

Search history

Search 1: tissue and (prebiotic or polysacc* or galact* or raffinose or oligosacc* or lactulose or saccharide) (Results 153465)

Search 2: 1 and (paper or web) and dry* and (fiber or fibre) (Results 13146)

Search 3: 2 and surface and area and basis and weight (Results 6728)

Search 4: 3 and crep* (Results 662)

Search 5: 4 and tac=(tissue) (Results 350)

Search 6: 5 and tac=(paper or web or crep*) (Results 253)

Search 7: 6 and (volume or bulk) (Results 231)

Search 8: (7) AND IPC=(D21 OR A61 OR C08) (Results 215)

Search 9: (8) AND IPC=(D21) (Results 186)

Search 10: 9 and tac=(prebiotic or polysacc* or galact* or raffinose or oligosacc* or lactulose or saccharide) (Results 40)

Search 11: 8 and (g/cc or g/cm3 or g/m2) (Results 0)

Search 12: (10) AND PD=(2002 OR 2003 OR 2007 OR 2001 OR 2004 OR 2000 OR 2005 OR 2013 OR 2015 OR 1999 OR 2008 OR 2006 OR 2009 OR 2012 OR 1998 OR 1997) (Results 26)

Title: FABRIC **CREPE** PROCESS FOR MAKING ABSORBENT SHEET

Abstract: A process for making absorbent cellulosic **paper** products such as sheet for towel, **tissue** and the like, includes compactively dewatering a nascent **web** followed by wet belt **creping** the **web** at an intermediate consistency of anywhere from about 30 to about 60 percent under conditions operative to redistribute the **fiber** on the belt, which is preferably a fabric. In preferred embodiments, the **web** is thereafter adhesively applied to a Yankee **dryer** using a **creping** adhesive operative to enable high speed transfer of the **web** of intermediate consistency such as a poly(vinyl alcohol)/polyamide adhesive. An absorbent sheet so prepared from a papermaking furnish exhibits an absorbency of at least about 5 g/g, a CD stretch of at least about 4 percent, and an MD/CD tensile ratio of less than about 1.1, and also exhibits a maximum CD modulus at a CD strain of less than 1 percent and sustains a CD modulus of at least 50 percent of its maximum CD modulus to a CD strain of at least about 4 percent. Products of the invention may also exhibit an MD modulus at break 1.5 to 2 times their initial MD modulus.

Classifications:

International (IPC 8-9): D21F5/00 D21F7/00 A47K10/02 A47K10/16 A61L15/16 B31F1/07 B31F1/12 B31F1/16 B32B3/00 B32B5/02 B32B5/26 B65H19/00 C09J129/04 C09J177/00 D21F1/12 D21F11/00 D21F11/02 D21F11/14 D21F3/00 D21F3/02 D21F5/02 D21F9/00 D21H11/00 D21H11/08 D21H11/14 D21H11/20 D21H15/04 D21H17/24 D21H17/52 D21H17/55 D21H21/14 D21H21/20 D21H21/22 D21H23/00 D21H23/24 D21H25/00 D21H25/04 D21H27/00 D21H27/02 D21H27/08 D21H27/20 D21H27/30

D21H27/40 (Advanced/Invention); B65H19/00 A47K10/02 C09J177/00 D21H21/20 D21H25/00 D21H27/40 (Advanced/Non-invention); A47K10/00 B31F1/00 B32B3/00 B32B5/02 D21F11/00 D21H11/00 D21H17/00 D21H21/00 D21H21/14 D21H23/00 D21H25/00 D21H27/00 D21H27/02 D21H27/30 (Core/Invention); D21H21/14 D21H25/00 D21H27/30 (Core/Non-invention); A47K B31F D21F D21H (Subclass/Invention)

International (IPC 1-7): A01N43/90 B31F1/12 B31F1/16 D21F11/00 D21F11/02 D21F11/14 D21H11/20 D21H21/20 D21H23/24 D21H25/00

CPC: B31F1/12 D21H11/14 A47K10/02 Y10T428/24446 Y10T428/24479 Y10T428/24612 D21H27/30 B31F1/07 B31F2201/0743 B31F2201/0756 B31F2201/0764 B31F2201/0766 B31F2201/0784 B31F2201/0787 B31F2201/0789 D21H27/002 D21H27/008 D21F11/14 D21F11/145 D21H21/20 D21H25/005 D21H27/40 B31F1/126 D21H21/146 D21H27/005 D21H27/007 D21F11/006 D21H27/02 B31F1/16 Y10T428/249965 Y10T428/24455 D21H11/20 D21F11/02

European: B31F1/07 B31F1/12 B31F1/12F D21F11/00E D21F11/14 D21F11/14B D21H21/14D D21H25/00B D21H27/00D D21H27/00D2B D21H27/00D2B2 D21H27/00D4 D21H27/30 L31F201/07C2D5A L31F201/07E L31F201/07G2B L31F201/07G2D L31F201/07P L31F201/07P2 L31F201/07P4 N21H11/14 N21H21/20 N21H25/00B N21H27/00D N21H27/00D2B N21H27/02 N21H27/40

US: 1/1 156/183 156/183S 162/100 162/100S 162/101 162/109 162/109S 162/111 162/111S 162/112 162/112S 162/113 162/113S 162/117 162/122 162/123 162/125 162/129 162/132 162/135 162/141 162/142 162/147 162/147S 162/149 162/149S 162/158 162/164.1 162/164.6 162/168.3 162/168.300S 162/172 162/177 162/177S 162/197 162/204 162/205 162/205S 264/282 264/282S 264/283 264/283S 34/398 34/398S 428/152 428/152P 428/153 428/156 428/172 428/311.71 428/311.710S

Family:

Publication number	Publication date	Application number	Application date
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FIG. 1

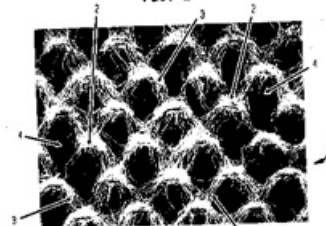


FIG. 2



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WO05103375 A1	20051103	WO2005US13272	20050419
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WO06113025 A3	20090423	WO2006US10132	20060321
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WO07001837 A2	20070104	WO2006US23037	20060613
WO07001837 A3	20071221	WO2006US23037	20060613
WO07139726 A1	20071206	WO2007US11967	20070516

Priority:

US20020416666	20021007	US20020416666	20021007	US20020416666P	20021007
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LEE ERIC M

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY
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TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: ABSORBENT SHEET HAVING REGENERATED CELLULOSE MICROFIBER NETWORK

Abstract: An absorbent **paper** sheet for **tissue** or towel includes from about 99 percent to about 70 percent by **weight** of cellulosic papermaking **fiber** and from about 1 percent to about 30 percent by **weight** fibrillated regenerated cellulose microfibril which was regenerated from a cellulosic dope utilizing a tertiary amine N-oxide solvent or an ionic liquid. Fibrillation of the microfibril is controlled such that it has a reduced coarseness and a reduced freeness as compared with unfibrillated regenerated cellulose microfibril from which it is made and provides at least one of the following attributes to the absorbent sheet: (a) the absorbent sheet exhibits an elevated SAT value and an elevated wet tensile value as compared with a like sheet prepared without fibrillated regenerated cellulose microfibril; (b) the absorbent sheet exhibits an elevated wet/**dry** CD tensile ratio as compared with a like sheet prepared without fibrillated regenerated cellulose microfibril; (c) the absorbent sheet exhibits a lower GM Break Modulus than a like sheet having like tensile values prepared without fibrillated regenerated cellulose microfibril; or (d) the absorbent sheet exhibits an elevated **bulk** as compared with a like sheet having like tensile values prepared without fibrillated regenerated cellulose microfibril. In some embodiments, the pulp is pre-treated with debonder to enhance the wet/**dry** CD tensile ratio of the sheet.

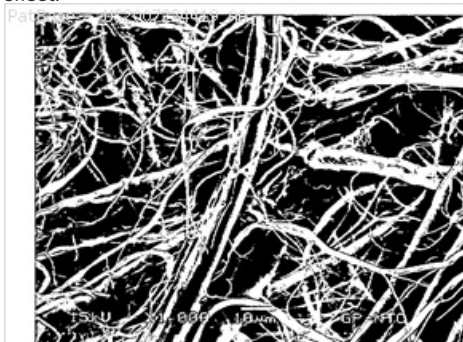
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International (IPC 8-9): A47K10/02 A47K10/16 A47L13/16 A61F13/15 A61L15/16 B08B1/00 B28B21/48 B31F1/12 B32B5/00 B32B5/26 C11D17/04 D02G3/00 D21C9/00 D21F11/00 D21F13/00 D21F9/02 D21H11/00 D21H11/04 D21H11/14 D21H11/18 D21H11/20 D21H13/02 D21H13/08 D21H13/28 D21H15/00 D21H15/02 D21H17/27 D21H17/33 D21H17/43 D21H17/52 D21H17/55 D21H21/18 D21H21/20 D21H21/22 D21H21/50 D21H23/00 D21H23/04 D21H27/00 D21H27/02 (Advanced/Invention); A47L13/16 B08B1/00 B28B21/00 B31F1/00 B32B5/00 D02G3/00 D21C9/00 D21F11/00 D21H11/00 D21H13/00 D21H15/00 D21H17/00 D21H21/22 D21H23/00 (Core/Invention)

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**Family:**

Publication number	Publication date	Application number	Application date
CA2646559 AA	20080918	CA20072646559	20070320
CA2646559 C	20160510	CA20072646559	20070320
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Priority:

US20060784228P	20060321	US20060850467P	20061010	US20060850681P	20061010
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Probable Assignee: GEORGIA PACIFIC CONSUMER PRODUCTS LP

Assignee(s): (std): DZHORDZHIJA PASIFIK KONZ JUMER PRODAKTS EHLPI ; DZHORDZHIJA PEHSIFIK KONS JUMER PRODAKTS LP ; EDWARDS STEVEN L ; GEORGIA PACIFIC CONSUMER PRODUCTS LP ; SUMNIGHT DANIEL W ; KOKKO BRUCE J ; GEORGIA PACIFIC CONSUMER PROD ; MILLER JOSEPH H

Assignee(s): GEORGIA PACIFIC CONSUMER PRODUCTS LP ATLANTA ; GPCP IP HOLDINGS LLC ; EDWARDS STEVN L

Inventor(s): (std): BRUCE J KOKKO ; EDWARDS STEVEN L ; KOKKO BRUCE J ; MILLER DZHOZEF KH ; MILLER JOSEPH H ; STEVEN L EDWARDS ; SUMNIGHT DANIEL W ; ZUMNIKHT DEHNIEL U ; KOKKO BRJUS DZH ; EDWARDS STEVN L

Inventor(s): EDWARDS STEVEN L FREMONT ; SUMNIGHT DANIEL W GREEN BAY ; KOKKO BRUCE J NEENAH

Agent(s): OGILVY RENAULT LLP SENCRL SRL; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER ANWALTSSOZIETAET; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; DE ELZABURU ALBERTO; UGUR GUERSAD YALCINER; PATENT GROUP GA030-43, GEORGIA-PACIFIC LLC; PATENT GROUP GA030 43 GEORGIA PACIFIC LLC; GEORGIA-PACIFIC LLC; GEORGIA PACIFIC LLC; MICHAEL W; LAURA L; LEE ERIC M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD OF INDIRECT APPLICATION OF FROTHED CHEMISTRY TO A SUBSTRATE

Abstract: Substrates such as **tissue** and nonwovens have an additive composition applied topically thereto. The additive composition, for instance, comprises a frothed aqueous dispersion or solution which is topically applied to the **web** through a **creping** process after the **web** has been formed. The additive composition may be applied in-line to the **web** as a **creping** adhesive during a **creping** operation. In the alternative, the additive composition may be added in an off-line converting process that **crepes** a **dry** pre-formed substrate material. The additive composition may improve **bulk** and softness of the **tissue**.

Classifications:

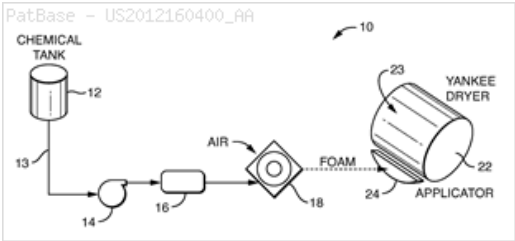
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US: 156/183 156/231 156/247 156/247S 162/111 424/402 424/402P 428/152 428/152S 428/153 428/153S 428/292.1 428/88 442/153 442/153S 442/394 442/394S 442/401 442/408 442/59 442/59S 442/76 442/76P 604/359 604/360 604/367



Family:

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AU2011350703 AA	20120705	AU20110350703	20111221
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Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): ABUTO FRANK P ; CALEWARTS DEBORAH J ; CALEWARTS DEBORAH JOY ; CAMPBELL STEPHEN M ; JURENA JEFFREY F ; DESAI KEYUR M ; JERENA JEFFREY F ; KIMBERLY CLARK CO ; JACKSON DAVID M ; DAY JENNY L ; KIMBERLY CLARK CO LTD ; KIMBERLI KLARK VORLDOVAJD INK ; KIMBERLY CLARK WORLDWIDE INC ; QIN JIAN ; WALDROUP DONALD E ; KIMBERLY CLARK CORP

Assignee(s): KIMBERLY CLARK WORLDWIDE INC NEENAH ; KIMBERY CLARK WORLDWIDE INC

Inventor(s): (std): ABUTO FRANK P ; ABUTO FRANK PAUL ; ABUTO FRENIS P ; ABUTO FRENK P ; CALEWARTS DEBORAH J ; CAMPBELL STEPHEN M ; CALEWARTS DEBORAH JOY ; BIGGS DAVID G ; CALEWARTS DEBORAH ; CALE WARTS DEBORAH J ; ADRIENNE R LOYD ; DESAI KEYUR M ; DAY JENNY L ; DEBORAH J CALEWARTS ; DONALD E WALDROUP ; DAY VIRGINIA LEE ; DESAI KEYUR ; DAY JENNY ; ABUTO FRANCIS P ; CANDACE D KRAUTKRAMER ; DAVID G BIGGS ; DEBORAH JOY CALEWARTS ; DEJ DZHENNI L ; DESAJ KEYUR M ; QIN JIAN ; JURENA JEFFREY F ; JERENA JEFFREY F ; JACKSON DAVID M ; KRAUTKRAMER CANDACE D ; HAMMONDS YVETTE L ; LOYD ADRIENNE R ; JEFFREY F JURENA ; KEYUR M DESAI ; JIAN QIN ; JABLONS DAVID M ; FAULKS MICHAEL J ; FRANK PAUL ABUTO ; JENNY L DAY ; FRANK P ABUTO ; HAM MONDS YVETTE L ; FRANCIS P ABUTO ; MICHAEL J FAULKS ; DONALD EUGENE WALDROUP ; RAY A STERLING ; KEYUR DESAI ; KEJLUORTS DEBORA DZH ; LOJD EDRIENN R ; DZHURENA DZHEFFRI F ; KHAMMONDS IVETT L ; KRAUTKREMER KENDASI D ; WALDROUP DONALD E ; SHAWVER SUSAN E ; STERLING RAY A ; WALDROUP DONALD EUGENE ; SUSAN E SHAWVER ; YVETTE L HAMMONDS ; VIRGINIA LEE DAY ; SHOUVER SYUZAN E ; TSIN TSZYAN ; UOLDROUP DONALD E ; UOLDROP DONALD E

Inventor(s): SHAWVER SUSAN E ROSWELL ; WALDROUP DONALD E ROSWELL ; QIN JIAN APPLETON ; HAMMONDS YVETTE L OSHKOSH ; JURENA JEFFREY F APPLETON ; KRAUTKRAMER CANDACE D NEENAH ; LOYD ADRIENNE R NEENAH ; JENNY DAY ; DESAI KEYUR M ALPHARETTA ; DAVID M JACKSON ; ABUTO FRANCIS P JOHNS CREEK ; DEBORAH CALEWARTS ; DAVID M JABLONS ; CALEWARTS DEBORAH J APPLETON

Agent(s): FREEHILLS PATENT ATTORNEYS; SPRUSON AND FERGUSON; MADDERNS PATENT AND TRADE MARK ATTORNEYS; DEHNS; ZIMMERMANN AND PARTNER; MABEY KATHERINE FRANCES; DAVIES CHRISTOPHER ROBERT; KENYA T; DENISE L; PIERRE KENYA THACKER ET AL; FIELDHACK RANDALL W ET AL; STOKER DENISE L ET AL; CASSIDY TIMOTHY A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: Differential density cellulosic structure and process for making same

Abstract: A differential density single lamina **web** of cellulosic **fibers** comprises at least two pluralities of micro-regions disposed in a non-random and repeating pattern: a first plurality of high density regions and a second plurality of low density regions. The high density regions comprise cellulosic **fibers** comprising fluid latent indigenous polymers (FLIP), such as hemicelluloses and lignin. The **fibers** of the high-density regions are FLIP-bonded, i.e., bonded together by a process of softening, flowing and immobilization of the FLIP between the cellulosic **fibers** of the high density regions. The process for making the **web** comprises the steps of providing a plurality of papermaking **fibers** comprising FLIP; providing a macroscopically monoplanar papermaking belt having a **web**-facing **surface** and deflection conduits; depositing the plurality of the cellulosic **fibers** on the papermaking belt to form a **web**; heating the **web** to a temperature sufficient to cause the FLIP contained in a first portion associated with the **web**-facing **surface** of the belt to soften; impressing the **web**-side **surface** of the belt into the **web**; immobilizing the flowable FLIP and creating FLIP-bonds between the **fibers** comprising the first portion of the **web**.

Classifications:

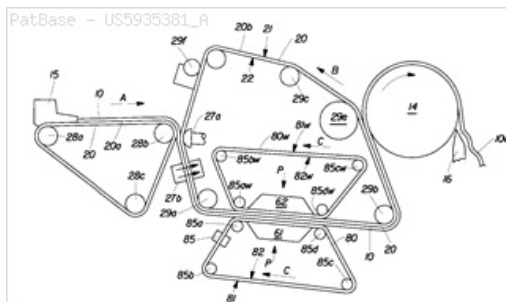
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International (IPC 1-7): D04H D04H1/58 D04H13/00 D21F11/00 D21F11/14 D21F3/00 D21F5/00 D21F5/02 D21H11/00 D21H27/00 D21J

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European: D21F11/00E D21F11/14 D21F5/00C

US: 162/109 162/111 162/112 162/113 162/117 162/192 162/205 162/206 162/207 34/414 34/422



Family:

Publication number	Publication date	Application number	Application date
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EP1073791 B1	20030122	EP19990910616	19990412
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TW538176 B	20030621	TW19980121282	19990129
US5935381 A	19990810	US19970870535	19970606
US5938893 A	19990817	US19970920204	19970815
US6090241 A	20000718	US19980065655	19980423
US6139686 A	20001031	US19970994927	19971219
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ZA200005235 A	20020327	ZA20000005235	20000928
ZA9804843 A	19981207	ZA19980004843	19980604
ZA9806941 A	19990215	ZA19980006941	19980803
ZA9811526 A	19990621	ZA19980011526	19981215

Priority:

US19970870535	19970606	US19970920204	19970815	US19970994927	19971219
US19980065655	19980423	WO1998US11013	19980529	WO1998IB01179	19980731
WO1998US26459	19981214	WO1999IB00636	19990412		

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PROCTER AND GAMBLE ; PROCTER AND GAMBLE CELLULOSE ; PROCTER AND GAMBLE CELLULOSE CO ; PROCTER AND GAMBLE CO ; PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE CELLULOSE COMPANY ; THE PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO

Assignee(s): THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; THE PROCTER AND GAMBLE CELLULOSE CO N D GES D STAATES DELAWARE WILMINGTON ; THE PROCTER AND GAMBLE CELLULOSE COMPANY AN OHIO CORP ; SENAPATI NAGABHUSAN ; STELLJES MICHAEL GOMER JR ; RICHARDS MARK RYAN ; THE PROCTER AND GAMBLE COMPANY CINCINNATI ; THE PROCTER AND GAMBLE COMPANY ; TROKHAN PAUL DENNIS ; PROCTER AND GAMBLE CELLULOSE CO N D GES D STA ; THE PROCTER AND GAMBLE CELLULOSE COMPANY (AN ; GAMBLE CO ; HUSTON LARRY LEROY ; MCLAUGHLIN CAROL ANN ; PROCTER AND

Inventor(s): (std): CAROL ANN MCLAUGHLIN ; HUSTON LARRY LEROY ; IROKHAN PAUL DENNIS ; JR MICHAEL GOMER STELLJES ; JR STELLJES MICHAEL GOMER JR ; JR STELLJES MICHAEL GOMER JR STELLJES MICHAEL GOME ; JR STELLJES MICHAEL GOMER ; LARRY LEROY HUSTON ; MARK R RICHARDS ; MARK RYAN RICHARDS ; MARY RYAN RICHARDS ; MCLAUGHLIN C A ; MCLAUGHLIN CAROL ANN ; MICHAEL G STELLJES JR ; MICHAEL GOMER JR STELLJES ; RICHARDS M P ; RICHARDS MARK RYAN RICHARDS MARK RYAN ; RICHARDS RYAN ; STELLJES MICHAEL GOMER JR ; STELLJER JR MICHAEL GOMER ; STELLJERS MICHAEL GOMER JR ; STELLJES GOMER ; STELLJES GOMER MICHAEL JR ; STELLJES JR ; STELLJES JR M G ; STELLJES MICHAEL GOMER ; TROKHAN DENNIS ; TROKHAN P D ; TROKHAN PAUL

DENIS ; TROKHAN PAUL DENNIS TROKHAN PAUL DENNIS ; RICHARDS M R ; NAGABHUSAN SENAPATI ; PAUL D TROKHAN ; PAUL DENNIS IROKHAN ; PAUL DENNIS TROKHAN ; MCLAUGHLIN ANN ; MC LAUGHLIN CAROL ANN ; JR STELLJES MICHAEL GOMER ; HUSTON LEROY ; TROKHAN PAUL DENNIS ; TROKHAN PAUL D ; STELLJES MICHAEL GOMER JR ; STELLJES MICHAEL G JR ; STELLJES MICHAEL G ; STELLJES JR MICHAEL GOMER ; SENAPATI NAGABHUSAN ; RICHARDS MARY RYAN ; RICHARDS MARK RYAN ; RICHARDS MARK R ; MICHAEL GOMER STELLJES JR ; MCLAUGHLIN CAROL A

Inventor(s):

M R RICHARDS ; CAROL A MCLAUGHLIN ; MP RICHARDS ; P D TROKHAN ; STELLJES JR M ; STELLJES MICHAEL GOMER JR HUSTON LARRY LEORY ; JR M G STELLJES ; PD TROKHAN ; MICHAEL GOMER STELLJERS JR ; MICHAEL GOMER STELLJER JR ; MICHAEL GOMER STELLJES ; MICHAEL G STELLJES ; M P RICHARDS ; C A MCLAUGHLIN ; CA MCLAUGHLIN ; JR STELLJES MICHAEL GOMER JR STELLJES MICHAEL GOMER

Agent(s):

PHILLIPS ORMONDE FITZPATRICK; WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; SIM AND MCBURNEY; DIMOCK STRATTON LLP; WILSON LUE LLP; HARNECKER; CARLOS REINALDO OLARTE GARCIA

Designated states:

AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZA ZW

Title: **TISSUE** PRODUCT COMPRISING BAMBOO

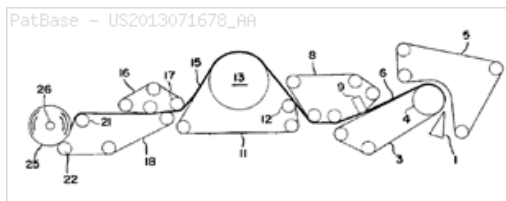
Abstract: The disclosure provides **tissue webs**, and products incorporating the same, where the **webs** comprise wood and bamboo **fibers**. More specifically the disclosure provides soft and durable through-air dried **tissue webs** comprising at least about 10 percent bamboo **fiber** by **weight** of the **web**. In the through-air dried **tissue webs** of the present disclosure, bamboo typically replaces high average **fiber** length wood **fibers**, which increases the **bulk** of the through-air dried **web** without negatively effecting softness or durability.

Classifications:

International (IPC 8-9): B32B21/06 B32B23/04 B32B29/02 B32B5/02 B32B5/26 D21H11/00 D21H11/04 D21H11/12 D21H17/02 D21H19/80 D21H21/18 D21H27/00 D21H27/30 D21H27/38 D21H27/42 (Advanced/Invention); D21H25/04 (Advanced/Non-invention)

CPC: D21H27/38 D21H11/12 D21H27/002 B32B5/022 B32B5/26 B32B2262/065 B32B2262/067 B32B2555/00 B32B2555/02 D21H25/04 D21H27/30 Y10T428/31971 Y10T428/31975 Y10T428/31978 Y10T428/31982 Y10T428/31986 D21H11/04

US: 1/1 162/100 162/123 162/129 162/141 162/148 428/532 428/533 428/534 428/535 428/536



Family:

Publication number	Publication date	Application number	Application date
AU2012311164 AA	20130328	AU20120311164	20120808
AU2012311164 BB	20150122	AU20120311164	20120808
BR112014005592 A2	20170321	BR20141105592	20120808
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CA2847064 C	20160607	CA20122847064	20120808
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CN103814173 B	20160302	CN201280045916	20120808
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EP2758593 A2	20140730	EP20120833637	20120808
EP2758593 A4	20150429	EP20120833637	20120808
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KR20140068073 A	20140605	KR20147007126	20120808
MX2014002400 A1	20140605	MX20140002400	20120808
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TW201319358 A	20130516	TW20120132938	20120910
TWI577855 B	20170411	TW20120132938	20120910
US2013071678 AA	20130321	US20110238826	20110921
US2013299107 AA	20131114	US20130874034	20130430
US2014284010 AA	20140925	US20140296929	20140605
US2016069029 AA	20160310	US20150944987	20151118
US8524374 BB	20130903	US20110238826	20110921
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US9222224 BB	20151229	US20140296929	20140605
US9410291 BB	20160809	US20150944987	20151118
WO13041986 A2	20130328	WO20121B54042	20120808
WO13041986 A3	20130523	WO20121B54042	20120808

Priority:

US20110212011 20110921 US20110238826 20110921 WO20121B54042 20120808
US20130874034 20130430 US20140296929 20140605 US20150944987 20151118

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO ; KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; SHANNON THOMAS GERARD

Inventor(s): (std): SHANNON THOMAS GERARD ; THOMAS GERARD SHANNON

Agent(s): SPRUSON AND FERGUSON; BORDEN LADNER GERVAIS LLP; J IAN RAISBECK; DAVIES CHRISTOPHER ROBERT; MICHAEL J; KIMBERLY CLARK WORLDWIDE INC; SULLIVAN MICHAEL J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **TISSUE** COMPRISING MACROALGAE

Abstract: The disclosure provides **tissue webs**, and products incorporating the same, where the **webs** comprise macroalgae **fibers**. More specifically the disclosure provides soft and durable **tissue webs** comprising at least about 1 percent macroalgae **fiber** by **weight** of the **web**. In the **tissue webs** of the present disclosure, macroalgae **fibers** may preferably replace high average **fiber** length wood **fibers**, which increases the strength and durability of the **web** without negatively stiffness.

Classifications:

International (IPC 8-9): A47K10/16 D21F11/00 D21H11/00 D21H11/12 D21H13/10 D21H21/00 D21H27/38 (Advanced/Invention)

CPC: D21H11/00 D21H17/005 D21H17/02 D21H27/002 D21H27/005 D21H27/007 D21H27/30 D21H27/38 D21H11/12 A47K10/16 D21H21/00

US: 162/100 162/111 162/129 162/148 162/99

Family:

Publication number	Publication date	Application number	Application date
AU2013264868 AA	20131128	AU20130264868	20130506
AU2013264868 BB	20150514	AU20130264868	20130506
BR112014028544 A2	20170627	BR20141128544	20130506
CA2873436 AA	20141112	CA20132873436	20130506
CA2873436 C	20160621	CA20132873436	20130506
CO7141442 A2	20141212	CO20140254990	20141120
EP2855769 A1	20150408	EP20130793146	20130506
EP2855769 A4	20160302	EP20130793146	20130506
KR101553500 B1	20150915	KR20147032548	20130506
KR20150014933 A	20150209	KR20147032548	20130506
MX2014013438 A1	20141208	MX20140013438	20130506
US2013312923 AA	20131128	US20120481154	20120525
US2014034255 AA	20140206	US20130043955	20131002
US8574400 BA	20131105	US20120481154	20120525
US8771468 BB	20140708	US20130043955	20131002
WO13175331 A1	20131128	WO20131B53634	20130506

Priority:

US20120481154 20120525 WO20131B53634 20130506 US20130043955 20131002

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO ; KIMBERLY CLARK CORP ; KRAUTKRAMER CANDACE DYAN ; SHANNON THOMAS GERARD ; SHI BO ; VEITH MICHAEL WILLIAM

Assignee(s): KIMBERLY CLARK WORLDWIDE INC ; KIMBERLY CLARK WORLDWIDE INC2300 WINCHESTER ROADNEENAHWI54956US

Inventor(s): (std): BO SHI ; CANDACE DYAN KRAUTKRAMER ; KRAUTKRAMER CANDACE DYAN ; SHANNON THOMAS GERARD ; MICHAEL WILLIAM VEITH ; SHI BO ; VEITH MICHAEL WILLIAM ; THOMAS GERARD SHANNON

Inventor(s): VEITH MICHAEL WILLIAMUS ; SHANNON THOMAS GERARDUS ; SHI BOUS ; KRAUTKRAMER CANDACE DYANUS

Agent(s): SPRUSON AND FERGUSON; BORDEN LADNER GERVAIS LLP; J IAN RAISBECK; MABEY KATHERINE FRANCES; MICHAEL J; KIMBERLY CLARK WORLDWIDE INC; SULLIVAN MICHAEL J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: FIBROUS MATERIALS TREATED WITH A POLYVINYLAMINE POLYMER

Abstract: Textile materials, including [paper webs](#), treated with a polyvinylamine polymer and a second agent that interacts with the polyvinylamine polymer is disclosed. The second agent added with the polyvinylamine polymer can be, for instance, a polymeric anionic reactive compound or a polymeric aldehyde-functional compound. When incorporated into a [paper web](#), the combination of the polyvinylamine polymer and the second agent provide improved strength properties, such as wet strength properties. In an alternative embodiment, the polyvinylamine polymer and the second polymer can be applied to a textile material for increasing the affinity of the textile material for acid dyes.

Classifications:

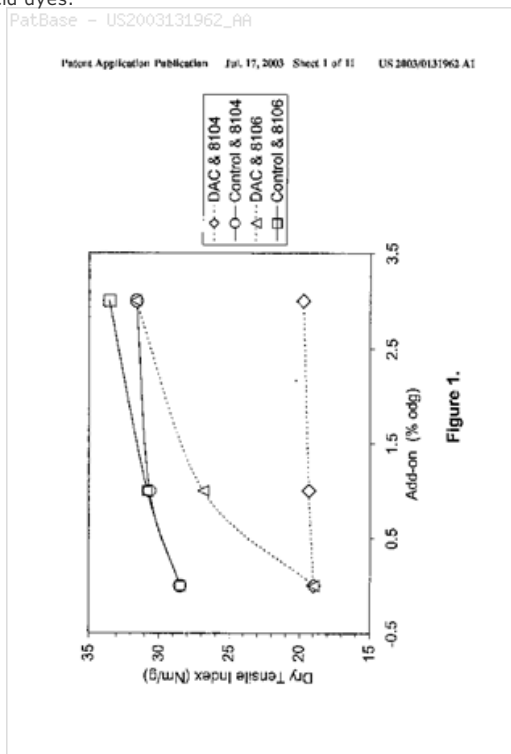
International (IPC 8-9): D06M15/285 D21H17/24 D21H17/34 D21H17/42 D21H17/44 D21H17/45 D21H17/70 D21H21/18 D21H21/24 D21H23/76 (Advanced/Invention); D21H17/24 D21H17/34 D21H17/42 D21H21/24 (Advanced/Non-invention)

International (IPC 1-7): D06M15/285 D21H17/24 D21H17/34 D21H17/42 D21H17/44 D21H17/45 D21H17/55 D21H17/56 D21H17/72 D21H21/20 D21H21/24 D21H23/76

CPC: D21H17/24 D21H17/34 D21H17/36 D21H17/42 D21H17/56 D21H17/72 D21H21/18 D21H23/76 D21H27/002

European: D21H21/18 D21H23/76 N21H17/24 N21H17/34 N21H17/36 N21H17/42 N21H17/56 N21H17/72 N21H27/00D

US: 162/135 162/168.1 162/168.100S 162/168.2 162/168.200P 162/168.200S 162/168.3 162/168.300S 162/175 162/179 162/179S 162/184 162/184S



Family:

Publication number	Publication date	Application number	Application date
AR037802 AA	20041201	AR2002P104812	20021211
AU2002327002 AA	20030630	AU20020327002	20020920
BRPI0214713 A	20050503	BR2002PI14713	20020920
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EP1456472 B1	20081126	EP20020761763	20020920
EP1456472 B2	20120502	EP20020761763	20020920
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TW200303387 A	20030901	TW20020135246	20021205
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US2004256066 AA	20041223	US20040895594	20040721
US6824650 BB	20041130	US20010023489	20011218
WO03052206 A1	20030626	WO2002US29937	20020920

Priority:

US20010023489 20011218 EP20020761763 20020920 WO2002US29937 20020920
US20040895594 20040721

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO ; KIMBERLEY CLARK WORLDWIDE INC ; KIMBERLY CLARK WORLDWIDE INC

Assignee(s): RUNGE TROY ; LOSTOCCO MIKE ; LANG FRED ; LINDSAY JEFF ; LINDSAY JEFFREY D ; LANG FREDERICK J ; GOULET MIKE THOMAS ; SHANNON TOM G ; SUN TONG ; BRANHAM KELLY ; FLUGGE LISA ; FLUGGE LISA A ; FOSTER JAMIE ; GARNIER GIL ; GOULET MIKE

Inventor(s): (std): BRANHAM KELLY ; FLUGGE LISA ; FLUGGE LISA A ; FOSTER JAMIE ; FRED LANG ; FREDERICK J LANG ; GARNIER GIL ; GIL GARNIER ; GOULET MIKE ; GOULET MIKE THOMAS ; JAMIE FOSTER ; JEFFREY D LINDSAY ; KELLY BRANHAM ; LANG FRED ; LANG FREDERICK J ; LINDSAY JEFF ; LINDSAY JEFFREY D ; LISA A FLUGGE ; LISA FLUGGE ; LOSTOCCO MIKE ; MIKE LOSTOCCO ; MIKE THOMAS GOULET ; RUNGE TROY ; SHANNON TOM G ; SUN TONG ; TOM G SHANNON ; TONG SUN ; TROY RUNGE

Inventor(s): MIKE GOULET ; JEFF LINDSAY

Agent(s): SPRUSON AND FERGUSON; BORDEN LADNER GERVAIS LLP; BEACHAM ANNABEL ROSE

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Title: FIBROUS STRUCTURES COMPRISING A POLYMER STRUCTURE

Abstract: Polymer structures and methods for making such polymer structures are provided. More particularly, polymer structures comprising a hydroxyl polymer structure, such as a **fiber** comprising a hydroxyl polymer are provided. Even more particularly, fibrous structures comprising a hydroxyl polymer structure, such as a **fiber** comprising a hydroxyl polymer, wherein the fibrous structure exhibits a CETM Factor of less than 20 and/or a CETMssL² Factor of less than 950 are provided.

Classifications:

International (IPC 8-9): A61K9/70 B32B27/00 B32B27/04 B32B5/02 B32B5/26 B32B7/02 C08B3/00 C08J3/24 C08J5/00 C08J9/00 C08L101/06 C08L29/04 D01F6/14 D01F6/50 D01F6/88 D01F9/00 D02G3/00 D04H1/42 D04H1/4309 D04H1/4326 D04H1/545 D04H13/00 D04H3/00 D04H3/005 D04H3/007 D04H3/009 D04H3/03 D04H3/12 D04H3/14 D04H3/16 D04H316/00 D21H11/00 (Advanced/Invention);

A61K9/70 B32B27/00 B32B27/04 B32B5/02 B32B7/02 C08J9/00 D01F6/44 D02G3/00 D04H1/42 D04H3/00 D04H3/08 D04H3/16 D21H11/00 (Core/Invention)

CPC: D04H3/005 D01F6/50 D01F6/88 D04H1/4309 D04H1/4326 D04H1/545 D04H3/007 D04H3/009 D04H3/03 D01F6/14 D01F9/00 D04H3/14 D04H3/16 D04H13/002 Y10T442/2525 Y10T428/24479 Y10T428/24942 Y10T428/29 Y10T428/2913 D04H13/007 B32B5/26 B32B2555/00 Y10T428/249921 D04H1/551 D04H3/013

European: D01F6/14 D01F9/00 D04H13/00B2 D04H3/14 D04H3/16

US: 1/1 156/167 156/181 162/157.2 424/443 428/152 428/156 428/171 428/212 428/221 428/357 428/364 442/123 442/392 442/414 604/358

PatBase - US2006275347_AA

Patent Application Publication: Dec. 7, 2006 Sheet 1 of 6 US 2006/0275347 A1

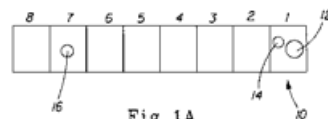


Fig. 1A

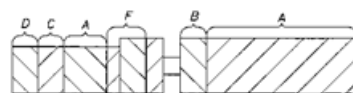


Fig. 1B

Family:

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CA2610353 AA	20071127	CA20062610353	20060602
CA2610353 C	20120320	CA20062610353	20060602
CA2714092 AA	20061214	CA20062714092	20060602
CA2714092 C	20130806	CA20062714092	20060602
CL2006001349 A1	20070216	CL20060001349	20060602
CN101184881 A	20080521	CN200680018653	20060602
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EP1885928 A2	20080213	EP20060771965	20060602
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JP5142990 B2	20130213	JP20080514903T	20060602
MX2007015164 A1	20080409	MX20070015164	20060602
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US2013327468 AA	20131212	US20130966774	20130814
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US9103056 BB	20150811	US20130966774	20130814
WO06132973 A2	20061214	WO2006US21473	20060602
WO06132973 A3	20070405	WO2006US21473	20060602

Priority:

US20050687043P 20050603	US20060411333 20060426	AU20060255284 20060602
CA20062610353 20060602	CA20062714092 20060602	EP20060771965 20060602
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US20150754862 20150630		

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): CABELL DAVID WILLIAM ; DEBRULER TEDI LEA ANNE ; EVERS SMITH LINDA ; GORDON GREGORY CHARLES ; MACKEY LARRY NEIL ; PROCTER AND GAMBLE ; TROKHAN PAUL DENNIS

Assignee(s): THE PROCTOR AND GAMBLE COMPANY ; PROCTER AND GAMBLE CO ; PROCTER AND GAMBLE CO CINCINNATI ; PROCTER AND GAMBLE CO ; THE PROCTOR AND GAMBLE COMPANY

Inventor(s): (std): CABELL DAVID W ; CABELL DAVID WILLIAM ; CHARLES GORDON GREGORY ; DEBRULER TEDI LEA A ; DEBRULER TEDI LEA ANNE ; DENNIS TROKHAN PAUL ; EVERS SMITH LINDA ; GORDON GREGORY C ;

GORDON GREGORY CHARLES ; NEIL MACKEY LARRY ; MACKEY LARRY N ; MACKEY LARRY NEIL ;
TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; WILLIAM CABELL DAVID ; LINDA EVERS SMITH ; ANNE
DEBRULER TEDI LEA ; DE BRULER TEDI LEA ANNE

Inventor(s):

CABELL DAVID ; TROKHAN PAUL DENNIS HAMILTON ; MACKEY LARRY NEIL FAIRFIELD ; PAUL DENNIS
TROKHAN ; TEDI LEA ANNE DEBRULER ; TROKHAN PAUL ; GREGORY CHARLES GORDON ; LARRY NEIL
MACKEY ; MACKEY LARRY ; EVERS SMITH LINDA MORROW ; EVRES SMITH LINDA ; GORDON GREGORY
; DEBRULER TEDI LEA ANNE WEST CHESTER ; DEBRULER TEDI LEA AN ; DAVID WILLIAM CABELL ;
DEBRULER TEDI LEA ; CABELL DAVID WILLIAM CINCINNATI

Agent(s):

WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY
LTD; DIMOCK STRATTON LLP; WILSON LUE LLP; HARNECKER; CORTICCHIATO OLIVIER; CABINET
PLASSERAUD; DE ELZABURU ALBERTO; THE PROCTER AND GAMBLE COMPANY, INTELLECTUAL
PROPERTY DIVISION; PROCTER AND GAMBLE CO INTELLECTUAL PROPERTY DIVISION; THE PROCTER
AND GAMBLE COMPANY,GLOBAL LEGAL DEPARTMENT - IP; PROCTER AND GAMBLE CO GLOBAL LEGAL
DEPARTMENT IP; C BRANT

Designated states:

AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ
DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE
KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI
NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA
UG US UZ VC VN YU ZA ZM ZW

Title: SOFT, BULKY SINGLE-PLY **TISSUE** HAVING LOW SIDEDNESS AND METHOD FOR ITS MANUFACTURE

Abstract: The present invention relates to a soft, thick, single-ply **tissue** and to a process for the manufacture of such **tissue** product having a **basis weight** of at least about 15 lbs./3,000 square foot ream and having low sidedness, said **tissue** exhibiting: a specific total tensile strength of between 40 and 75 grams per 3 inches per pound per 3000 square feet ream, a cross direction specific wet tensile strength of between 2.75 and 7.5 grams per 3 inches per pound per 3000 square feet ream, the ratio of MD tensile to CD tensile of between 1.25 and 2.75, a specific geometric mean tensile stiffness of between 0.5 and 1.2 grams per inch per percent strain per pound per 3000 square feet ream, a friction deviation of less than 0.225, and a sidedness parameter of less than 0.275.

Classifications:

International (IPC 8-9): B31F1/07 D21F11/14 D21H17/07 D21H21/20 D21H21/22 D21H27/02 (Advanced/Invention); D21H17/07 D21H17/29 D21H25/00 (Advanced/Non-invention); B31F1/00 D21F11/00 D21H21/14 D21H21/22 (Core/Invention); D21H17/00 D21H25/00 (Core/Non-invention)

International (IPC 1-7): B32B3/00 D21F11/14 D21H17/06 D21H17/07 D21H17/14 D21H17/72 D21H21/20 D21H21/22 D21H27/00 D21H27/02

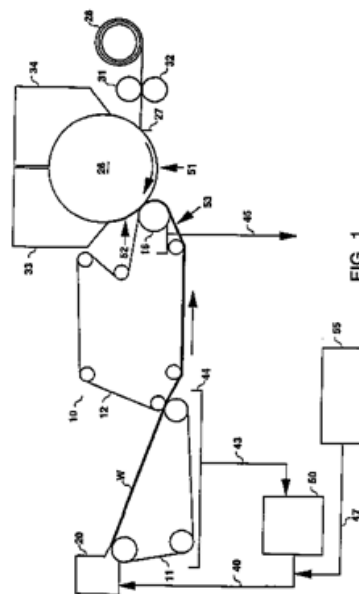
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European: B31F1/07 D21F11/14 D21H21/20 D21H21/22 L31F201/07C2D3G N21H17/07 N21H17/29 N21H21/22 N21H25/00B

US: 162/105 162/109 162/111 162/112 162/113 162/117 162/118 162/123 162/125 162/127 162/129 162/130 162/147 162/149 162/158 162/164.1 162/164.6 162/165 162/168.2 162/173 162/179 428/153 428/156 428/172 428/174 428/906 977/773

PatBase - US6033761_A

U.S. Patent Mar. 7, 2000 Sheet 1 of 7 6,033,761



Family:

Publication number	Publication date	Application number	Application date
CA2225642 AA	19980623	CA19972225642	19971223
CA2225642 C	20090210	CA19972225642	19971223
DE69728246 D1	20040429	DE19976028246	19971222
DE69728246 T2	20050512	DE19976028246T	19971222
EP0851061 A2	19980701	EP19970310473	19971222
EP0851061 A3	20000202	EP19970310473	19971222
EP0851061 B1	20040324	EP19970310473	19971222
ES2214595 T3	20040916	ES19970310473T	19971222
TR9701688 A2	19980721	TR19970001688	19971223
US6033761 A	20000307	US19960772435	19961223
US6068731 A	20000530	US19990318313	19990525
US6143131 A	20001107	US19990318311	19990525
US6277467 BA	20010821	US19970867316	19970602
US6328849 BA	20011211	US20010882303	20010618
US6334931 BA	20020101	US19970988784	19971211

Priority:

US19960772435 19961223 US19970867316 19970602 US19970988784 19971211
 CA19972225642 19971223 US19990318313 19990525 US19990318311 19990525
 US20010882303 20010618

Probable Assignee: GEORGIA PACIFIC CONSUMER PRODUCTS LP DELAWARE LIABILITY CO LTD

Assignee(s): (std): FORT JAMES CORP ; GEORGIA PACIFIC CORP

Assignee(s): DIXIE CONSUMER PRODUCTS LLC DELAWARE LIABILITY CO LTD ; GEORGIA PACIFIC CHEMICALS LLC DELAWARE LIABILITY CO LTD ; GEORGIA PACIFIC CONSUMER PRODUCTS LP DELAWARE LIABILITY CO LTD ; JAMES RIVER CORP ; RAMESH RANGA ; JAMES RIVER OF VIRGINIA CORP ; ORIARAN T PHILIPS ; HARPER FRANK D ; SCHULZ GALYN A ; GEORGIA PACIFIC CORP ATLANTA ; GEORGIA PACIFIC CORRUGATED LLC DELAWARE LIABILITY CO LTD ; GEORGIA PACIFIC GYPSUM LLC DELAWARE LIABILITY CO LTD ; GEORGIA PACIFIC LLC DELAWARE PARTNERSHIP LTD ; GEORGIA PACIFIC WOOD PRODUCTS LLC DELAWARE LIABILITY CO LTD ; GP CELLULOSE GMBH ZUG SWITZERLAND LIABILITY CO LTD ; GEORGIA PACIFIC CONSUMER PRODUCTS LP ; FORT JAMES A OF VIRGINIA CORP ; DWIGGINS JOHN H ; AWOFOES ANTHONY O ; BHAT DINESH M ; CITICORP NORTH AMERICA INC ; COLOR BOX LLC DELAWARE LIABILITY CO LTD

Inventor(s): (std): T PHILIPS ORIARAN ; RANGA RAMESH ; JOHN HDWIGGINS ; GALYN A SCHULZ ; FRANK D HARPER ; DINESH MBHAT ; ANTHONY O AWOFOES ; SCHULZ GALYN A ; ORIARAN T PHILIPS ; HARPER FRANK D ; DWIGGINS JOHN H ; BHAT DINESH M ; AWOFOES ANTHONY O ; ORIARAN PHILIPS T ; RAMESH RANGA

Inventor(s): T PHILIPS ORIARAN ; DINESH M BHAT ; JOHN H DWIGGINS

Agent(s): OGILVY RENAULT LLP SENCRL SRL

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Title: FIBROUS ABSORBENT MATERIAL AND METHODS OF MAKING THE SAME

Abstract: Disclosed is a fibrous absorbent structure that is wet stable and has large void **volume** with a density below the critical density of the **fiber** employed. In one embodiment, the fibrous absorbent uses open-celled foam technologies to keep the fibrous structure expanded and bonded. In other embodiments, the resulting fibrous structure resembles an open-celled polymeric foam, with **fibers** serving as struts stabilized by binder material. In another embodiment, the resulting fibrous structure is filled with hydrophilic open-celled foams with the cell size substantially smaller than the fibrous pores. Such a wet-stable, high void **volume** fibrous absorbent can be used in a disposable product intended for the absorption of fluid such as body fluid, including extensible absorbent articles.

Classifications:

International (IPC 8-9): A61F13/15 A61F13/53 A61L15/00 A61L15/42 A61L15/60 C08J9/00 C08J9/30 D04H1/64 D04H1/66 D04H1/68 D21C9/00 (Advanced/Invention);

A61L15/00 C08J9/00 D21C9/00 (Advanced/Non-invention)

International (IPC 1-7): A61F13/00 A61F13/15 A61F13/20 A61F13/53 A61L15/00 A61L15/60 B01D39/00 B32B5/22 B32B5/28 B32B7/12 C08J9/00 C08J9/30 C08L89/00 D04H1/00 D04H1/68 D04H13/00 D04H3/00 D04H5/00 D21C9/00

CPC: Y10S604/904 A61F13/53 A61L15/425 C08J9/0085 C08J2207/12 C08J2300/00 D04H1/64 D04H1/66 D04H1/68 Y10T442/60 Y10T428/249961 Y10T428/249965 Y10T428/249982 Y10T428/249984 Y10T428/249985 Y10T428/249986

European: A61F13/53 A61L15/42E C08J9/00N D04H1/64 D04H1/66 D04H1/68 M08J207/12 M08J300/00

US: 210/508 210/509 264/45.2 264/45.3 264/452 264/453 425/4.00C 425/4C 427/244 428/310.5 428/311.57 428/311.71 428/317.1 428/317.5 428/317.7 428/317.9 428/317.900P 442/327 442/327P 604/369 604/374 604/904

PatBase - US2001024716_AA

Patent Application Publication Sep. 27, 2001 Sheet 1 of 10 US 2001/0024716 A1

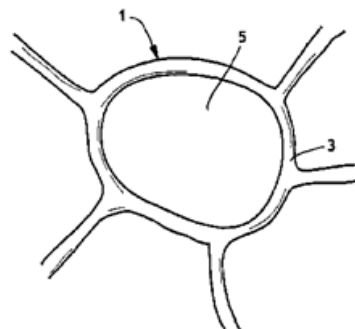


FIG. 1

Family:

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AU746047 B2	20020411	AU19990041824	19990430
BRPI9910660 A	20010130	BR1999PI10660	19990430
CN1310741 A	20010829	CN19998008978	19990430
CO5090910 A1	20011030	CO19990031299	19990521
EP1082380 A1	20010314	EP19990925568	19990430
JP2002516368 T2	20020604	JP20000550914T	19990430
KR100573644 B1	20060425	KR20007013063	19990430
KR20010025076 A	20010326	KR20007013063	19990430
MXPA00010975 A1	20010401	MX2000PA10975	19990430
RU2000132707 A	20030127	RU20000132707	19990430
TH36009 A	19991130	TH19991001477	19990430
US2001024716 AA	20010927	US20010842470	20010426
US2003220039 AA	20031127	US20030444286	20030521
US6261679 BA	20010717	US19980083873	19980522
US6603054 BB	20030805	US20010842470	20010426
WO9961518 A1	19991202	WO1999US09604	19990430
ZA200006424 A	20010514	ZA20000006424	20001108

Priority:

US19980083873 19980522 WO1999US09604 19990430 US20010842470 20010426
US20030444286 20030521

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO ; KIMBERLY CLARK CORP ; KIMBERLY CLARK WORDWIDE INC ; KIMBERLY CLARK WORLDWIDE INC

Assignee(s): LI YONG ; LINDSAY JEFFREY DEAN ; QIN JIAN ; CHEN FUNG JOU

Inventor(s): (std): CHEN FUNG JOU ; DEAN LINDSAY JEFFREY ; JD LINDSAY ; JEFFREY DEAN LINDSAY ; LI YONG ; LINDSAY JEFFREY DEAN ; QIN JIAN ; YONG LI ; LINDSAY J D ; JIAN QIN ; FUNG JOU CHEN

Inventor(s): J D LINDSAY

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RAMIRO CASTRO DUQUE

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZA ZW

Title: OXIDIZED CELLULOSE-CONTAINING FIBROUS MATERIALS AND PRODUCTS MADE THEREFROM

Abstract: The present invention relates to a cellulose-containing fibrous material, wherein hydroxy groups were oxidized at the C(6) of glucose units of the cellulose into aldehyde and/or carboxy groups, a **paper** or nonwoven (product) made therefrom, in particular **tissue** (products) a process for their manufacture. The **paper** or nonwoven (products) of the invention display excellent strength properties.

Classifications:

International (ipc 8-9): C08B11/04 C08B11/10 C08B11/14 C08B11/145 C08B15/02 C08B15/04 D04H13/00 D21C9/00 D21H11/20 (Advanced/Invention); C08B11/00 C08B15/00 D04H13/00 D21C9/00 D21H11/00 (Core/Invention)

International (ipc 1-7): A47K7/00 C08B11/04 C08B11/08 C08B11/10 C08B11/12 C08B11/14 C08B11/145 C08B15/00 C08B15/02 C08B15/04 C12P19/04 D06M13/322 D21C3/20 D21C9/147 D21H11/20 D21H27/00

CPC: D04H1/425 D04H1/4374 D04H13/00 Y10T428/234 D21H11/20 C08B15/02 D21C9/002

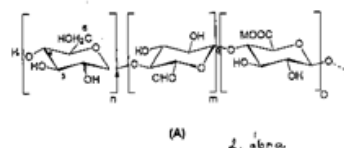
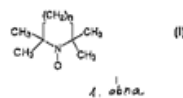
European: C08B15/02 D21C9/00B2 D21H11/20

US: 162/109 162/157.6 162/165 162/165S 162/9 428/72 428/72P 435/101 435/28 536/124 536/18 536/56 8/181 8/189

PatBase - HU0202330_AB

Köl. 02330

ANYOTY 2003
TULAJD. 1/1
KÖZZÉTÉTELI
FELDANY



Family:

Publication number	Publication date	Application number	Application date
AT271068 E	20040715	AT20000906770T	20000224
AT324384 E	20060515	AT20000907622T	20000224
AU200028330 A1	20000914	AU20000028330	20000224
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AU200029145 A1	20000914	AU20000029145	20000224
AU200029145 A5	20000914	AU20000029145	20000224
AU768725 B2	20040108	AU20000029145	20000224
AU776991 B2	20040930	AU20000028330	20000224
BRPI0008378 A	20020219	BR2000PI08378	20000224
BRPI0008475 A	20020205	BR2000PI08475	20000224
CN1192039 C	20050309	CN20008004114	20000224
CN1341125 A	20020320	CN20008004200	20000224
CN1355814 A	20020626	CN20008004114	20000224
CZ20012873 A3	20020116	CZ20010002873	20000224
CZ20012901 A3	20020116	CZ20010002901	20000224
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MXPA01008545 A1	20030606	MX2001PA08545	20000224
PL350233 A1	20021118	PL20000350233	20000224
PL350423 A1	20021216	PL20000350423	20000224
RU2001125920 A	20040220	RU20010125920	20000224
RU2001125941 A	20030627	RU20010125941	20000224
TR200102472 T2	20020321	TR20010002472T	20000224
US2002098317 AA	20020725	US20010931621	20010816
US6716976 BA	20040406	US20010913596	20011121

US6824645 BB	20041130	US20010931621	20010816
WO0050462 A1	20000831	WO2000EP01538	20000224
WO0050463 A1	20000831	WO2000NL00119	20000224
ZA200106416 A	20021104	ZA20010006416	20010803
ZA200106740 A	20020815	ZA20010006740	20010815

Priority:

EP19990200537 19990224 DE19991053590 19991108 DE20006027548 20000224
WO2000EP01538 20000224 WO2000NL00119 20000224 EP20000907622 20000224
RU20010125941 20000224 EP20000906770 20000224

Probable Assignee: NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK

Assignee(s): (std): BESEMER ARIE CORNELIS ; BRAGD PETTER ; DEN DOOL RONALD VAN ; GUNNARS SUSANNA ; JASCHINSKI THOMAS ; JETTEN JAN MATTHIJS ; SCA HYGIENE PROD GMBH ; HARTINGSVELDT WILLEM VAN ; HARTINGSVELDT WIM VAN ; SCA HYGIENE PROD ZEIST BV ; VAN DEN DOOL RONALD ; VAN HARTINGSVELDT WILLEM ; SCA HYGIENE PRODUCTS ZEIST B V ; ZAIST SCA HYGIENE PRODUCTS GMB ; SCA HYGIENE PRODUCTS GMBH ; SCA HYGIENE PRODUCTS ZEIST BV

Assignee(s): SCA HYGIENE PRODUCTS ZEIST B V ZEIST ; ZAIST SCA HYGIENE PRODUCTS GMBH ; VAN HARTINGSVELDT WIM ; SCA HYGIENE PRODUCTS ZEIST PO BOX BV ; NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK ; NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETEN

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Inventor(s): CORNELIS ARIE BESEMER ; MATTHIJS JAN JETTEN

Agent(s): APT PATENT AND TRADE MARK ATTORNEYS; WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Title: OXIDIZED POLYMERIC CARBOHYDRATES AND PRODUCTS MADE THEREOF

Abstract: The present invention relates to a **polysaccharide** having functional groups, wherein said groups are aldehyde groups formed at positions C2 and/or C3 as well as at position C6 of the anhydroglucose units of the **polysaccharide** chain. Preferably the **polysaccharide** is a cellulosic fibrous material whose primary and secondary hydroxyl groups of the cellulose are oxidized into aldehyde groups at least in part by means of TEMPO oxidation and periodate oxidation. The invention also concerns a **paper** or nonwoven comprising the above **polysaccharide**. According to the invention a relative wet strength of more than 10 percent can be achieved.

