

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
21 February 2002 (21.02.2002)

PCT

(10) International Publication Number
WO 02/014606 A3

(51) International Patent Classification⁷: **D21H 27/30**,
21/22

(74) Agent: **DORITY & MANNING, P.A.**; Suite 1600,
One Liberty Square, 55 Beattie Place, P.O. Box 1449,
Greenville, SC 29602 (US).

(21) International Application Number: PCT/US01/25738

(22) International Filing Date: 16 August 2001 (16.08.2001)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/640,921 17 August 2000 (17.08.2000) US

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG).

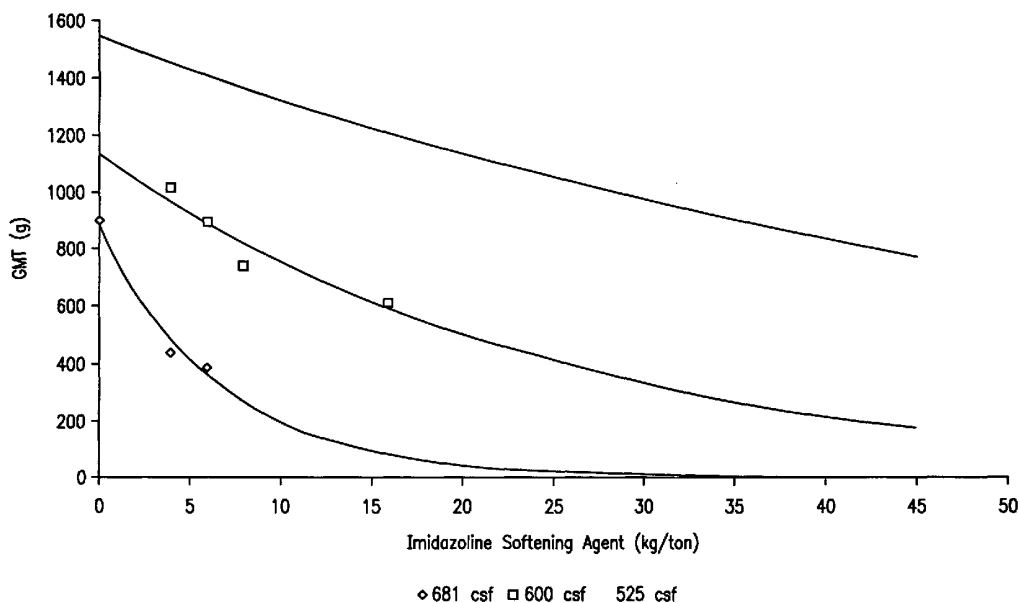
(71) Applicant: **KIMBERLY-CLARK WORLDWIDE,
INC.** [US/US]; 401 North Lake Street, Neenah, WI 54956
(US).

Published:
— with international search report

(72) Inventors: **CHEN, Patrick, P.**; 10 Timberline Court,
Appleton, WI 54913 (US). **SCHROEDER, Wen, Z.**; 232
East Carrington Lane, Appleton, WI 54913 (US). **PAWAR,
Pau-Lin**; W6858 Hazelnut Lane, Appleton, WI 54915
(US).

[Continued on next page]

(54) Title: SOFT TISSUE PAPER



(57) Abstract: The present invention is generally directed to cellulosic tissues having excellent softness and strength. The tissues are made from a multi-layered paper web containing outer layers made from fibrillated fibers and/or a blend of low-average length and high-average length fibers. The paper web is applied with a softening agent for producing a web having reduced levels of fiber bonding. Moreover, a bonding agent is also applied to the web to improve strength and tear resistance.

WO 02/014606 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

15 August 2002

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/25738

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 D21H27/30 D21H21/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D21H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 429 014 A (SMOYER JOHN C ET AL) 31 January 1984 (1984-01-31) -----	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

24 May 2002

Date of mailing of the international search report

03/06/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Songy, O

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/25738

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4429014	A	31-01-1984	
		AU 565560 B2	17-09-1987
		AU 1820783 A	08-02-1984
		BE 897267 A1	03-11-1983
		CA 1199565 A1	21-01-1986
		DE 3390079 C2	09-06-1994
		DE 3390079 T	18-10-1984
		ES 282056 U	16-12-1985
		FR 2530185 A1	20-01-1984
		GB 2137557 A , B	10-10-1984
		IT 1161490 B	18-03-1987
		NL 8320226 T	01-06-1984
		WO 8400323 A1	02-02-1984
