Title (en)
CARTON FEEDING MECHANISM

Title (de)
ZUFÜHRMECHANISMUS FÜR KARTONS

Title (fr)
MECANISME DE CHARGEMENT DE CARTONS

Publication
EP 0993405 A2 20000419 (EN)

Application
EP 98922488 A 19980522

Priority
- GB 9710639 A 19970523
- US 9810542 W 19980522

Abstract (en)
[origin: WO9852826A1] An apparatus (76) for separating opposed first and second panels (12, 14) of a carton blank being conveyed through a packaging machine (10), the apparatus comprising panel separating means arranged to move around a pre-determined locus such that the panel separating means comes into contact with and engages said first panel, the apparatus being operable to change the velocity of the panel separating means relative to the carton during engagement with said first panel so as to separate said first panel from said second panel.

IPC 1-7 (main, further and additional classification)
B65B 21/10

IPC 8 full level (invention and additional information)
B65B 21/24 (2006.01); **B65B 43/18** (2006.01); **B65B 43/26** (2006.01); **B65B 43/30** (2006.01)

CPC (invention and additional information)
B65B 21/242 (2013.01); **B65B 43/185** (2013.01); **B65B 43/305** (2013.01)

Citation (search report)
See references of WO 9852853A3

Cited by
CZ298407B6

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

EPO simple patent family
WO 9852826 A1 19981126; AR 012741 A1 20001108; AR 015818 A1 20010530; AT 216334 T 20020515; AT 222198 T 20020815; AT 223327 T 20020915; AT 229906 T 20030115; AU 7501698 A 19981211; AU 7501798 A 19981211; AU 7592898 A 19981211; AU 7594198 A 19981211; CZ 298407 B6 20070926; CZ 9904149 A3 20001213; CZ 9904152 A3 20010815; DE 69805004 D1 20020523; DE 69805004 T2 20021024; DE 69807228 D1 20020919; DE 69807228 T2 20021219; DE 69807735 D1 20021010; DE 69807735 T2 20030206; DE 69810314 D1 20030130; DE 69810314 T2 20030731; DK 0993405 T3 20021202; DK 1012041 T3 20030331; DK 1028894 T3 20021230; DK 1066198 T3 20020708; EP 0993405 A2 20000419; EP 0993405 B1 20020814; EP 1012041 A1 20000628; EP 1012041 B1 20021218; EP 1028894 A1 20000823; EP 1028894 B1 20020904; EP 1066198 A1 20010110; EP 1066198 B1 20020417; ES 2175712 T3 20021116; ES 2182306 T3 20030301; ES 2183367 T3 20030316; ES 2191306 T3 20030901; GB 9710639 D0 19970716; HU 0002688 A2 20001228; HU 0002688 A3 20010828; HU 0002824 A2 20001228; HU 0002824 A3 20010228; HU 0004220 A2 20010328; HU 0004220 A3 20011228; HU 0004630 A2 20010428; HU 0004630 A3 20010730; HU 220888 B1 20020629; PL 186656 B1 20040227; PL 188583 B1 20050228; PL 188672 B1 20050331; PL 194080 B1 20070430; PL 337022 A1 20000731; PL 337079 A1 20000731; PL 337081 A1 20000731; PL 337085 A1 20000731; PT 1012041 E 20030331; PT 1028894 E 20021231; PT 1066198 E 20020930; PT 993405 E 20021231; TW 425366 B 20010311; TW 431965 B 20010501; TW 493597 U 20020701; WO 9852824 A1 19981126; WO 9852825 A1 19981126; WO 9852853 A2 19981126; WO 9852853 A3 19990225; ZA 9804324 B 19981130; ZA 9804325 B 19981130; ZA 9804326 B 19981130

INPADOC legal status

2011-07-29 [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 : 20100522

2011-05-31 [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 : 20100531

2011-04-29 [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 : 20101201

2011-03-31 [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 : 20101201

2011-03-31 [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 : 20090522

2011-02-18 [REG FR ST] NOTIFICATION OF LAPSE
- Effective date : 20110131

2011-01-26 [GBPC] GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
- Effective date : 20100522

2010-12-08 [REG NL V1] LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE
- Effective date : 20101201

2010-01-29 [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 : 20090522

2009-11-30 [PGFP GB] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GB
- Payment date : 20090528
- Year of fee payment : 12

2009-10-30 [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 : 20080523

2009-08-31 [PGFP DE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DE
- Payment date : 20090528
- Year of fee payment : 12

2009-08-31 [PGFP FR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FR
- Payment date : 20090518
- Year of fee payment : 12

2009-07-31 [PGFP NL] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : NL
- Payment date : 20090524
- Year of fee payment : 12

2009-07-28 [REG ES FD2A] ANNOUNCEMENT OF LAPSE IN SPAIN
- Effective date : 20080523

2009-04-30 [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 : 20080522

2009-03-31 [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 : 20080531

2009-02-18 [REG IE MM4A] PATENT LAPSED

2008-11-30 [BERE] BE: LAPSED
- Owner name : *MEADWESTVACO PACKAGING SYSTEMS LLC
- Effective date : 20080531

2008-11-28 [PGFP IT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IT
- Payment date : 20080528
- Year of fee payment : 11