Classifications:

International (IPC 8-9): C08B15/02 C08B31/18 C08B33/08 C08B35/08 C08B37/00 D04H1/58 D06M11/00 D06M11/13 D21C9/00 D21H11/20 D21H17/28 D21H21/20 D21H27/00 (Advanced/Invention); D04H1/58 D06M11/00 D21H21/20 D21H27/00 (Advanced/Non-invention);

C08B33/00 C08B35/00 (Core/Invention)

International (IPC 1-7): C08B1/00 C08B15/02 C08B31/18 C08B33/08 C08B35/08 C08B37/00 D04H1/58 D06M11/13 D21H11/20 D21H27/00

CPC: C08B15/02 C08B31/18 C08B37/00 D21C9/005 D21H11/20 D21H17/28 D21H21/20

European: C08B15/02 C08B31/18 C08B37/00 D21C9/00B2D

D21H11/20 D21H17/28 N21H21/20

US: 536/18.7 536/30 536/45 536/47 536/55.1 536/56 536/56P

PatBase - US6987181_BB

U.S. Patent

Jan. 17, 2006 Sheet 1 of 3

US 6,987,181 B2

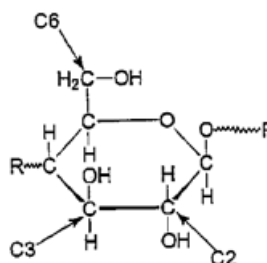


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
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AU200111466 A1	20010606	AU20010011466	20001108
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AU777759 B2	20041028	AU20010011466	20001108
BRPI0015245 A	20020723	BR2000PI15245	20001108
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EP1228099 A1	20020807	EP20000972899	20001108
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JP2003514077 T2	20030415	JP20010537367T	20001108
PL354782 A1	20040223	PL20000354782	20001108
TW570930 B	20040111	TW20000123611	20001108
US2004010137 AA	20040115	US20030437117	20030514
US6635755 BA	20031021	US20000707971	20001108
US6987181 BB	20060117	US20030437117	20030514
WO0134656 A1	20010517	WO2000EP11048	20001108
ZA200203058 A	20030717	ZA20020003058	20020417

Priority:

DE19991053589 19990811 DE19991053589 19991108 DE20006005550 20001108
 WO2000EP11048 20001108 US20000707971 20001108 US20030437117 20030514

Probable Assignee: SCA HYGIENE PRODUCTS GMBH

Assignee(s): (std): BESEMER ARIE CORNELIS ; BRAGD PETTER ; GUNNARS SUSANNA ; JASCHINSKI THOMAS ; SCA HYGIENE PROD GMBH ; SCA HYGIENE PRODUCTS GMBH

Inventor(s): (std): ARIE CORNELIS BESEMER ; BESEMER ; BRAGD ; CORNELIS BESEMER ARIE ; GUNNARS ; GUNNARS SUSANNA ; JASCHINSKI ; PETTER BRAGD ; SUSANNA GUNNARS ; THOMAS JASCHINSKI ; JASCHINSKI THOMAS ; GUNNARS SUSANNA ; BRAGD PETTER ; BESEMER ARIE CORNELIS ; BESEMER ARIE CORNELIS ; BESEMER CORNELIS

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; HARNECKER; MARCELA CASTILLO TORRES; YOUNG AND THOMPSON

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Title: CLEANING ARTICLES COMPRISING A CELLULOSIC FIBROUS STRUCTURE HAVING DISCRETE **BASIS WEIGHT** REGIONS TREATED WITH A HIGH INTERNAL PHASE INVERSE EMULSION

Abstract: Disclosed are articles useful in cleansing, and particularly wet-like cleansing wipes, which are **dry** until used, where fluid is released from the article. These articles comprise: a. a carrier comprising a cellulosic fibrous structure having at least a first region of relatively high **basis weight** that comprises an essentially continuous network and a second region of a plurality of mutually discrete regions of relatively low **basis weight** which are circumscribed by the high **basis weight** first region; and b. an emulsion applied to the carrier, where the emulsion provides fluid for cleaning when shear forces are applied to the article. The first and second regions of the cellulosic fibrous structure are disposed in a nonrandom, repeating pattern. The articles offer a number of significant advantages over prior cleaning products when in the form of wet-like cleansing wipes such as those used for cleaning of hard surfaces (e.g., floors, countertops, sinks, bathtubs, toilets, and the like). The inclusion of low **basis weight** regions avoids substantial fluid retention by the cellulosic fibrous substrate, which allows fluid delivery to the **surface** being cleaned. The articles can be used in many applications requiring the delivery of polar materials, in particular water and water-soluble or dispersible actives. These include toilet **tissue**, wipes for personal cleansing, such as baby wipes, as well as those for the delivery of water-soluble or dispersible antimicrobials or pharmaceutical actives.

Classifications:

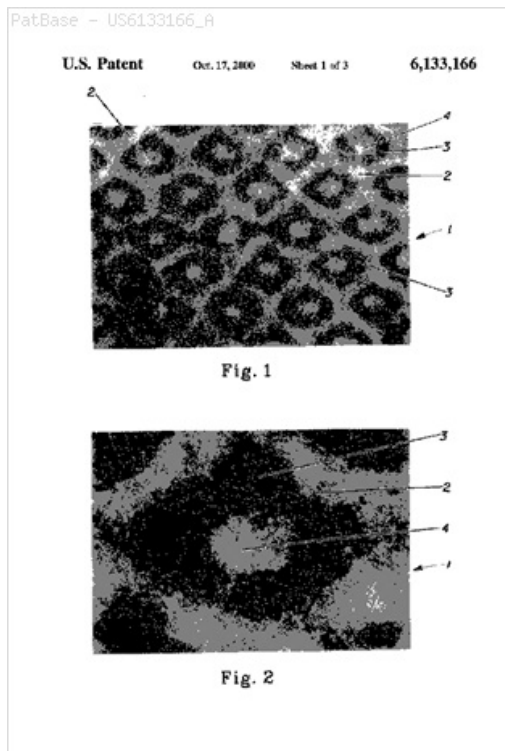
International (IPC 8-9): A47L13/16 A47L13/17 A61K7/50 A61K8/00 A61K8/02 A61K8/31 A61K8/66 A61K8/73 A61K8/92 A61K8/97 A61K8/98 A61K9/70 A61Q19/10 C11D17/04 C11D3/18 C11D3/39 C11D3/48 D21H17/27 D21H17/39 D21H19/16 (Advanced/Invention); A61K8/00 A61K8/92 C11D17/04 (Advanced/Non-invention); A47L13/16 A61K8/00 A61K8/02 A61K8/30 A61K8/72 A61K8/92 A61K8/96 A61Q19/10 C11D17/04 C11D3/18 C11D3/39 C11D3/48 (Core/Invention)

International (IPC 1-7): A01N25/34 A47L13/16 A47L13/17 A61K7/00 A61K7/50 A61K9/70 B32B9/06 C11D C11D17/04 C11D3/00 C11D3/18 C11D3/39 C11D7/24 D04H01/46 D21H17/27 D21H17/39 D21H19/16

CPC: Y10T428/31801 Y10T428/31808 Y10T428/31993 Y10T442/2016 C11D3/48 A61K8/0208 A61Q19/10 C11D3/18 C11D3/3947 C11D17/049

European: A61K8/02C A61Q19/10 C11D17/04F C11D3/18 C11D3/39H C11D3/48

US: 424/402 428/484 428/484.1 428/486 428/537.5 442/61



Family:

Publication number	Publication date	Application number	Application date
AR016123 AA	20010620	AR1998P103192	19980701
AU199882776 A1	19990125	AU19980082776	19980701
BRP19810660 A	20000829	BR1998P110660	19980701
CA2295743 AA	19991230	CA19982295743	19980701
CA2295743 C	20030422	CA19982295743	19980701
CL1998001542 A1	19990225	CL19980001542	19980701
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EP0994940 A1	20000426	EP19980933011	19980701
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TW432135 B	20010501	TW19980110651	19981007
US6133166 A	20001017	US19970886764	19970701
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ZA9805737 A	19990119	ZA19980005737	19980630

Priority:

US19970886764 19970701 WO1998US13627 19980701

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PROCTER AND GAMBLE

Assignee(s): PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO ;

PROCTOR AND GAMBLE CO ; BARNHOLTZ STEVEN LEE ; CABELL DAVID WILLIAM ; NISSING NICHOLAS JAMES

Inventor(s): (std): BARNHOLTZ STEVEN LEE ; BARNHOLTZ STEVENLEE ; CABELL DAVID WILLIAM ; NISSING NICHOLAS JAMES ; DAVID WILLIAM CABELL

Inventor(s): NICHOLAS JAMES NISSING ; NISSING NICHOLAS JAMES NISSING NICHOLAS JAMES ; STEVEN LEE BARNHOLTZ ; STEVENLEE BARNHOLTZ ; CABELL DAVID WILLIAM CABELL DAVID WILLIAM ; BARNHOLTZ STEVEN LEE BARNHOLTZ STEVEN LEE

Agent(s): SIM AND MCBURNEY; HARNECKER; CARLOS REINALDO OLARTE GARCIA

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

Title: LOTIONED **TISSUE PAPER** CONTAINING AN EMOLLIENT AND A POLYOL POLYESTER IMMOBILIZING AGENT

Abstract: A lotion composition for imparting a soft, lubricious, lotion-like feel when applied to **tissue paper** in amounts as low as from about 0.1 to about 15 percent by **weight**, and **tissue paper** treated with such lotion compositions are disclosed. The lotion composition comprises plastic or fluid emollient such as petrolatum, or a mixture of petrolatum with alkyl ethoxylate emollient, a solid polyol polyester immobilizing agent to immobilize the emollient on the **surface** of the **tissue paper web** and optionally a hydrophilic surfactant to improve wettability when applied to toilet **tissue**. Because less lotion is required to impart the desired soft, lotion-like feel benefits, detrimental effects on the tensile strength and caliper of the lotioned **paper** are minimized or avoided.

Classifications:

International (IPC 8-9): A47K10/16 A61K8/00 A61K8/02 A61K8/34 A61K8/36 A61K8/37 A61K8/60 A61K8/73 A61K8/85 A61K8/89 A61K8/891 A61Q19/00 A61Q19/10 D21H17/00 D21H17/06 D21H17/15 D21H17/53 D21H17/59 D21H19/28 D21H19/32 D21H21/22 D21H21/24 (Advanced/Invention); A61K8/00 A61K8/02 D21H17/06 D21H17/15 D21H17/59 D21H21/22 (Advanced/Non-invention); A47K10/00 A61K8/00 A61K8/02 A61K8/30 A61K8/72 A61Q19/00 A61Q19/10 D21H17/00 D21H19/00 D21H21/22 (Core/Invention); D21H17/00 (Core/Non-invention)

International (IPC 1-7): A01N25/34 A47K10/16 A61K7/00 A61K7/50 D21H17/06 D21H17/15 D21H17/53 D21H17/59 D21H17/72 D21H19/28 D21H19/32 D21H21/22 D21H21/24

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D21H17/59 D21H21/22 Y10S514/846

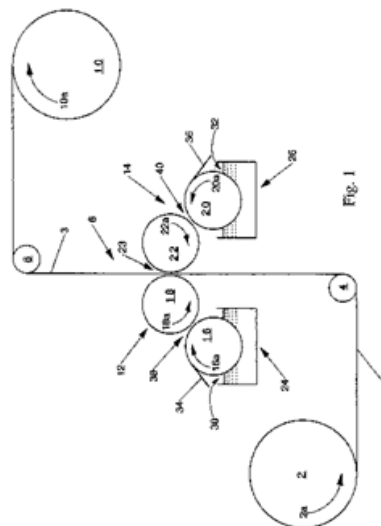
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N21H17/06 N21H17/15 N21H17/59

US: 424/414 514/846

PatBase - US5624676_R

U.S. Patent Apr. 28, 1997 Sheet 1 of 2 5,624,676



Title: CLEANING ARTICLES TREATED WITH A HIGH INTERNAL PHASE INVERSE EMULSION

Abstract: The invention relates to articles useful in cleansing, and particularly to wet-like cleansing wipes that are especially useful for hard **surface** cleaning, and in personal cleansing such as baby wipes and particularly for removal of perianal soils. These articles comprise: a carrier; and an emulsion applied to the carrier. The emulsion comprises (1) from about 2 to about 60 percent of a continuous solidified lipid phase comprising a waxy lipid material having a melting point of about 30 DEG C. or higher, (2) from about 39 to about 97 percent of an internal polar (e.g., water) phase dispersed in the lipid phase; (3) an effective amount of a non-silicon containing emulsifier, where the emulsifier has a viscosity at 55 DEG C. of greater than about 500 centipoise; and (4) and an optional second emulsifier having a viscosity at 55 DEG C. of less than about 400 centipoise. Because the emulsion comprises a waxy external phase, the internal polar phase is retained in the emulsion until in-use shear pressures break the emulsion, thereby providing desired moisture for cleaning. The invention also relates to a process for making the cleaning articles.

Classifications:

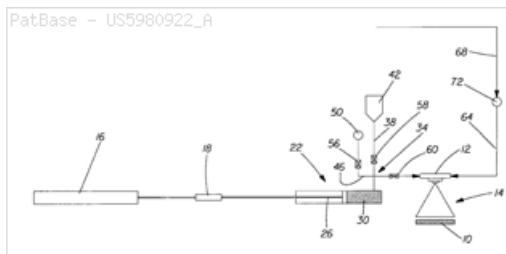
International (IPC 8-9): A01N25/34 A61F13/15 A61K7/00 A61K7/50 A61K8/00 A61K8/02 A61K8/06 A61K8/31 A61K8/36 A61K8/97 A61K8/98 A61L15/00 A61L15/42 A61Q19/10 C08J3/03 C11D1/06 C11D17/04 D21H19/18 D21H21/14 (Advanced/Invention); A61K7/50 A61K8/00 A61Q19/10 C08J3/03 (Advanced/Non-invention); A61F13/15 A61K8/00 A61K8/02 A61K8/04 A61K8/30 A61K8/96 A61L15/00 A61Q19/10 C11D1/02 (Core/Invention); D21H21/14 (Core/Non-invention)

International (IPC 1-7): A01N25/34 A47K A47L A61F13/00 A61F13/15 A61K A61K7/00 A61K7/50 A61L A61L15/00 B32B29/00 C08J3/03 C11D1/06 C11D17/04 C23G 5/06 C23G5/06 D21H19/18 D21H21/14

CPC: A61K8/0208 A61K8/06 A61Q19/10 C11D17/049

European: A61K8/02C A61K8/06 A61Q19/10 C11D17/04F

US: 424/402 424/404 424/443



Family:

Publication number	Publication date	Application number	Application date
AR006913 AA	19990929	AR1997P101778	19970430
AU199728106 A1	19971119	AU19970028106	19970425
AU725252 B2	20001012	AU19970028106	19970425
BRPI9709204 A	19990810	BR1997PI09204	19970425
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CL1997000777 A1	19980123	CL19970000777	19970429
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CN1223571 A	19990721	CN19971095983	19970425
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CZ287999 B6	20010314	CZ19980003476	19970425
CZ9803476 A3	19990317	CZ19980003476	19970425
EG21962 A	20020430	EG19970000351	19970429
EP0910337 A1	19990428	EP19970922444	19970425
HU9902467 AB	19991129	HU19990002467	19970425
HU9902467 AC	20000728	HU19990002467	19970425
ID19080 A	19980611	ID19970001436	19970430
IL126789 A0	19990817	IL19970126789	19970425
IL126789 A1	20030312	IL19970126789	19970425
IN01053DE1997 A	20160831	IN1997DE01053	19970424
JP11508610 T2	19990727	JP19970539029T	19970425
JP3353901 B2	20021209	JP19970539029T	19970425
KR100301651 B1	20020917	KR19980708761	19970425
KR20000065153 A	20001106	KR19980708761	19970425
MY116404 A	20040131	MY19970001855	19970429
NO985021 A	19981230	NO19980005021	19981028
NO985021 A0	19981028	NO19980005021	19981028
PE82398 A1	19981214	PE19970000329	19970430
TH27957 A	19980216	TH19971001617	19970428
TR9802167 T2	20010621	TR19980002167T	19970425
TW368536 B	19990901	TW19970105574	19970428
US5980922 A	19991109	US19960759547	19961205
VN2876 A1	20020826	VN19980000920	19981031
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ZA9703576 A	19980130	ZA19970003576	19970424

Priority:

US19960640268 19960430

US19960759547 19961205

WO1997US06905 19970425

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PROCTER AND GAMBLE CO CINCINNA ; PROCTER AND GAMBLE

Assignee(s): PROCTER AND GAMBLE CO ; HIRD BRYN ; MACKEY LARRY NEIL ; PROCTER AND GAMBLE CO THE ; THE PROCTER AND GAMBLE COMPANY ; PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANYUS ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; TROKHAN PAUL DENNIS

Inventor(s): (std): BRYN HIRD ; DENNIS TROKHAN PAUL ; HIRD BRYN ; HIRD BRYN NMN ; MACKEY LARRY N ; MACKEY LARRY NEIL ; MACKEY LARRY NIEL ; NEIL MACKEY LARRY ; NMN HIRD BRYN ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS

Inventor(s): Bryn ; PAUL D TROKHAN ; Paul Dennis ; PAUL DENNIS TROKHAN ; Trokhan ; MACKEY LARRY NELL ; LARRY N MACKEY ; Larry Neil ; LARRY NEIL MACKEY ; Mackey ; Hird ; BRYN NMN HIRD

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; SIM AND MCBURNEY; HARNECKER; CARLOS REINALDO OLARTE GARCIA; REINHOLD COHN AND

PARTNERS

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CH CN CU CZ DE DK EE ES FI FR GB GE GH GR HU IE IL
IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD
SE SG SI SK SZ TJ TM TR TT UA UG UZ VN YU

Title: FIBROUS STRUCTURES AND METHODS FOR MAKING SAME

Abstract: Novel fibrous structures that contain filaments, and optionally, solid additives, such as **fibers**, for example wood pulp **fibers**, sanitary **tissue** products comprising such fibrous structures, and methods for making such fibrous structures and/or sanitary **tissue** products are provided.

