970325

1996-10-02 [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION
- Owner name : ALUSUISSE TECHNOLOGY & MANAGEMENT AG

1996-09-25 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A1
- Designated State(s) : AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE