Title (en)
Rotary atomizer and method for controlling the drive turbine

Title (de)
Rotationszerstäuber und Verfahren zur Steuerung seiner Antriebsturbine

Title (fr)
Atomiseur rotatif et méthode de contrôle de la turbine d'entraînement

Publication
EP 1245292 B1 20030618 (DE)

Application
EP 02006826 A 20020325

Priority
DE 10115469 A 20010329

Abstract (en)
[origin: EP1245292A1] A turbine drive substance (A) is fed to a turbine wheel (4) from supply lines (7,8) running through a sprayer. Levels of pressure and amounts are regulated according to need. If there is an increased need for drive energy, additional drive substance is fed to the turbine wheel by switching in a special channel (11). The additional drive substance branches off from a supply line (7) viz. from a speed governor (DR) to the turbine. Independent claims are also included for a rotary sprayer for carrying out the method of the present invention and for coating apparatus for use with the sprayer.

IPC 1-7 (main, further and additional classification)
B05B 5/04

IPC 8 full level (invention and additional information)
B05B 5/04 (2006.01); B05B 3/10 (2006.01)

CPC (invention and additional information)
B05B 3/1085 (2013.01); **B05B 5/0415** (2013.01)

Cited by
WO2011054496A1; CN102596422A

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

EPO simple patent family
EP 1245292 A1 20021002; EP 1245292 B1 20030618; AT 243076 T 20030715; DE 10115469 A1 20021010; ES 2201044 T3 20040316

INPADOC legal status

2018-05-31 [PGFP SE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : SE
- Payment date : 20180321
- Year of fee payment : 17

2018-05-31 [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20180323
- Year of fee payment : 17

2018-04-30 [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20180321
- Year of fee payment : 17

2018-04-30 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20180322
- Year of fee payment : 17

2018-03-23 [REG FR PLFP] FEE PAYMENT
- Year of fee payment : 17

2017-08-31 [PGFP IT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IT
- Payment date : 20170323
- Year of fee payment : 16

2017-07-31 [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 : 20150331

2017-06-30 [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 : 20150401

2017-06-30 [PGFP ES] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : ES
- Payment date : 20170315
- Year of fee payment : 16

2017-03-22 [REG FR PLFP] FEE PAYMENT
- Year of fee payment : 16

2017-03-15 [REG DE R081] CHANGE OF APPLICANT/PATENTEE
- Owner name : DUERR SYSTEMS AG, DE
- Free text : FORMER OWNER: DUERR SYSTEMS AG, 74321 BIETIGHEIM-BISSINGEN, DE
- Document : DE 50200015

2017-03-15 [REG DE R082] CHANGE OF REPRESENTATIVE
- Document : DE 50200015
- Representative's name : V. BEZOLD & PARTNER PATENTANWAELTE - PARTG MBB, DE

2016-09-07 [REG DE R081] CHANGE OF APPLICANT/PATENTEE
- Owner name : DUERR SYSTEMS AG, DE
- Free text : FORMER OWNER: DUERR SYSTEMS GMBH, 74321 BIETIGHEIM-BISSINGEN, DE
- Document : DE 50200015

2016-09-07 [REG DE R082] CHANGE OF REPRESENTATIVE
- Document : DE 50200015
- Representative's name : V. BEZOLD & PARTNER PATENTANWAELTE - PARTG MBB, DE

2016-03-21 [REG FR PLFP] FEE PAYMENT
- Year of fee payment : 15

2015-12-02 [REG NL MM] LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE
- Effective date : 20150401

2014-07-31 [PGFP BE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : BE
- Payment date : 20140319
- Year of fee payment : 13

2014-04-30 [PGFP NL] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : NL
- Payment date : 20140319
- Year of fee payment : 13

2006-11-15 [REG CH PL] PATENT CEASED

2006-03-31 [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 : 20060331

2006-03-31 [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 : 20060331

2004-06-09 [26N] NO OPPOSITION FILED
- Effective date : 20040319

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

2004-03-26 [ET] FR: TRANSLATION FILED

2004-03-25 [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 : 20040325

2004-03-25 [PG25 LU] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : LU
- Free text : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES
- Effective date : 20040325

2004-03-16 [REG ES FG2A] DEFINITIVE PROTECTION
- Document : ES 2201044 T3

2004-01-28 [REG IE FD4D] EUROPEAN PATENTS DESIGNATING IRELAND TREATED AS ALWAYS HAVING BEEN VOID

2003-09-30 [REG SE TRGR] TRANSLATION OF GRANTED EP PATENT

2003-09-18 [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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030918

2003-09-18 [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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030918

2003-09-18 [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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030918

2003-07-24 [REF] CORRESPONDS TO:
- Document : DE 50200015 P 20030724

2003-07-23 [REG IE FG4D] EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
- Free text : GERMAN

2003-07-09 [GBT] GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977)

2003-06-30 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2003-06-25 [AKX] PAYMENT OF DESIGNATION FEES
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

2003-06-18 [AK] DESIGNATED CONTRACTING STATES:
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

2003-06-18 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Countries : AL LT LV MK RO SI

2003-06-18 [REG GB FG4D] EUROPEAN PATENT GRANTED
- Free text : NOT ENGLISH

2003-06-18 [PG25 CY] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : CY
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030618

2003-06-18 [PG25 FI] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO
- Ref Country Code : FI
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030618

2003-06-18 [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 : 20030618

2003-06-18 [PG25 TR] LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

- Ref Country Code : TR
- Free text : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT
- Effective date : 20030618

2002-10-02 [17P] REQUEST FOR EXAMINATION FILED

- Effective date : 20020724

2002-10-02 [AK] DESIGNATED CONTRACTING STATES:

- Kind Code of Ref Document : A1
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

2002-10-02 [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:

- Free text : AL;LT;LV;MK;RO;SI