Classifications:

International (IPC 8-9): A47K10/02 A47K10/16 D04H1/72

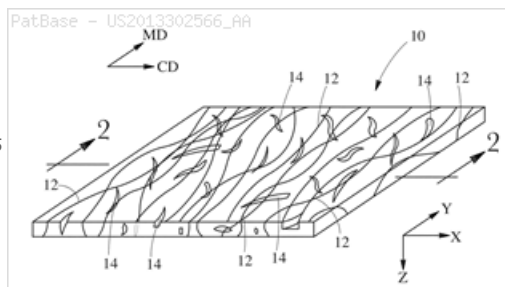
D21H15/06 D21H27/00 D21H27/30 (Advanced/Invention)

CPC: D04H1/72 A47K10/02 A47K10/16 D21H15/06 D21H27/30

D21H27/005 Y10T428/24446 Y10T428/24694 Y10T442/184

Y10T442/659 Y10T442/664 A47K2010/322

US: 15/104.93 15/209.1 15/210.1 428/152 428/182 442/381 442/385 442/50



Family:

Publication number	Publication date	Application number	Application date
AU2013259561 AA	20131114	AU20130259561	20130508
CA2872774 AA	20141105	CA20132872774	20130508
CA2872774 C	20171024	CA20132872774	20130508
CN104271837 A	20150107	CN201380024252	20130508
DE602013022545 D1	20170810	DE201360022545T	20130508
EP2847384 A1	20150318	EP20130723381	20130508
EP2847384 B1	20170621	EP20130723381	20130508
MX2014013580 A1	20141204	MX20140013580	20130508
MX348886 B	20170703	MX20140013580	20130508
RU2014142160 A	20160510	RU20140142160	20130508
US2013302566 AA	20131114	US20130889415	20130508
WO13169885 A1	20131114	WO2013US40111	20130508

Priority:

US20120644091P 20120508 EP20130723381 20130508 US20130889415 20130508
WO2013US40111 20130508

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PROCTER AND GAMBLE

Assignee(s): PROCTER AND GAMBLE CO ; PROCTER AND GAMBLE CO CINCINNATI ; PROCTER AND GAMBLE COONE PROCTER & GAMBLE PLAZACINCINNATIOH45202US ; SCHMIDT MATTIAS ; SUER MICHAEL DONALD ; TROKHAN PAUL DENNIS ; YOUNG CHRISTOPHER MICHAEL ; BARNHOLTZ STEVEN LEE

Inventor(s): (std): CHRISTOPHER MICHAEL YOUNG ; MATTIAS SCHMIDT ; MICHAEL DONALD SUER ; PAUL DENNIS TROKHAN ; SCHMIDT MATTIAS ; STEVEN LEE BARNHOLTZ ; SUER MICHAEL DONALD ; BARNHOLTZ STEVEN LEE ; TROKHAN PAUL DENNIS ; YOUNG CHRISTOPHER MICHAEL

Inventor(s): YOUNG CHRISTOPHER MICHAEL LOVELAND ; YOUNG CHRISTOPHER MICHAELUS ; TROKHAN PAUL DENNIS HAMILTON ; TROKHAN PAUL DENNISUS ; BARNHOLTZ STEVEN LEE WEST CHESTER ; BARNHOLTZ STEVEN LEEUS ; SUER MICHAEL DONALD COLERAIN TOWNSHIP ; SUER MICHAEL DONALDUS ; SCHMIDT MATTIASDE

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; DIMOCK STRATTON LLP; WILSON LUE LLP; CABINET PLASSERAUD; KREMER VERONIQUE MARIE JOSEPHINE; GUFFEY TIMOTHY B

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **TISSUE** WITH SEMI-SYNTHETIC CATIONIC POLYMER

Abstract: The present invention is a **tissue web** comprising cellulosic **fibers** and a semi-synthetic cationic polymer having a molecular **weight** less than about 5 million. The semi-synthetic cationic polymer can be heterogeneously distributed in the **tissue web**. The semi-synthetic cationic polymer has a degree of cationic substitution of at least 0.2.

Classifications:

International (IPC 8-9): D21H17/24 D21H23/26 (Advanced/Invention);

D21H21/14 (Advanced/Non-invention);

D21H17/00 D21H23/00 (Core/Invention);

D21H21/14 (Core/Non-invention)

International (IPC 1-7): B32B3/00 C08J3/00 D21H17/24 D21H17/29
D21H21/29

CPC: Y10T428/24124 Y10T428/24446 D21H23/26 D21H17/24

D21H21/146 Y10T428/249965

European: D21H17/24 D21H23/26 N21H21/14D

US: 162/109 162/111 162/112 162/125 162/164.6 162/168.2

162/175 428/113 428/152 428/311.71 524/47

PatBase - US6911114_BB

U.S. Patent

Jan. 26, 2005

US 6,911,114 B2

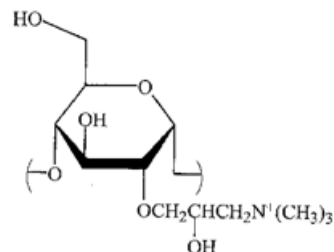


Figure 1

Family:

Publication number	Publication date	Application number	Application date
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US6911114 BB	20050628	US20020263023	20021001

Priority:

US20020263023 20021001

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO

Assignee(s): KIMBERLY CLARK WORLDWIDE INC

Inventor(s): (std): LINDSAY JEFFREY DEAN ; SHANNON THOMAS GERARD ; THOMAS GERARD SHANNON

Agent(s): CROFT GREGORY E; CHARLIER PATRICIA A; PATRICIA A; GREGORY E

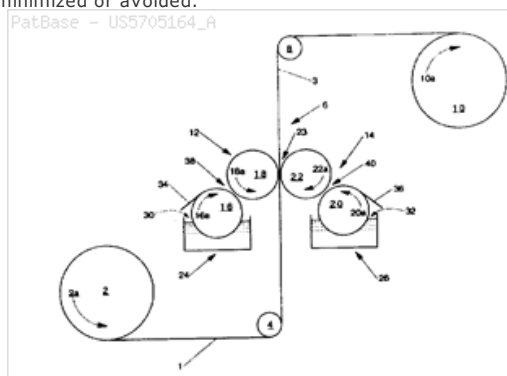
Abstract: A lotion composition for imparting a soft, lubricious, lotion-like feel when applied to **tissue paper** in amounts as low as from about 0.1 to about 15 percent by **weight**, and **tissue paper** treated with such lotion compositions are disclosed. The lotion composition comprises a liquid polyol polyester emollient and an immobilizing agent to immobilize the liquid polyol polyester emollient on the **surface** of the **tissue paper web** and optionally a hydrophilic surfactant to improve wettability when applied to toilet **tissue**. Because less lotion is required to impart the desired soft, lotion-like feel benefits, detrimental effects on the tensile strength and caliper of the lotioned **paper** are minimized or avoided.

International (IPC 8-9): D21H17/06 D21H17/14 D21H17/53
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invention);
D21H21/22 D21H27/00 (Core/Invention);
D21H17/00 (Core/Non-invention)

CPC: D21H17/06 D21H17/14 D21H17/59 D21H21/22

European: D21H21/22 N21H17/06 N21H17/14 N21H17/59

US: 424/400 424/401 424/402



Publication number	Publication date	Application number	Application date
AT213292 E	20020215	AT19960925493T	19960725
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WO9706307 A1	19970220	WO1996US12246	19960725

US19950510935 19950803 WO1996US12246 19960725

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PROCTER AND GAMBLE ; THE PROCTER AND GAMBLE COMPANY

Assignee(s): THE PROCTER AND GAMBLE COMPANY CINCINNATI ; PROCTER AND GAMBLE CO ; ROE DONALD CARROLL ; MACKEY LARRY NEIL

Inventor(s): (std): DONALD CARROLL ROE ; LARRY NEIL MACKEY ; MACKEY LARRY NEIL ; MACKEY NEIL ; ROE CARROLL ; ROE DONALD CARROLL

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; SIM AND MCBURNEY

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GR HU IE IL IS IT JP KE KG KJ KR KZ LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG UZ VN

Title: ABSORBENT ARTICLE COMPRISING A FIBROUS STRUCTURE COMPRISING SYNTHETIC FIBERS AND A HYDROPHILIZING AGENT

Abstract: An absorbent article comprising a nonwoven fibrous structure comprising a plurality of synthetic fibers. The synthetic fibers may be associated with one or more hydrophilizing agents. A process for making the nonwoven fibrous structure involves association of the synthetic fibers with one or more hydrophilizing agents.

Classifications:

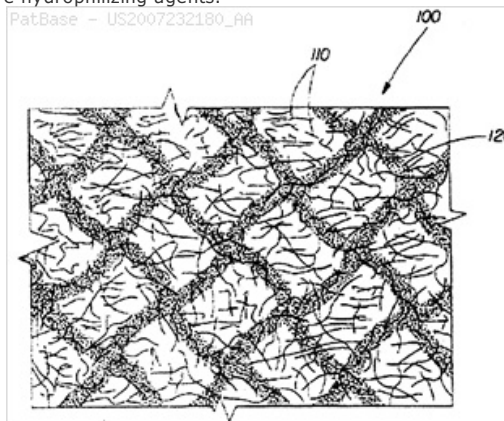
International (IPC 8-9): A61F13/15 A61F13/20 A61F13/49
A61F13/511 A61F13/53 D04H1/00 D06M15/03 D06M15/507
D06M15/53 D06M15/59 D06M15/647 D21H11/04 D21H13/00
D21H13/24 D21H27/00 (Advanced/Invention);

A61F13/15 A61F13/20 D04H1/00 D06M15/01
D06M15/37 (Core/Invention)

CPC: Y10T442/696 Y10T442/699 D04H1/42 A61F13/511 A61F13/537
D21H27/007 D21H13/24 D21H11/04 A61F2013/51023

European: A61F13/511 A61F13/537 D04H1/42

US: 162/111 162/146 442/414 442/414P 442/417 442/417S 604/367
604/367S 604/372 604/372S



Family:

Publication number	Publication date	Application number	Application date
AT524151 E	20110915	AT20070754456T	20070330
CA2648000 AA	20080930	CA20072648000	20070330
CA2648000 C	20140805	CA20072648000	20070330
CN101404969 A	20090408	CN200780010351	20070330
CN101404969 B	20130424	CN200780010351	20070330
DE602007017205 D1	20111110	DE200760017205T	20070330
EP2001425 A2	20081217	EP20070754456	20070330
EP2001425 B1	20110914	EP20070754456	20070330
ES2373584 T3	20120206	ES20070754456T	20070330
JP2009532099 T2	20090910	JP20090503034T	20070330
MX2008011676 A1	20080922	MX20080011676	20070330
MX301323 B	20120712	MX20080011676	20070330
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US2011220310 AA	20110915	US20110115160	20110525
US2015233060 AA	20150820	US20150704135	20150505
WO07123702 A2	20071101	WO2007US07939	20070330
WO07123702 A3	20071213	WO2007US07939	20070330

Priority:

US20060788417P 20060331	US20060788620P 20060403	EP20070754456 20070330
US20070731596 20070330	WO2007US07939 20070330	US20110115160 20110525
US20150704135 20150505		

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): CATALAN KEMAL V ; CATALAN KEMAL VATANSEVER ; PHAN DEAN V ; PHAN DEAN VAN ; POLAT OSMAN ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; PROCTER AND GAMBLE ; ULLMAN ALAN H ; ULLMAN ALAN HOWARD

Assignee(s): PROCTER AND GAMBLE COWORLD SHAVING H.Q./LEGAL PATENT DEPT. - 3EONE GILLETTE PARKBOSTONMA02127US ; PROCTER AND GAMBLE CO CINCINNATI ; PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY

Inventor(s): (std): CATALAN KEMAL ; CATALAN KEMAL V ; CATALAN KEMAL VATANSEVER ; DENNIS TROKHAN PAUL ; HOWARD ULLMAN ALAN ; OSMAN POLAT ; PHAN DEAN ; PHAN DEAN V ; PHAN DEAN VAN ; TROKHAN PAUL ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; ULLMAN ALAN ; ULLMAN ALAN H ; ULLMAN ALAN HOWARD ; POLAT OSMAN ; VAN PHAN DEAN ; VATANSEVER CATALAN KEMAL

Inventor(s): POLAT OSMAN MONTGOMERY ; POLAT OSMANUS ; ULLMAN ALAN HOWARD BLUE ASH ; ULLMAN ALAN HOWARDUS ; ALAN HOWARD ULLMAN ; TROKHAN PAUL DENNIS HAMILTON ; TROKHAN PAUL DENNISUS ; PHAN DEAN VAN WEST CHESTER ; PHAN DEAN VANUS ; PAUL DENNIS TROKHAN ; KEMAL VATANSEVER CATALAN ; CATALAN KEMAL VATANSEVER CINCINNATI ; CATALAN KEMAL VATANSEVERUS ; DEAN VAN PHAN

Agent(s): DIMOCK STRATTON LLP; KREMER VERONIQUE MARIE JOSEPHINE ET AL; HEIDE UTE; NAGAI HIROSHI; PROCTER AND GAMBLE CO INTELLECTUAL PROPERTY DIVISION WEST BLDG

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MULTI-PLY PLANAR PRODUCT INCLUDING ADHESIVELY BONDED FIBROUS PLIES

Abstract: The present invention relates to a planar multi-ply product comprising two or more plies of fibrous material, such as a multi-ply **tissue** product, wherein at least two of said plies are attached to each other with an adhesive agent, wherein said adhesive agent comprises a gelatinous compound, e.g. gelatine. This multi-ply product shows an excellent adhesion between the plies, even if the product carries a lotion.