2008-10-31 [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 : 20061205

2008-08-29 [PGFP AT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : AT
- Payment date : 20080502
- Year of fee payment : 11

2007-12-31 [BECA] BE: CHANGE OF HOLDER'S ADDRESS
- Owner name : *MEADWESTVACO PACKAGING SYSTEMS LLCONE HIGH RIDGE
- Effective date : 20060703

2007-12-31 [BECH] BE: CHANGE OF HOLDER
- Owner name : *MEADWESTVACO PACKAGING SYSTEMS LLC
- Effective date : 20060703

2007-12-31 [BECN] BE: CHANGE OF HOLDER'S NAME
- Owner name : *MEADWESTVACO PACKAGING SYSTEMS LLC
- Effective date : 20060703

2007-06-15 [PGFP BE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : BE
- Payment date : 20070615
- Year of fee payment : 10

2007-05-30 [PGFP IE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : IE
- Payment date : 20070530
- Year of fee payment : 10

2007-05-28 [PGFP ES] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : ES
- Payment date : 20070528
- Year of fee payment : 10

2007-01-31 [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 : 20061122

2007-01-16 [EUG] SE: EUROPEAN PATENT HAS LAPSED

2007-01-15 [REG DK EBP] EP PATENT LAPSED

2007-01-15 [REG CH PL] PATENT CEASED

2006-11-22 [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 : 20061122

2006-05-31 [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 : 20060531

2006-05-31 [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 : 20060531

2006-05-31 [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 : 20060531

2006-05-23 [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 : 20060523

2006-05-22 [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 : 20060522

2005-11-25 [REG FR CL] CONCESSION TO GRANT LICENCES

2005-04-21 [PGFP GR] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : GR
- Payment date : 20050421
- Year of fee payment : 8

2005-04-19 [PGFP SE] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : SE
- Payment date : 20050419
- Year of fee payment : 8

2005-04-15 [PGFP CH] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : CH
- Payment date : 20050415
- Year of fee payment : 8

2005-04-15 [PGFP PT] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : PT
- Payment date : 20050415
- Year of fee payment : 8

2005-04-14 [PGFP FI] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : FI
- Payment date : 20050414
- Year of fee payment : 8

2005-04-12 [PGFP DK] POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE
- Ref Country Code : DK
- Payment date : 20050412
- Year of fee payment : 8

2005-04-01 [NLS] NL: ASSIGNMENTS OF EP-PATENTS
- Owner name : MW CUSTOM PAPERS, INC (A DELAWARE CORPORATION)

2005-04-01 [NLS] NL: ASSIGNMENTS OF EP-PATENTS
- Owner name : MEADWESTVACO PACKAGING SYSTEMS LLC

2005-04-01 [NLT1] NL: MODIFICATIONS OF NAMES REGISTERED IN VIRTUE OF DOCUMENTS PRESENTED TO THE PATENT OFFICE PURSUANT TO ART. 16 A, PARAGRAPH 1
- Owner name : MW CUSTOM PAPERS, LLC

2005-03-15 [REG CH PUE] ASSIGNMENT
- Owner name : MEADWESTVACO PACKAGING SYSTEMS, LLC
- Free text : THE MEAD CORPORATION#COURTHOUSE PLAZA NE#DAYTON OHIO 45463 (US) -TRANSFER TO- MEADWESTVACO PACKAGING SYSTEMS, LLC#ONE HIGH RIDGE PARK#STAMFORD, CT 06905 (US)

2004-12-10 [REG FR TP] TRANSMISSION OF PROPERTY

2003-08-06 [26N] NO OPPOSITION FILED
- Effective date : 20030515

2003-05-22 [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 NON-PAYMENT OF DUE FEES
- Effective date : 20030522

2003-03-07 [ET] FR: TRANSLATION FILED

2003-03-01 [REG ES FG2A] DEFINITIVE PROTECTION
- Document : ES 2182306 T3

2002-12-31 [REG PT SC4A] TRANSLATION IS AVAILABLE
- Free text : AVAILABILITY OF NATIONAL TRANSLATION
- Effective date : 20021014

2002-12-19 [REG GR EP] EP PATENT VALIDATED IN GREECE
- Document : GR 20020403711

2002-12-02 [REG DK T3] TRANSLATION OF EP PATENT

2002-09-19 [REF] CORRESPONDS TO:
- Document : DE 69807228 20020919

2002-09-18 [REG IE FG4D] EUROPEAN PATENTS GRANTED DESIGNATING IRELAND

2002-08-30 [REG CH NV] NEW AGENT
- Representative's name : KIRKER & CIE SA

2002-08-15 [REG CH EP] ENTRY IN THE NATIONAL PHASE

2002-08-14 [AK] DESIGNATED CONTRACTING STATES:
- Kind Code of Ref Document : B1
- Designated State(s) : AT BE CH CY DE DK ES FI FR GB GR IE IT LI NL PT SE

2002-08-14 [REG GB FG4D] EUROPEAN PATENT GRANTED

2002-08-14 [REF] CORRESPONDS TO:
- Document : AT 222198 T 20020815

2000-08-30 [17Q] FIRST EXAMINATION REPORT
- Effective date : 20000719

2000-04-19 [17P] REQUEST FOR EXAMINATION FILED
- Effective date : 19991222

2000-04-19 [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 NL PT SE