Title (en)

Method for producing components for the mechanical processing of aqueous papermaking pulp

Title (de)

Verfahren zur Herstellung von Garnituren für das mechanische Bearbeiten von wasserhaltigem Papierfaserstoff

Title (fr)

Procédé pour la fabrication des garnitures pour le traitement méchanique de la pâte à papier aqueuse

Publication

**EP 1055772 A1 20001129 (DE)**

Application

**EP 00106187 A 20000322**

Priority

DE 19923865 A 19990525

Abstract (en)

To produce the clothing for grinders, to grind paper fiber suspensions, a body (3) of a hard material is shaped according to structure of the grinder, penetrated by a bonding agent (4) such as solder. The assembly gives a bond between the grinder and th base body (1). The body (3) of hard material is bonded to the base body (1) by the penetration of the bonding agent, after the bodies (1,3 have been fitted together. The grinder and the base body (1) are of different materials. The hard material body (3) and the bonding a (4) are bonded together at a temp. of at least 600 degrees C or at least 1000 degrees C. The body (3) of hard material can have grooves which extend to the base body (1). The bonding agent (4) is a metallic solder, applied in a layer on the hard material b (3) before penetration, where the shape of the layer matches the outline of the body (3). The outline shape of the hard material body (3) and the layer of bonding agent is formed before penetration, in a single-stage and common action. The bonding agent lay is also applied to any grooves in the body (3). The grooves are prepared to give no bond between the solder (4) and the base bod (1). The hard material body (3) is of hard particles in a granule size of 3-100 micrometers. The granules have edges or are roun on all sides. The granules are of a hard metal. The granules are embedded in a matrix of an easily-melted material which is remo before or during penetration, so that the free zones between the granules are wholly filled by the solder. The hard material bod (3) can be a porous pack, compressed and solidified by pressing. The grinder shape matches the dimensions and outline of the har material body (3). The grinder clothing is produced in a number of stages, where the clothing height is increased in steps at ri angles to the base body, using a number of hard material bodies (3) for the same section of the grinder. A number of hard materi bodies (3), in contact with each other, are bonded together through the penetration of the bonding agent. The grinder can be structured so that a number of lands are formed on the base body (1) as narrow bars at right angles to the base, with grooves between them. Or tooth projections can be formed on the base body. A base body (1) is used, already prepared with projections, w have the same outline shape as the grinder to be made. The base body (1) can be one which has already been used, and the clothin has been worn away.

Abstract (de)

Das Verfahren dient der Herstellung von Garnituren, welche insbesondere zum Mahlen von suspendiertem Papierfaserstoff geeignet sind. Solche Garnituren bauen sich auf aus einem Grundkörper (1) und dem eigentlichen Bearbeitungselement (2). Erfindungsgemäß wird zunächst ein Hartstoff-Körper (3) in einer Form, welche zumindest einem Teil des herzustellenden Bearbeitungselementes (2) entspricht, gebildet und mit einem Bindemittel (4), welches z.B. ein Lot ist, penetriert. Dadurch erfolgt auch die Verbindung von Bearbeitungselement (2) und Grundkörper (1). <IMAGE>

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

**D21D 1/30**

IPC 8 full level (invention and additional information)

**B02C 7/12** (2006.01); **D21D 1/30** (2006.01)

CPC (invention and additional information)

**D21D 1/008** (2013.01)

Citation (search report)

- [DA] DE 19603548 A1 19970507 - VOITH SULZER STOFFAUFBEREITUNG [DE]
- [A] US 5580472 A 19961203 - MAYBON GUY [FR]

Designated contracting state (EPC)

AT DE FI FR GB

EPO simple patent family

EP 1055772 A1 20001129; EP 1055772 B1 20051207; AT 312229 T 20051215; BR 0002169 A 20010102; BR 0002169 B1 20101130; CA 2309310 A1 20001125; DE 19923865 A1 20001130; DE 50011792 D1 20060112; KR 20010049406 A 20010615; US 6443353 B1 20020903

INPADOC legal status

**2014-09-30** [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 : 20121002

**2013-01-31** [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 : 20120322

**2013-01-31** [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 : 20120402

**2013-01-17** [REG DE R119] APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE
- Document : DE 50011792
- Effective date : 20121002

**2012-12-21** [REG FR ST] NOTIFICATION OF LAPSE
- Effective date : 20121130

**2012-12-15** [REG AT MM01] LAPSE BECAUSE OF NOT PAYING ANNUAL FEES
- Document : AT 312229 T
- Effective date : 20120322

**2012-10-31** [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 NON-PAYMENT OF DUE FEES
- Effective date : 20120322

**2011-07-29** [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20110325
- Year of fee payment : 12

**2011-05-31** [PGFP FI] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FI
- Payment date : 20110314
- Year of fee payment : 12

**2011-05-31** [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20110404
- Year of fee payment : 12

**2011-05-31** [PGFP AT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : AT
- Payment date : 20110314
- Year of fee payment : 12

**2008-10-31** [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20060322
- Year of fee payment : 7

**2008-04-30** [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 : 20070322

**2007-11-28** [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
- Effective date : 20070322

**2006-11-15** [26N] NO OPPOSITION FILED
- Effective date : 20060908

**2006-09-13** [RAP2] TRANSFER OF RIGHTS OF AN EP GRANTED PATENT
- Owner name : VOITH PATENT GMBH

**2006-08-18** [ET] FR: TRANSLATION FILED

**2006-01-12** [REF] CORRESPONDS TO:
- Document : DE 50011792 P 20060112

**2005-12-28** [GBT] GB: TRANSLATION OF EP PATENT FILED (GB SECTION 77(6)(A)/1977)
- Effective date : 20051207

**2005-12-07** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT DE FI FR GB

**2005-12-07** [REG GB FG4D] EUROPEAN PATENT GRANTED
- Free text : NOT ENGLISH

**2001-08-16** [AKX] PAYMENT OF DESIGNATION FEES
- Free text : AT DE FI FR GB

**2001-07-25** [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 20010529

**2001-04-04** [RAP1] TRANSFER OF RIGHTS OF AN APPLICATION
- Owner name : VOITH PAPER PATENT GMBH

**2000-11-29** [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : A1
- Designated State(s) : AT DE FI FR GB

**2000-11-29** [AX] REQUEST FOR EXTENSION OF THE EUROPEAN PATENT TO:
- Free text : AL;LT;LV;MK;RO;SI