Classifications:

International (IPC 8-9): A61F13/15 B32B29/00 B32B5/26 B32B7/12 C09J5/06 D04H13/00 D21H27/32 (Advanced/Invention); B32B37/12 (Advanced/Non-invention);

A61F13/15 B32B29/00 B32B5/22 B32B7/12 C09J5/06 D04H13/00 D21H27/30 (Core/Invention); B32B37/12 (Core/Non-invention)

International (IPC 1-7): A47K10/16 B32B29/00 B32B5/26 B32B7/12 D21H27/32

CPC: B32B3/28 B32B5/022 B32B29/005 B32B2432/00 B32B2555/02 B32B7/12 A61F13/15252 A61F13/534 A61F13/539 B32B5/26 B32B29/00 B32B37/12 C09J5/06 C09J2400/263 D04H1/425 D04H1/593 D04H13/00

European: A61F13/15J4 A61F13/534 A61F13/539 B32B29/00 B32B5/26 B32B7/12 C09J5/06 D04H1/425 D04H1/593 D04H13/00 L32B31/00A8B L32B37/12 M09J400/26S

Family:

Publication number	Publication date	Application number	Application date
AT331079 E	20060715	AT20020025602T	20021118
DE60212547 D1	20060803	DE20026012547	20021118
EP1312466 A1	20030521	EP20020025602	20021118
EP1312466 B1	20060621	EP20020025602	20021118
GB200127839 A0	20020109	GB20010027839	20011120
GB2382050 A1	20030521	GB20010027839	20011120

Priority:

GB20010027839 20011120

Probable Assignee: SCA HYGIENE PROD GMBH

Assignee(s): (std): SCA HYGIENE PROD GMBH

Assignee(s): SCA HYGIENE PRODUCTS GMBH

Inventor(s): (std): PALESKE PETER VON ; VON PALESKE PETER

Inventor(s): PETER VON PALESKE

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

Title: WELL DRILLING AND PRODUCTION FLUIDS EMPLOYING PARENCHYMAL CELL CELLULOSE

Abstract: Circulating and non-circulating well-drilling fluids are provided comprising parenchymal cell cellulose. In accordance with a preferred embodiment, improved viscosity and fluid loss control in circulating well-drilling fluids are obtained from the inclusion of parenchymal cell cellulose in such fluids. In accordance with another preferred embodiment, certain polymers, especially anionic polymers, and polymers derived from hemicellulosic materials are admixed with parenchymal cell cellulose in well fluids to provide synergistic fluid loss control and other beneficial properties. Methods for the employment of circulating and non-circulating well fluids employing parenchymal cell cellulose are also disclosed.

Classifications:

International (IPC 8-9): A21D2/18 A23C13/12 A23D7/00 A23D7/005 A23D7/015 A23G3/34 A23G9/32 A23G9/34 A23L1/00 A23L1/03 A23L1/052 A23L1/0524 A23L1/0534 A23L1/24 A23L1/308 A23L1/314 A23L2/00 A23L2/38 A23L2/52 A23L2/62 A61K47/36 A61K8/00 A61K8/04 A61K8/73 A61K8/96 A61K9/00 A61K9/16 A61K9/62 A61Q19/00 A61Q5/06 C08B1/00 C08B15/08 C08B37/00 C08B37/06 C08B37/14 C09K8/20 C09K8/70 C09K8/90 D21B1/36 D21C5/00 E21B21/00 E21B33/138 (Advanced/Invention); A23D7/00 A23L1/03 A23L1/308 A23L2/00 A61K47/36 A61K8/00 A61K8/04 A61K8/96 A61K9/00 (Advanced/Non-invention); A21D2/00 A23C13/00 A23G3/34 A23G9/32 A23L1/00 A23L1/03 A23L1/052 A23L1/24 A23L1/308 A23L1/314 A23L2/52 A61K8/00 A61K8/04 A61K8/72 A61K8/96 A61K9/00 A61Q19/00 A61Q5/06 C08B15/00 C08B37/00 D21B1/00 D21C5/00 E21B33/138 (Core/Invention); C09K (Subclass/Invention)

International (IPC 1-7): A21D2/18 A23D7/00 A23K1/00 A23K1/04 A23L1/03 A23L1/052 A23L1/0524 A23L1/24 A23L1/30 A23L1/307 A23L1/308 A23L2/00 A61K31/715 A61K31/725 A61K47/00 A61K47/36 A61K7/00 A61K9/00 A61K9/62 C08B1/00 C08B15/02 C08B15/08 C08B37/06 C08B37/14 C08L1/00 C08L1/02 C08L5/14 C09J193/00 C09K3/00 C09K7/00 C09K7/02 C09K7/06 C13K1/02 D21B1/30 D21B1/36 D21C3/00 D21C3/02 D21C3/04 D21C5/00 E21B1/00 E21B33/138 E21B43/12 E21B43/16 E21B43/17 E21B43/22 E21B43/25 E21B7/00

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European: A21D2/18C A21D2/18F A23C13/12 A23D7/005S A23D7/015 A23G3/00M A23G3/00M+D6 A23G3/34C A23G9/02 A23G9/32 A23G9/34 A23L1/00P8B6 A23L1/0524 A23L1/0534 A23L1/24 A23L1/308 A23L1/314B1 A23L2/38 A23L2/52 A61K8/73C A61K9/16H6F A61Q19/00 A61Q5/06 C08B37/00M5 C08B37/14 C09K8/20C C09K8/70B C09K8/90 D21C5/00 E21B21/00M K23G200/06

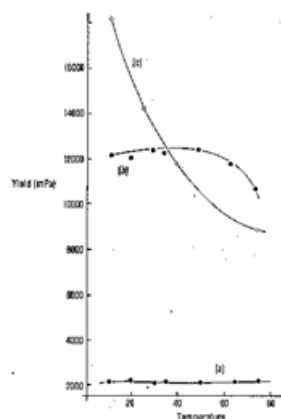
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Family:

Publication number	Publication date	Application number	Application date
AR242275 A1	19930331	AR19830294108	19830902
AR243637 A1	19930831	AR19840297122	19840706
AT100675 E	19940215	AT19880305413T	19880614
AT146190 E	19961215	AT19900311886T	19901030
AT31096 E	19871215	AT19830305043T	19830901
AU198318505 A1	19840308	AU19830018505	19830829
AU198431095 A1	19850208	AU19840031095	19840703
AU198817650 A1	19881215	AU19880017650	19880614
AU199065641 A1	19910509	AU19900065641	19901030
AU561116 B2	19870430	AU19830018505	19830829
AU581622 B2	19890302	AU19840031095	19840703
AU614751 B2	19910912	AU19880017650	19880614
AU630755 B2	19921105	AU19900065641	19901030
BR8304803 A	19840410	BR19830004803	19830902
BRPI8406967 A	19850611	BR1984PI06967	19840703
CA1228558 A1	19871027	CA19830435950	19830902
CA1242872 A1	19881011	CA19840458180	19840705
CA1334920 A1	19950328	CA19880569379	19880614
CA2029022 AA	19910502	CA19902029022	19901031
DE3374703 D1	19880107	DE19833374703	19830901
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DE3887389 D1	19940310	DE19883887389	19880614
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DK160776 B	19910415	DK19830004015	19830902
DK160776 C	19910930	DK19830004015	19830902
DK167496 B1	19931108	DK19850001011	19850305
DK401583 A	19840304	DK19830004015	19830902

PatBase - US4923981_R

U.S. Patent May 8, 1990 Sheet 1 of 7 4,923,981

FIG. 1

DK401583 A0	19830902	DK19830004015	19830902
EP0102829 A1	19840314	EP19830305043	19830901
EP0102829 B1	19871125	EP19830305043	19830901
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ES525304 A0	19850716	ES19830525304	19830901
ES525304 A2	19850814	ES19830525304	19830901
ES543633 A0	19870216	ES19850543633	19850529
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ES8506839 A1	19850716	ES19830525304	19830901
ES8703555 A1	19870216	ES19850543633	19850529
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GB2143878 A1	19850220	GB19840017080	19840704
GB2143878 B2	19870114	GB19840017080	19840704
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JP1086845 A2	19890331	JP19880145957	19880615
JP1914212 C3	19950323	JP19830161234	19830903
JP3197502 A2	19910828	JP19900295185	19901031
JP59080402 A2	19840509	JP19830161234	19830903
JP6039482 B4	19940525	JP19830161234	19830903
JP64086845 A2	19890331	JP19880145957	19880615
KR19840006015 A	19841121	KR19830004147	19830902
KR840006015 A	19841121	KR19830004147	19830902
KR910003908 B1	19910615	KR19830004147	19830902
MX161464 A	19900928	MX19830198596	19830902
NO163058 B	19891218	NO19850000872	19850305
NO163058 C	19900328	NO19850000872	19850305
NO850872 A	19850305	NO19850000872	19850305
US4629575 A	19861216	US19830511393	19830706
US4831127 A	19890516	US19830512940	19830712
US4923981 A	19900508	US19890334596	19890406
US5008254 A	19910416	US19890430166	19891101
WO8500402 A1	19850131	WO1984US01061	19840703

Priority:

US19820414931	19820903	US19820414931	19820913	US19830511393	19830706
US19830512940	19830712	EP19830305043	19830901	CA19830435950	19830902
WO1984US01061	19840703	CA19840458180	19840705	US19870062445	19870615
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Probable Assignee: SLR INC

Assignee(s): (std): S B P INC ; SBP CORP ; WEIBEL M K ; SBP INC ; ST LAWRENCE REACTORS LTD ; WEIBEL MICHAEL K ; WESTERN SUGAR CO ; K WEIBEL MICHAEL ; MAIKERU KEE UEIBERU

Assignee(s): MICHAEL K WEIBEL ; COBANK ACB ; CREDIT SUISSE FIRST BOSTON AS COLLATERAL AGENT ; CREDIT SUISSE FIRST BOSTON COLLATERAL AGENT AS ; GENERALE SOC ; HERCULES INC ; SBP INC 26455 PERCENT ; SLR INC 18605 PERCENT ; SBP INC A CORP OF DE ; SBP INC PHILADELPHIA PA US ; SLR INC MISSISSAUGA ONTARIO CA ; WESTERN SUGAR CO 5494 PERCENT SLR INC ; WESTERN SUGAR CO 5494 PERCENT ; WESTERN SUGAR CO DENVER COL US ; WESTERN SUGAR COOPERATIVE ; SPB INC ; SLR INC ; SENTO ROORENSU RIAKUTAAZU LTD ; SLR INC 38 PERCENT INTEREST ; SPB INC 62 PERCENT INTEREST ; WEIBEL MK

Inventor(s): (std): MAIKERU KEE UEIBERU ; MAIKERU KEI WAIBERU ; MAIKURU KEI UEIBERU ; MICHAEL K WEIBEL ; MYERS CHESTER D ; WEIBEL MICHAEL ; WEIBEL MICHAEL K

Inventor(s): WEIBEL MICHAEL WEST REDDING CONNECTICUT 06896 US ; NAME NOT GIVEN

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR; GOWLING LAFLEUR HENDERSON LLP; REINHOLD COHN AND PARTNERS

Designated states: AT AU BE BR CH DE DK ES FI FR GB GR IT LI LU NL NO SD SE

Title: METHOD FOR FORMING A FIBROUS STRUCTURE COMPRISING SYNTHETIC **FIBERS** AND HYDROPHILIZING AGENTS

Abstract: A method for forming a nonwoven fibrous structure comprising a plurality of synthetic **fibers**. The method employs a hydrophilizing agent. The synthetic **fibers** may associate with one or more hydrophilizing agents.

Classifications:

International (IPC 8-9): A61F13/15 D04H1/00 D21F11/00 D21H13/10 D21H13/24 (Advanced/Invention);

A61F13/15 D04H1/00 D21F11/00 D21H13/00 (Core/Invention)

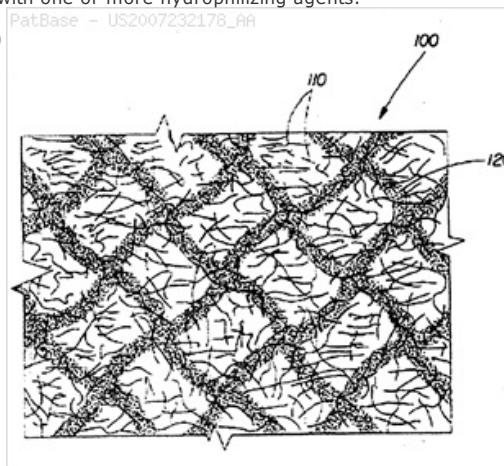
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European: D04H1/42 D06M15/507 D06M15/53 D06M15/647

D21F11/14 D21H13/24 D21H21/16 N04H1/42 N06M200/00

N21H13/20 N21H15/10 N21H27/00D N21H27/00D2B2 N21H27/38

US: 162/157.1 162/157.100S 442/414 442/414P 604/367 604/367S 604/368 604/368S



Family:

Publication number	Publication date	Application number	Application date
CA2648004 AA	20080930	CA20072648004	20070330
EP2002053 A2	20081217	EP20070754457	20070330
MX2008011673 A1	20080922	MX20080011673	20070330
US2007232178 AA	20071004	US20070731593	20070330
WO07123703 A2	20071101	WO2007US07940	20070330
WO07123703 A3	20080313	WO2007US07940	20070330

Priority:

US20060788183P 20060331

US20070731593 20070330

WO2007US07940 20070330

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PHAN DEAN V ; PHAN DEAN VAN ; POLAT OSMAN ; PROCTER AND GAMBLE ; ULLMAN ALAN H ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; ULLMAN ALAN HOWARD

Assignee(s): PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY

Inventor(s): (std): PHAN DEAN V ; PHAN DEAN VAN ; POLAT OSMAN ; ULLMAN ALAN H ; ULLMAN ALAN HOWARD ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS

Inventor(s): ULLMAN ALAN ; PHAN DEAN ; PAUL DENNIS TROKHAN ; OSMAN POLAT ; DEAN VAN PHAN ; ALAN HOWARD ULLMAN ; TROKHAN PAUL

Agent(s): DIMOCK STRATTON LLP; LHUILLIER FLORENT CHARLES ET AL; PROCTER AND GAMBLE CO INTELLECTUAL PROPERTY DIVISION WEST BLDG

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: WET-LIKE CLEANING ARTICLES

Abstract: Disclosed are articles useful in cleansing, and particularly wet-like cleansing wipes and toilet **tissue**. These articles are essentially **dry** to the touch prior to use, but deliver liquid when subjected to in-use shear and compressive forces. In one aspect, the articles of the present invention comprise a carrier and an emulsion applied to the carrier, the emulsion comprising a continuous external nonpolar phase and an internal polar phase dispersed in the external nonpolar phase, wherein the article is capable of retaining fluid prior to use. In another aspect, the emulsion-treated articles exhibit improved ability to release fluid when subjected to in-use pressures. The articles of the present invention offer a number of significant advantages over prior cleaning products when in the form of wet-like cleansing wipes such as those used for cleaning of hardsurfaces (e.g., floors, countertops, sinks, bathtubs, toilets, and the like) and wet-like toilet **tissue**. The articles can in general be used in any applications requiring the delivery of polar materials, in particular water and water-soluble or dispersible actives.

Classifications:

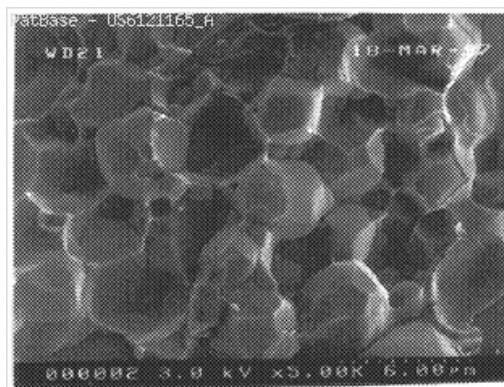
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International (IPC 1-7): A61K7/00 A61K7/02 A61K7/50 A61L15/00 B32B27/04 B32B27/12 B32B5/02 C11D17/04 D04H01/46 D04H03/02 D04H05/08 D21F11/00 D21H11/16

CPC: Y10S514/938 C11D3/3738 A61K8/0208 A61Q19/10 C11D17/049 Y10T442/2041 Y10T442/2098 Y10T442/2164 Y10T442/218 Y10T442/2189 Y10T442/2205

European: A61K7/50Z4 A61K8/02C A61Q19/10 C11D17/04F C11D3/37B12 C11D3/37B12E

US: 106/271 106/285 162/135 162/136 162/137 252/310 252/311 442/64 442/71 442/79 442/81 442/82 442/84 514/938

**Family:**

Publication number	Publication date	Application number	Application date
AR016569 AA	20010725	AR1998P103787	19980731
AU199881245 A1	19990222	AU19980081245	19980720
BRP19811718 A	20000815	BR1998PI11718	19980720
CA2298622 AA	20000127	CA19982298622	19980720
CL1998001845 A1	19990312	CL19980001845	19980731
CN1270628 A	20001018	CN19988009224	19980720
CO5050416 A1	20010627	CO19980043888	19980731
EP1002045 A1	20000524	EP19980930974	19980720
HU0004231 AB	20010328	HU20000004231	19980720
ID24605 A	20000727	ID20000000193	19980720
IL134092 A0	20010430	IL19980134092	19980720
JP2001512178 T2	20010821	JP20000505267T	19980720
KR100360743 B1	20021113	KR20007000984	20000128
KR20010022404 A	20010315	KR20007000984	19980720
NO20000463 A	20000329	NO20000000463	20000128
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PE102799 A1	19991208	PE19980000657	19980722
TH34840 A	19990908	TH19981002838	19980724
TR200000269 T2	20000621	TR20000000269T	19980720
TW440639 B	20010616	TW19980112632	19980825
US6121165 A	20000919	US19980121504	19980723
WO9906523 A1	19990211	WO1998B01099	19980720
ZA9806839 A	19990201	ZA19980006839	19980730

Priority:

US19970054389P 19970731 WO1998B01099 19980720 US19980121504 19980723

Probable Assignee: PROCTER AND GAMBLE CO

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Assignee(s): THE PROCTER AND GAMBLE CO ; ENRIGHT NANCY KIM ; GAMBLE CO ; GORDON GREGORY CHARLES ; MACKEY LARRY NEIL ; PROCTER AND

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Agent(s): SIM AND MCBURNEY; HARNECKER; CARLOS REINALDO OLARTE GARCIA

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

Title: NONWOVEN FIBROUS STRUCTURE COMPRISING SYNTHETIC **FIBERS** AND HYDROPHILIZING AGENT

Abstract: A nonwoven fibrous structure comprises a plurality of synthetic **fibers**. The synthetic **fibers** may be associated with one or more hydrophilizing agents. A process for making the nonwoven fibrous structure involves association of the synthetic **fibers** with one or more hydrophilizing agents.

Classifications:

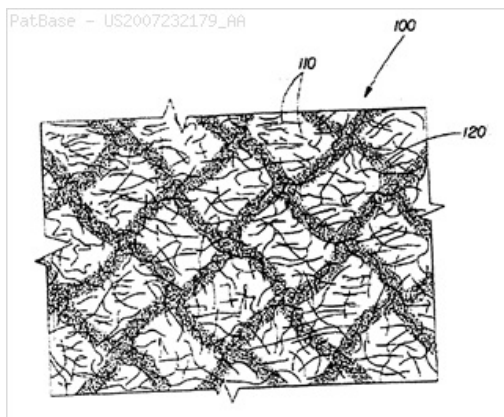
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CPC: Y10T442/696 Y10T442/699 D21H13/24 D06M15/507 D06M15/53 D06M15/647 D06M2200/00 D21H15/10 D21H17/53 D21H21/22 D21H27/007 D21H27/38 D04H1/425 D04H1/435 D04H1/4382

European: D04H1/42 D06M15/507 D06M15/53 D06M15/647 D21H13/24 D21H17/53 D21H27/00D2B2 D21H27/38 N06M200/00 N21H13/24 N21H15/10 N21H21/22

US: 442/414 442/414P 442/417 442/417S 604/367 604/367S 604/372 604/372S



Family:

Publication number	Publication date	Application number	Application date
CA2648011 AA	20080930	CA20072648011	20070330
EP2002054 A2	20081217	EP20070754458	20070330
MX2008012228 A1	20081002	MX20080012228	20070330
US2007232179 AA	20071004	US20070731594	20070330
WO07123704 A2	20071101	WO2007US07941	20070330
WO07123704 A3	20071213	WO2007US07941	20070330

Priority:

US20060788404P 20060331 US20070731594 20070330 WO2007US07941 20070330

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): PHAN DEAN V ; PHAN DEAN VAN ; POLAT OSMAN ; PROCTER AND GAMBLE ; ULLMAN ALAN H ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; ULLMAN ALAN HOWARD

Assignee(s): PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY

Inventor(s): (std): PHAN DEAN V ; PHAN DEAN VAN ; POLAT OSMAN ; TROKHAN PAUL D ; TROKHAN PAUL DENNIS ; ULLMAN ALAN H ; ULLMAN ALAN HOWARD

Inventor(s): ULLMAN ALAN ; TROKHAN PAUL ; ALAN HOWARD ULLMAN ; DEAN VAN PHAN ; OSMAN POLAT ; PAUL DENNIS TROKHAN ; PHAN DEAN

Agent(s): DIMOCK STRATTON LLP; LHUILLIER FLORENT CHARLES ET AL; PROCTER AND GAMBLE CO INTELLECTUAL PROPERTY DIVISION WEST BLDG

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CATIONIC FIBRES

Abstract: A cationic cellulosic fibre containing between 1 and 30 cationic groups and between 0.1 and 20 aldehyde groups per 100 anhydroglucose units is a suitable basis for producing paper and tissue products without the necessity of using non-biodegradable cationic polymers as wet strength additives. The cationic cellulosic fibre can be obtained by oxidation of the fibre to introduce aldehyde groups, followed by reaction of part of the aldehyde groups with a nitrogen-containing reagent such as betaine hydrazide hydrochloride. The fibre is advantageously combined with an anionic polymer such as monoaldehyde carboxyl-starch or with anionic cyclodextrin.

Classifications:

International (IPC 8-9): A61L15/28 A61L15/46 C08B15/00 C08B37/00 C08B37/16 D06M11/30 D06M13/392 D06M13/422 D06M15/03 D21C9/00 D21H11/22 (Advanced/Invention);

A61L15/16 C08B15/00 C08B37/00 D06M11/00 D06M13/00 D06M15/01 D21C9/00 D21H11/00 (Core/Invention)

International (IPC 1-7): A01N25/24 A01N25/34 A61K7/035

A61K9/00 A61K9/70 B32B27/12 D06M13/00 D06M13/322 D06M13/35 D21C9/00 D21H11/22

CPC: D21H11/22 A61L15/28 D21C9/005 Y10T442/2525 D06M13/422

A61L15/46 A61L2300/00 C08B15/00 C08B37/00 C08B37/0012

D06M11/30 D06M13/392 D06M15/03

European: A61L15/28 A61L15/46 C08B15/00 C08B37/00

C08B37/00M2B D06M11/30 D06M13/392 D06M13/422 D06M15/03

D21C9/00B2D D21H11/22 K61L300/00

US: 162/123 162/123S 162/146 162/157.6 162/157.600S 162/175

162/175S 162/182 162/9 162/9P 424/400 424/402 424/407 424/443

424/443P 424/444 424/69 442/123 442/123S 604/356 8/115.51

8/115.510S 8/116.1 8/116.100S 8/116.4 8/181 8/181.1 8/181S

8/188 8/196

PatBase - US2003024662_AA

Patent Application Publication Feb. 6, 2003

US 2003/0024662 A1

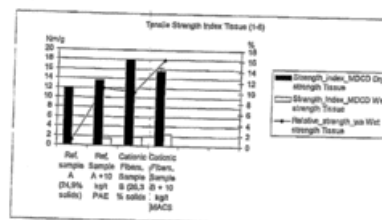
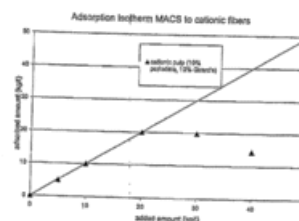


FIG. 1

FIG. 2

**Family:**

Publication number	Publication date	Application number	Application date
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US2003026828 AA	20030206	US20020192715	20020711
US6849156 BB	20050201	US20020192691	20020711
US6916466 BB	20050712	US20020192715	20020711

Priority:

US20010304111P 20010711 US20010341856P 20011221 US20020192691 20020711
 US20020192715 20020711

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): SCA HYGIENE PROD AB ; VAN BRUSSEL VERRAEST DORINE LI ; VERWILLIGEN ANNE MIEKE YVONNE

Assignee(s): VERWILLIGEN ANNE MIEKE YVONNE WILHELMINA ; VAN BRUSSEL VERRAEST DORINE LISA ; SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS BACKSTENGATAN AB ; SCA HYGIENE PRODUCTS ZEIST BV ; THIEWES HARM JAN ; BESEMER ARIE CORNELIS

Inventor(s): (std): VERWILLIGEN ANNE MIEKE YVONNE ; VAN BRUSSEL VERRAEST DORINE LI ; THIEWES HARM JAN ; BESEMER ARIE CORNELIS

Inventor(s): VERWILLIGEN ANNE MIEKE YVONNE WILHELMINA ; VAN BRUSSEL VERRAEST DORINE LISA

Agent(s): BURNS DOANE SWECKER AND MATHIS LLP

Title: COUPLING OF MODIFIED CYCLODEXTRINS TO **FIBERS**

Abstract: Cyclodextrins and other encapsulating **oligosaccharides** can be bound to fibrous and/or **polysaccharidic** carriers by ionic bonds. The ionic bonds can be produced by introducing cationic or anionic groups into the cyclodextrins, and where appropriate, by introducing oppositely charged groups in the carrier material. The products can be used for odour control in the fibrous material.

Classifications:

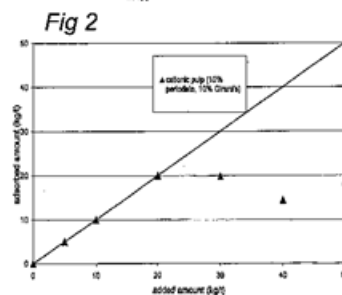
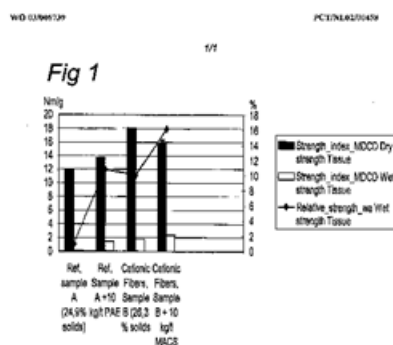
International (IPC 8-9): A61L15/46 C08B15/06 C08B37/00 C08B37/16 D06M13/00 D06M15/03 D21C9/00 D21H11/22 (Advanced/Invention); C08B15/00 C08B37/00 D06M13/00 D06M15/01 D21C9/00 D21H11/00 (Core/Invention)

International (IPC 1-7): A61L15/46 C08B15/06 C08B37/00 D06M13/00 D06M15/03 D21C9/00 D21H11/22

CPC: A61L15/46 A61L2300/00 C08B37/0012 D06M13/005 D06M15/03 D21H11/22 D21C9/005

European: A61L15/46 C08B37/00M2B D06M13/00P D06M15/03 D21C9/00B2D D21H11/22 K61L300/00

PatBase - WO03006739_A1



Family:

Publication number	Publication date	Application number	Application date
AT357261 E	20070415	AT20020746206T	20020711
AU2002315959 AA	20030129	AU20020315959	20020711
DE60219013 D1	20070503	DE20026019013	20020711
DE60219013 T2	20071213	DE20026019013T	20020711
EP1404384 A1	20040407	EP20020746206	20020711
EP1404384 B1	20070321	EP20020746206	20020711
EP1404921 A1	20040407	EP20020746207	20020711
WO03006079 A1	20030123	WO2002NL00457	20020711
WO03006739 A1	20030123	WO2002NL00458	20020711

Priority:

EP20010202667 20010711 EP20011202667 20010711 EP20010205070 20011221
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Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): BESEMER ARIE CORNELIS ; SCA HYGIENE PROD AB ; SCA HYGIENE PROD ZEIST BV ; SCA HYGIENE PRODUCTS ZEIST BV ; THIEWES HARM JAN ; VAN BRUSSEL VERRAEST DORINE LI ; VERWILLIGEN ANNE MIEKE YVONNE

Assignee(s): VERWILLIGEN ANNE MIEKE YVONNE WILHELMINA ; VAN BRUSSEL VERRAEST DORINE LISA ; SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS ZEIST B V

Inventor(s): (std): BESEMER ARIE CORNELIS ; THIEWES HARM JAN ; VERWILLIGEN ANNE MIEKE YVONNE ; VAN BRUSSEL VERRAEST DORINE LI

Inventor(s): VERWILLIGEN ANNE MIEKE YVONNE WILHE ; VERWILLIGEN ANNE MIEKE YVONNE WILHELMINA ; VAN BRUSSEL VERRAEST DORINE LISA

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW