

Search history

Search | (Results 0)

1:

Search [SP]: A disposable absorbent article type underpants (1) such as a diaper type underwear, a sanitary underpants or an incontinence brief specially adapted for a male user, wherein said disposable absorbent article type underpants (1) comprises: a chassis (2) having a front section (3) and a rear section (4), each comprising a waist edge (15), which forms during use an upper edge of the article, a pair of side edges and a pair of leg edges, an absorbent core (5), a frontal region (7) configured to accommodate the genitals (78) of a male user (79), a longitudinal direction (y) and a transverse direction (x)), wherein the front section (3) contains an elastic material comprising at least one elastic element, in which a first part (45) of the elastic material extends over at least a central part (47) of the absorbent article (1) to press a front part of the absorbent core (5) towards a user during the use of the absorbent article (1), the first part of the elastic material providing a chassis and absorbent core collection effect along a front side at the edge of the waist (15) in which a second part (46) of the elastic material is located more towards a rear part than the first part and includes at least one lateral elastic element elongate (10) extending on the transverse sides of at least part of the frontal region (7), but not completely on the frontal region (7), in which the absorbent article (1) further comprises at least one additional elongated lateral elastic element (30) joined in a longitudinal direction on each transverse side (7a, 7b) of the frontal region (7) to provide a lateral picking effect along the transverse sides (7a, 7b) of the frontal region (7), such that the absorbent core (5) within the frontal region (7), under the influence of the additional elongated lateral elastic elements (30) and the first and second parts (45, 46) of the elastic material (10), It is adapted to bulge outward during use of the article to form a bowl-shaped part that accommodates the genitals (78) of a male user (79). (Results 0)

Search SFT=(male and underwear and disposable and absorbent and elastic and core and member) and PD<20150929 and CPC=(A61F) (Results 0)

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Search SFT=(male and adult and diaper and disposable and absorbent and elastic and core and member and region and central and bowl and shape and bulge and outward) and PD<20150929 and CPC=(A61F) (Results 1)

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Search SFT=(male and adult and diaper and elastic* and lateral and pick* and effect and bowl-shape and bulge and outward) and PD<20150929 and CPC=(A61F) (Results 0)

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11:

1) Family number: 43556040 (US2009192481A)

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Title: ABSORBENT ARTICLES COMPRISING ABSORBENT MATERIALS EXHIBITING DESWELL/RESWELL

Priority: US20080063093P 20080130 US20080063093 20080130 US20080217020 20080630
US20080215942 20080630 EP20090705255 20090119 EP20090706353 20090119
WO2009IB50185 20090119 WO2009IB50183 20090119

Family:	Publication number	Publication date	Application number	Application date
	AR071336 AA	20100616	AR2009P100162	20090119
	AR072338 AA	20100825	AR2009P100163	20090119
	AU2009208660 AA	20090806	AU20090208660	20090119
	AU2009208660 BB	20131121	AU20090208660	20090119
	AU2009208661 AA	20090806	AU20090208661	20090119
	AU2009208661 BB	20131121	AU20090208661	20090119
	BRPI0905742 A2	20150714	BR2009PI05742	20090119
	BRPI0905742 B1	20180807	BR2009PI05742	20090119
	BRPI0905785 A2	20170822	BR2009PI05785	20090119
	BRPI0905785 B1	20180821	BR2009PI05785	20090119
	CN101932345 A	20101229	CN200980103746	20090119
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	CN101932346 B	20150610	CN200980103739	20090119
	DE602009024424 D1	20140717	DE200960024424T	20090119
	DE602009024425 D1	20140717	DE200960024425T	20090119
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	EP2244747 A4	20130109	EP20090706353	20090119
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	EP2244749 A2	20101103	EP20090705255	20090119
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	IN04716CN2010 A	20110211	IN2010CN04716	20100728
	IN04719CN2010 A	20110211	IN2010CN04719	20100728
	KR101601990 B1	20160317	KR20107017028	20090119
	KR101662850 B1	20161005	KR20107017027	20090119
	KR20100117587 A	20101103	KR20107017027	20090119

KR20100118569 A	20101105	KR20107017028	20090119
MX2010008214 A1	20100811	MX20100008214	20090119
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RU2010135784 A	20120310	RU20100135784	20090119
RU2010135785 A	20120310	RU20100135785	20090119
RU2490029 C2	20130820	RU20100135785	20090119
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US2009192481 AA	20090730	US20080215942	20080630
US2009192482 AA	20090730	US20080217020	20080630
US7977530 BB	20110712	US20080215942	20080630
US7977531 BB	20110712	US20080217020	20080630
WO09095810 A2	20090806	WO2009IB50183	20090119
WO09095810 A3	20091126	WO2009IB50183	20090119
WO09095811 A2	20090806	WO2009IB50185	20090119
WO09095811 A3	20091126	WO2009IB50185	20090119
ZA201004647 A	20110928	ZA20100004647	20100701
ZA201004651 A	20110928	ZA20100004651	20100701

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s):(std): KIMBERLY CLARK CO ; SMITH SCOTT J ; QIN JIAN ; TIAN GONGLU ; SHI YARU ; KIMBERLY CLARK WORLDWIDE INC ; KIMBERLY CLARK CORP ; DODGE II RICHARD N

Assignee(s): EVONIK STOCKHAUSEN INC ; KIMBERLI KLARK VORLDDVAJD INK ; KIMBERLY CLARK WORLDWIDE INC NEENAH

Inventor(s):(std): YARU SHI ; JIAN QIN ; GONGLU TIAN ; KIN DZHJAN ; SHI JARU ; SMIT SKOTT DZH ; DODZH II RICHARD N ; KIN DZHIAN ; DODGE RICHARD N II ; SHI YARU ; TIAN GONGLU ; DODGE II RICHARD N ; QIN JIAN ; SMITH SCOTT J ; RICHARD N DODGE II ; SCOTT J SMITH

Inventor(s): DODGE II RICHARD ; SMITH SCOTT

Agent(s): SPRUSON AND FERGUSON; ZIMMERMANN AND PARTNER PATENTANWAELTE MBB; MABEY KATHERINE FRANCES; BEACHAM ANNABEL ROSE; KIMBERLY CLARK WORLDWIDE INC CATHERINE E WOLF; BRYAN R; DENISE L; STOKER DENISE L

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

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/511 A61F13/514 A61F13/53 A61F13/535 A61F13/537 A61F13/84 A61L15/18 A61L15/20 A61L15/42 A61L15/48 A61L15/60 B01J20/02 B01J20/22 B01J20/26 C08K3/10 C08K3/30 C08K3/32 C08K5/098 (Advanced/Invention); A61F13/511 A61F13/514 A61F13/53 A61L15/18 A61L15/48 A61L15/60 (Advanced/Non-invention); A61F13/15 A61L15/16 B01J20/22 C08K3/00 C08K5/00 (Core/Invention); A61F A61L (Subclass/Invention)

International class (IPC 1-7): A61L15/42 A61L15/60

CPC: A61F13/535 A61F13/53708 A61F13/53752 A61F13/5376 A61F2013/15463 A61F2013/15512 A61F2013/53051 A61F2013/530532 A61F2013/530671 A61F2013/530686 A61F2013/530715 A61F2013/530729 A61F2013/530788 A61F2013/8426 A61L15/18 A61L15/20 A61L15/60 B01J20/103 B01J20/22 B01J20/261 B01J20/262 B01J20/264 B01J2220/46 B01J2220/68

European class: A61F13/535 A61F13/537B A61F13/537C4 A61F13/537D A61L15/18 A61L15/20 A61L15/60 B01J20/02 B01J20/10B B01J20/22 B01J20/26 K61F13/15J8M K61F13/15J8P3 K61F13/53Q2 K61F13/53Q2C K61F13/53Q5 K61F13/53Q5B K61F13/53Q8A K61F13/53Q8A2 K61F13/53Q9 K61F13/84B1E L01J220/46 L01J220/68

US class: 364/365 364/366 364/368 364/372 364/375 364/377 502/402 502/402S 524/397 524/397S 524/399 524/399S 524/417 524/417S 524/423 524/423S 524/425 524/425S 524/434 524/434S 524/436 524/436S 524/437 524/437S 524/438 524/438S 524/560 524/560S 524/570 524/570S 524/583 524/583S 524/584 524/584S 604/364 604/365 604/366 604/367 604/368 604/372 604/372P 604/375 604/377 604/385.01 604/385.010S 604/385.23 604/385.230P

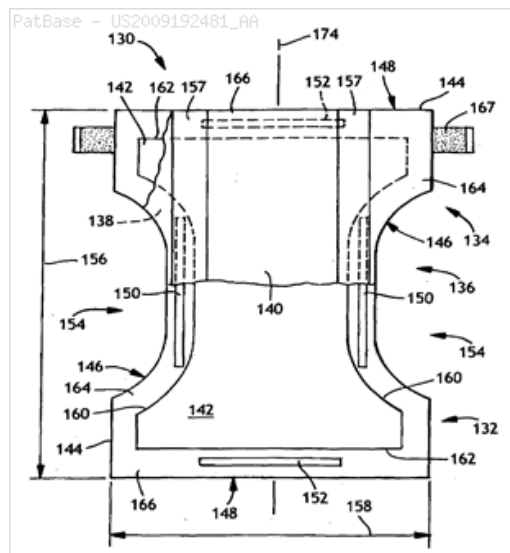
[Classification Explorer](#)

Cited documents: WO09097420 A2, WO03099186 A1, WO0037009 A2, USRE32649 E, US88317404, US6696618 BB, US6696618 B1, US6645190 BA, US6639120 BA, US6575952 BB, US6575952 B1, US6383960 BA, US6362389 BA, US6323252 BA, US6323252, US5766389 A, US5728082 A, US5350624 A, US5147343 A, US4940464 A, US4798603 A, US4724114 A, US4699823 A, US4673402 A, US4655757 A, US4605402 A, US4604313 A, US4587154 A, US4578068 A, US4338371 A, US4251643 A, US4100324 A, US3935099 A, US3849241 A, US3661815 A, US3425971 A, US2009192482 AA, US2009192481 A, US2009191408 AA, US2008269705 AA, US2006004336 AA, US2003139714 AA, US2003139714, US2003109840 AA, US2003109840, US2002068130 AA, US2002068130, GB2170108 A1, GB2151272 A1, EP0944402 B1, EP0558889 B2, EP0539703 A1, EP0257951 A2, EP0149998 A2, CN1354645 A,

Forward Citations: WO19117670, WO15175620, WO15163523, WO15006799, WO14077619, WO12080872, WO12080872, US9777131, US9650488, US9345624, US8987544, US8740869, US8734948, US8318306, US7977531, US7977530, US2015328358, US2015080822, US2009192482, US2009192481, US2009191408, US10493661, US10065175, US10028867, RU2624510, RU2607900, RU2574882, KR102061673, JP6567556, JP5996226, JP2017520637, JP2013198862, GB2500135, GB2500135, EP2944376, EP2944376, EP2919822, EP2829320, EP2829320, CN106413765, CN104955491, CN104245119, CN103260567, CN103260567,

Abstract:

The present invention relates to absorbent articles that include absorbent compositions which exhibit swelling, deswelling, and reswelling behavior. More specifically, absorbent compositions of this invention swell and absorb fluids after exposure to aqueous fluids, deswell and release fluids from the swollen absorbent compositions, and can also reswell and absorb fluids. The swelling-deswelling-reswelling behavior allows enhanced liquid distribution in absorbent composites and absorbent articles.



2) Family number: 13125049 (US5643396A)

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Title: APPARATUS FOR FABRICATING GARMENTS

Priority: US19950381389 19950131 US19950453836 19950530 CA19952152328 19950621
 EP19960906259 19960126 EP20030006672 19960126 EP20030006659 19960126
 EP20030006649 19960126 WO1996US01385 19960126 EP19960906259 19960808

Family:

Publication number	Publication date	Application number	Application date
AU199649703 A1	19960821	AU19960049703	19960126
AU706014 B2	19990603	AU19960049703	19960126
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EP1325723 A2	20030709	EP20030006649	19960126
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EP1325724 B1	20131204	EP20030006659	19960126
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US5643396 A	19970701	US19950453836	19950530
US5660657 A	19970826	US19950381389	19950131
WO9623475 A1	19960808	WO1996US01385	19960126

Probable Assignee: KIMBERLY CLARK CORP

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

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; SUKE PAUL DANIEL ; RABE GERALD LEIGH ; RAJALA GREGORY JOHN ; KIMBERLY CLARK WORLDWIDE INC NEENAH ; GEHLING STEVEN CRAIG

Inventor(s):(std): SUKE DANIEL ; RABE LEIGH ; RAJALA JOHN ; GEHLING CRAIG ; RABE GERALD L ; GEHLING STEVEN C ; SUKE PAUL D ; RAJALA GREGORY J ; RABE GERALD LEIGH ; GEHLING STEVEN CRAIG ; SUKE PAUL DANIEL ; RAJALA GREGORY JOHN

Inventor(s): GERALD LEIGH RABE ; STEVEN CRAIG GEHLING ; PAUL DANIEL SUKE ; GREGORY JOHN RAJALA ; SUKE PAUL D APPLETON ; GEHLING STEVEN C OSHKOSH ; RABE GERALD L APPLETON ; RAJALA GREGORY J NEENAH

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP; ZIMMERMANN AND PARTNER PATENTANWALTE MBB; ZIMMERMANN AND PARTNER

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

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International class (IPC 1-7): A29C65/08 A41H43/00 A61F13/15 A61F13/72 B29C65/08

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US class: 156/164 156/200 156/229 156/253 156/361 156/378 156/461 156/494 156/516 156/522 156/580.1 156/64 156/73.2 156/73.3

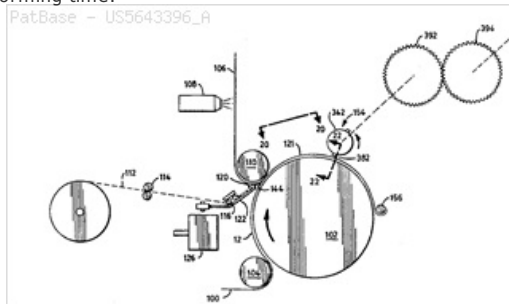
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Forward Citations: WO14005005, WO11048513, WO10145927, WO10145927, WO07040895, WO04043318, WO03024377, WO03024377, WO03024375, WO0213742, WO0073031, WO0030583, USD704237, USD703712, USD703711, USD703248, USD703247, USD684613, US9999551, US9993370, US9950439, US9944487, US9943447, US9908739, US9907706, US9895271, US9815159, US9809414, US9770285, US9770281, US9763724, US9738002, US9622918, US9603752, US9603751, US9592163, US9566193, US9550306, US9549859, US9511952, US9511951, US9463942, US9433539, US9433538, US9387131, US9364965, US9326810, US9295588, US9289329, US9283683, US9283121, US9278032, US9266684, US9266314, US9241838, US9227794, US9221621, US9174138, US9168182, US9089453, US9056427, US9050213, US9039855, US9028632, US8944235, US8833542, US8820513, US8820380, US8795453, US8794115, US8764927, US8764926, US8758543, US8753466, US8720666, US8720518, US8702887, US8685870, US8673098, US8664469, US8663420, US8663411, US8656817, US8622984, US8622983, US8607959, US8557077, US8491741, US8460495, US8440043, US8417374, US8398793, US8393932, US8293056, US8201607, US8182624, US8172977, US8147476, US8142590, US8100253, US8100173, US8062454, US8016972, US8007484, US8002928, US7975584, US7909956, US7861756, US7811403, US7780052, US7770712, US7708849, US7703599, US7640962, US7638014, US7628778, US7618513, US7608069, US7604624, US7591809, US7587966, US7537215, US7533709, US7452436, US7442188, US7398870, US7374627, US7322312, US7303708, US7216685, US7048991, US7008497, US6982231, US6976521, US6969378, US6914018, US6890630, US6881205, US6869424, US6820671, US6808582, US6783622, US6756327, US6748996, US6743321, US6730188, US6722494, US6702800, US6682626, US6676003, US6634269, US6620270, US6613171, US6569275, US6547903, US6544375, US6537403, US6527902, US6521320, US6520946, US6520236, US6482278, US6368449, US6358356, US6165306, US6074333, US6059710, US2015083309, US2015048198, US2011212818, US2011196331, US2011188985, US2011160692, US2011098668, US2011094661, US2010326796, US2009294044, US2009266491, US2007074953, US2007069428, US2006032589, US2005241751, US2005189063, US2005082022, US2004243089, US2004219854, US2004193135, US2004144496, US2004068246, US2004035521, US2003120246, US2003116257, US2003088226, US2002103468, US2002052591, US10494216, US10479025, US10456302, US10391657, US10328667, US10266362, US10265221, US10227197, US10172745, US10167156, US10117788, US10064675, US10059553, US09999551, JP5124187, JP4246020, JP2008104853, JP2005080827, JP2002253606, GC5853, GB2383523, GB2383523, EP3533428, EP3521024, EP3240513, EP3154788, EP3092995, EP3092995, EP3092994, EP3092993, EP3092993, EP3088164, EP3088164, EP3078479, EP3078479, EP2990180, EP2990180, EP2990179, EP2990179, EP2886341, EP2886341, EP2870950, EP2870950, EP2866755, EP2796271, EP2796271, EP2658494, EP2656827, EP2656827, EP2656825, EP2656825, EP2633993, EP2633993, EP2490891, EP2490891, EP2490891, EP2490639, EP2446868, EP1938777, EP1806117, EP1806117, EP1719605, EP1719605, EP1707168, EP1563817, EP1563817, EP1427368, EP1310224, EP1310224, EP1310224, EP1228987, EP1202846, EP1143901, EP1004285, DE102009026952, DE102007063209, CN106029022, CN106029022, CN105992575, CN105992575, CN105916474, CN104169066, CN102421585, CN102378674,

Abstract:

This invention pertains to apparatus for use in constructing a garment including a stretched elastic. Specifically, the invention contemplates incorporating stretched elastic into a continuous web, including one or more segments which exert retractive forces in directions counterproductive to the function of either the web, the garment, or both, and nullifying that portion of the stretched elastic which would be counterproductive. The elastics may be cut at appropriate loci. The stretch may be intermittently reduced or eliminated on one or more selected ones of the elastics as the elastics are incorporated into the web. A special coating may be used on the processing rolls to maintain the width dimension of the web at loci disposed after incorporation of elastic stretched across the transverse dimension of the web. Transverse bonds may be formed on the web using a rotary carrying drum, and energy application devices which rotate with the drum, to increase bond forming time.



Title: METHOD AND APPARATUS FOR MAKING ON-LINE STABILIZED ABSORBENT MATERIALS

Priority: US20010033860 20011220 US20010034021 20011220 US20010034079 20011220
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Agent(s): SARGENT; PORZIO; ZIMMERMANN AND PARTNER PATENTANWALTE MBB; DAVIES CHRISTOPHER ROBERT; PAUL Y; THOMAS M; ARMSTRONG TEASDALE LLP

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 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 NA 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

International class (IPC 8-9): A61F13/00 A61F13/15 A61F13/472 A61F13/49 A61F13/53 A61F13/532 A61F13/533 A61F13/534 A61F13/535 A61F13/536 A61F13/84 A61F5/44 A61L15/60 B32B27/04 B32B27/12 B32B5/02 D01F1/10 D04H1/00 D04H1/407 D04H1/42 D04H1/54 D04H1/542 D04H1/554 D04H1/732 D06M10/00 H05B6/10 H05B6/78 (Advanced/Invention); A61F13/53 A61F13/535 D04H1/54 (Advanced/Non-invention); A61F13/00 A61F13/15 A61L15/16 D01F1/10 D04H1/42 D04H1/54 D06M10/00 (Core/Invention)

International class (IPC 1-7): A61F13/00 A61F13/15 A61F13/20 A61F13/472 A61F13/49 A61F13/53 A61F13/532 A61F13/533 A61F13/534 A61F13/535 A61F13/536 A61F2013/530218 A61F2013/53024 D04H1/541 D04H1/732 A61L15/60 D04H1/42 D04H1/554 D06M10/003 Y10T428/2915 Y10T442/2418 Y10T442/681 A61F13/15203 A61F13/15626 A61F13/532 A61F13/533 A61F13/534 A61F13/535 A61F13/536 A61F13/8405 A61F2013/15292 A61F2013/15357 A61F2013/1543 A61F2013/530364 D01F1/106 D04H1/54 Y10T428/24628 Y10T428/2495 Y10T428/24992 Y10T442/60 Y10T442/637 Y10T442/641

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European class: A61F13/15J A61F13/15M3B A61F13/15M6 A61F13/472B A61F13/49A A61F13/532 A61F13/533 A61F13/534 A61F13/535 A61F13/536 A61F13/84B A61L15/60 D01F1/10C D04H1/42 D04H1/54 D04H1/54B D06M10/00C K61F13/15J8A K61F13/15J8C K61F13/15J8H1 K61F13/45C3A K61F13/45C3B K61F13/45C3C K61F13/53M3 K61F13/53M3D K61F13/53M4B K61F13/53M7C

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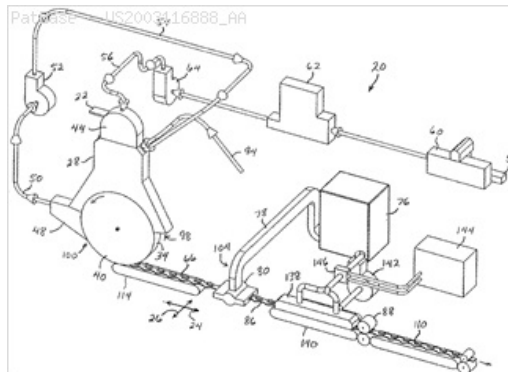
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Forward Citations:

Abstract:

A method for forming a stabilized airlaid layer (86) can include an airforming of a substantially unbonded fibrous layer (66) which includes absorbent fibers and binder-fibers. The fibrous layer (66) is exposed to high-frequency electromagnetic energy during a distinctively short activation period to activate the binder-fibers to provide the stabilized, airlaid layer (86). In a particular aspect the activation period can be not more than about 3 sec.



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Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; GROSS JACQUELINE ANN ; FREIBURGER SARAH JANE MARIE ; FLETCHER AMY LYNN ; FELL JOSEPH PATRICK ; FELL DAVID ARTHUR

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Inventor(s): JOSEPH FELL

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

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

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/496 A61F13/539 A61F5/44 (Advanced/Invention); A61F13/496 (Advanced/Non-invention); A61F13/15 A61F5/44 (Core/Invention)

International class (IPC 1-7): A61F A61F13/15 A61F13/20 A61F13/49 A61F13/496 A61F13/539 A61F5/44

CPC: A61F13/539 A61F13/496

European class: A61F13/496 A61F13/539

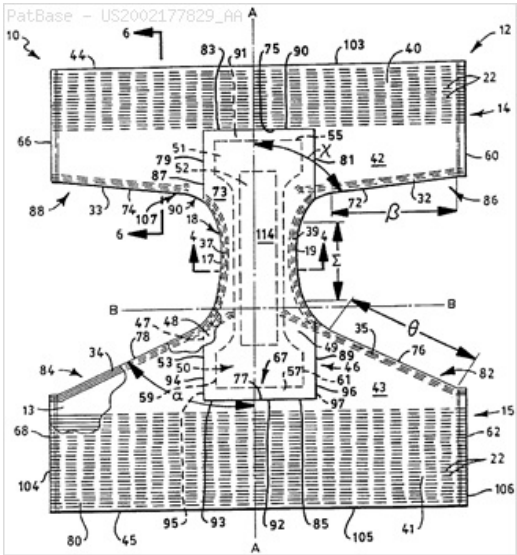
US class: 604/385.01 604/385.010P 604/385.25 604/385.250S 604/385.29 604/385.290S 604/385.3 604/385.300S

[Classification Explorer](#)

Cited documents: WO9514453 A2, WO0002511 A1, WO0002510 A2, EP0763353 A2, EP0627210 A2,

Forward Citations: WO16068764, WO06093439, WO06071149, WO05110313, WO05004766, USD829324, US9956124, US9808378, US9782308, US9757283, US9750650, US9737444, US9675499, US9622922, US9566195, US9498388, US9486368, US9439811, US9433539, US9414972, US9375367, US9358161, US9308131, US9226862, US9198807, US9198806, US9192526, US9192524, US9018436, US8961487, US8920400, US8822015, US8664469, US8529536, US8480830, US8475423, US8444617, US8258366, US8257332, US8168024, US8147476, US8092440, US7824389, US7785307, US7744712, US7740727, US7730920, US7604624, US7462172, US7361246, US7018369, US6808485, US2015320622, US2014018757, US2013296819, US2011144602, US2010130956, US2010082005, US2008176026, US2008093015, US2007299418, US2007293833, US2007246152, US2007239131, US2005256493, US2005139311, US10543131, US10543130, US10537481, US10531991, US10531990, US10524964, US10524963, US10524962, US10485712, US10485710, US10478352, US10456307, US10449099, US10434017, US10327963, US10226388, US10206825, US10143600, US10117792, US10076454, US10058460, TWI412350, RU2660049, KR20160137671, KR20160137670, KR101986881, KR101986880, KR101820261, KR101143047, JP6368439, JP2018510733, JP2010188202, JP2010188201, JP2008531178, EP3212143, EP2581070, EP2236111, EP2236111, CN102178583, CN101803978, AU2005328389, AU2005244229,

Abstract:
A three dimensional disposable underpant is disclosed having an absorbent core skewed forward by a factor of no more than 0.10. The absorbent core is positioned within the front, central, and back sections of the disposable underpant such that the length of the absorbent core in the back section of the disposable underpant divided by the length of the absorbent core in the front and central sections of the disposable underpant is less than 0.10, and the length of the absorbent core in the front section of the disposable underpant is greater than the length of the absorbent core in the back section of the disposable underpant. In one aspect, the disposable underpant includes elasticized leg and waist openings, resulting in the underpant being stretchable about the hip and stomach regions of a user.



5) Family number: 31497166 (US2005027267A)

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Title: ABSORBENT ARTICLE WITH IMPROVED FIT AND FREE LIQUID INTAKE

Priority: US20030631641 20030731

Family:

Publication number	Publication date	Application number	Application date
US2005027267 AA	20050203	US20030631641	20030731
WO05016204 A1	20050224	WO2004US08430	20040319

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s):(std): FORTUNE AMBER MARIE ; KIMBERLY CLARK CO ; ROESSLER THOMAS HAROLD ; VAN DYKE WENDY

LYNN ; ZENKER DAVID LOUIS

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC

Inventor(s):(std): ZENKER DAVID LOUIS ; FORTUNE AMBER MARIE ; ROESSLER THOMAS HAROLD ; VAN DYKE WENDY LYNN

Inventor(s): ZENKER DAVID ; ROESSLER THOMAS ; VAN DYKE WENDY ; FORTUNE AMBER

Agent(s): ROLAND W NORRIS PAULEY PETERSEN KINNE AND ERICKSON

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 KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): A61F13/15 (Advanced/Invention); A61F13/15 (Core/Invention)

International class (IPC 1-7): A61F13/15 A61F13/20

CPC: A61F13/53713 A61F13/53717 A61F13/53747 A61F13/53756 A61F2013/15406 A61F2013/5373 A61F2013/53791

European class: A61F13/537B2 A61F13/537B4 A61F13/537C2 A61F13/537C8 K61F13/15J8E K61F13/537B5B K61F13/537G

US class: 604/367 604/367P

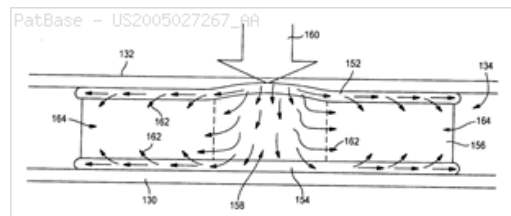
[Classification Explorer](#)

Cited documents: US6969781 BB, US6946584 BA, US6664438 BA, US6420626 BA, US6380456 BA, US6328723 BA, US6323388 BA, US6316687 BA, US6217563 BA, US6177607 BA, US6152904 A, US5994615 A, US5919177 A, US5897544 A, US5895379 A, US5879343 A, US5873867 A, US5868725 A, US5853402 A, US5843056 A, US5836931 A, US5833678 A, US5820973 A, US5817081 A, US5762081 A, US5695868 A, US5681302 A, US5669894 A, US5653702 A, US5607414 A, US5599335 A, US5514120 A, US5490846 A, US5486166 A, US5466513 A, US5466410 A, US5425725 A, US5411497 A, US5387208 A, US5364382 A, US5304161 A, US5300054 A, US5277976 A, US5248309 A, US5226992 A, US5069970 A, US5057368 A, US4847134 A, US4704116 A, US4663220 A, US4340563 A, US3849241 A, US3802817 A, US3692618 A, US3542615 A, US3502763 A, US3341394 A, US3338992 A, US2003120249 AA, US2002165517 AA, US2002165509 AA, US2002145517, US2002145509, EP0670154 A2,

Forward Citations: US9877881, US9622925, US9408758, US9375362, US9241848, US9241847, US9241842, US9220644, US9091005, US9012716, US8920400, US8454572, US8382736, US8258366, US7870652, US7838720, US7834234, US7824389, US7682350, US2015328060, US2014163501, US2011208144, US2011208143, US2011208141, US2011208140, US2011056053, US2010292661, US2010082005, US2007275622, US2007255246, US2007157441, US2007088312, US2006229578, US2006229577, US2006142719, US2005090790, US10022280, EP3187162, EP3085345, EP2596715, EP1968518, EP1962760, AU2006309235,

Abstract:

A disposable absorbent diaper has an outer cover, a bodyside liner, and an absorbent core positioned between the outer cover and the bodyside liner. A lofty, resilient, liquid permeable lofty spacer layer is positioned between the absorbent core and the outer cover and in liquid communication with the absorbent core. The absorbent core can be made from standard airformed materials which may have a combination of reduced surface area, narrow crotch width and a permeability level which may permit free liquid run off during insult to the garment. The lofty spacer layer has a high void volume and is also made of economical materials and desirably has a width in the crotch region greater than a width of the absorbent core in the crotch region to provide distribution of the free liquid run off underneath the absorbent core, allowing for reduction of the width of the absorbent core in the crotch region to provide an economical diaper with improved fit and leakage while reducing reliance on a gasketing system. The lofty resilient spacer layer will desorb into the absorbent core between insults thereby retaining its spacer layer function for use with breathable outer covers.



6) Family number: 42444325 (US2008269705A)

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Title: ABSORBENT COMPOSITES EXHIBITING STEPPED CAPACITY BEHAVIOR

Priority: US20070796585 20070428 WO2008IB50784 20080304 US20130760270 20130206

Family:	Publication number	Publication date	Application number	Application date
	AU2008243891 AA	20081106	AU20080243891	20080304
	AU2008243891 BB	20130321	AU20080243891	20080304
	BRPI0809839 A2	20140923	BR2008PI09839	20080304
	BRPI0809839 B1	20190326	BR2008PI09839	20080304
	EP2142156 A1	20100113	EP20080719554	20080304
	JP2010525135 T2	20100722	JP20100504917T	20080304
	JP5431307 B2	20140305	JP20100504917T	20080304
	KR101479794 B1	20150106	KR20097022421	20080304
	KR20100015949 A	20100212	KR20097022421	20080304
	MX2009011694 A1	20091110	MX20090011694	20080304
	US2008269705 AA	20081030	US20070796585	20070428
	US2013150817 AA	20130613	US20130760270	20130206
	US8383877 BB	20130226	US20070796585	20070428
	US8957278 BB	20150217	US20130760270	20130206
	WO08132617 A1	20081106	WO2008IB50784	20080304
	ZA200906656 A	20110223	ZA20090006656	20090923

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s):(std): DODGE II RICHARD N ; KIMBERLY CLARK CO ; KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; SINGH KAINTH ARVINDER P ; ZENKER DAVID L

Inventor(s):(std): ZENKER DAVID L ; KAINTH ARVINDER P SINGH ; DODGE RICHARD N ; KAINTH P SINGH ; DODGE RICHARD N II ; ARVINDER P SINGH KAINTH ; DODGE II RICHARD N ; SINGH KAINTH ARVINDER P

Inventor(s): DAVID L ZENKER ; RICHARD N DODGE II ; P SINGH KAINTH

Agent(s): SPRUSON AND FERGUSON; DAVIES CHRISTOPHER ROBERT; KIMBERLY CLARK WORLDWIDE INC CATHERINE E WOLF; DENISE L; BRYAN R; ROSIEJKA BRYAN R ET AL

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 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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): A61F A61F13/15 A61F13/49 A61F13/53 A61F13/531 A61F13/532 A61F13/535 A61F13/537 A61L15/42 A61L15/48 A61L15/60 C07H1/00 C08L101/14 (Advanced/Invention); A01B1/00 (Advanced/Non-invention); A61F13/15 A61L15/16 C07H1/00 C08L101/00 (Core/Invention)

International class (IPC 1-7): A61F13/532 A61F13/535

CPC: A61F13/53 A61F13/5376 A61F2013/530481 A61F2013/530678 A61F2013/530686 A61F2013/5307 A61F2013/530715 A61F2013/530722 A61F2013/530729 A61F2013/530737 A61F2013/530751 A61L15/42 A61L15/60 Y10T156/109 Y10T156/1092 Y10T156/1093 Y10T156/1095 Y10T156/1768 Y10T428/249953 Y10T428/31971 Y10T428/31989 A61F13/531

European class: A61F13/53 A61F13/537D A61L15/42 A61L15/60 K61F13/53Q K61F13/53Q5A K61F13/53Q5B K61F13/53Q6 K61F13/53Q8A K61F13/53Q8A1 K61F13/53Q8A2 K61F13/53Q8B K61F13/53Q8B1A

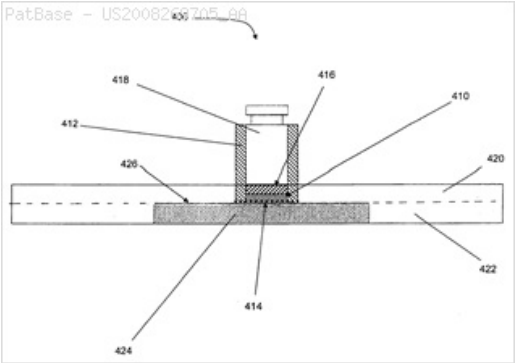
US class: 156/164 156/291 156/292 156/298 156/299 156/300 156/301 156/566 428/304.4 428/532 428/537.1 502/402 530/500 530/500S 604/302 604/324 604/358 604/365 604/366 604/367 604/367P 604/378 604/381

[Classification Explorer](#)

Cited documents: WO9218079 A1, WO0185081 A1, WO0147569 A1, WO0132117 A1, WO0037009 A2, US6998367 BB, US6743391 BB, US6716929 BB, US6700034 BA, US6696618 BB, US6689934 BB, US6677256 BA, US6645190 BA, US6641134 BA, US6579958 BB, US6552245 BA, US6514615 BA, US6437213 BA, US6433058 BA, US6417425 BA, US6395830 BA, US6362389 BA, US5883028 A, US5855571 A, US5820973 A, US5766389 A, US5629377 A, US5520672 A, US5490846 A, US5486166 A, US5393602 A, US5350624 A, US5116662 A, US5114781 A, US5082723 A, US4940464 A, US4724114 A, US4655757 A, US4604313 A, US4587154 A, US4548847 A, US4100324 A, US3849241 A, US2006004336 AA, US2004186239 AA, US2004073181 AA, US2003139714 AA, KR20010033020 A, JP3205052 A2, JP3205052, JP2004131708 A2, JP2004131708, JP2003525105 T2, JP2003525105 T2, JP2003525105, JP2003524687 T2, JP2003524687 T2, JP2003524687, JP2003516445 T2, JP2003516445 T2, JP2002508220 T2, JP2002508220 T2, GB2151272 A1, EP0700673 A1,

Forward Citations: WO15176063, US9995005, US9988763, US9622916, US9092585, US8962911, US8921641, US8468000, US8392161, US8386219, US7977531, US7977530, US2016341653, US2013079740, US2012323196, US2012323195, US2011060570, US2011060555, US2009326497, US2009192482, US2009192481, US10544547, US10538882, US10456306, US10422082, US10422078, US10307732, US10301779, US10273635, US10208426, US10190263, US10099425, FR3010632, EP2566901, EP2566901,

Abstract:
An absorbent composite includes a water-insoluble fibrous matrix, a superabsorbent polymer composition that has an initial absorbent capacity of at least about 5 grams of saline per gram of superabsorbent polymer composition; and a first triggering mechanism having a first release time of between about 5 and 60 minutes, where the superabsorbent polymer composition has a second absorbent capacity that is at least about 25 percent greater than the first absorbent capacity as measured by the mCRC Test.



7) Family number: 3038379 (US4772444A) © PatBase

Title: Method and apparatus for making microbubbled and/or microapertured polymeric webs using hydraulic pressure

Priority: US19870088923 19870824 US19870088930 19870824 US19870088933 19870824
EP19880307706 19880819 CA19880575459 19880823 CA19880575465 19880823
CA19880575466 19880823

Family:	Publication number	Publication date	Application number	Application date
	AT88946 E	19930515	AT19880307706T	19880819
	AU198821400 A1	19890316	AU19880021400	19880823
	AU623862 B2	19920528	AU19880021400	19880823
	CA1313009 A1	19930126	CA19880575465	19880823
	CA1319482 A1	19930629	CA19880575459	19880823
	CA1327437 A1	19940308	CA19880575466	19880823
	DE3880763 D1	19930609	DE19883880763	19880819
	DE3880763 T2	19931202	DE19883880763T	19880819
	EP0305123 A1	19890301	EP19880307706	19880819

EP0305123 B1	19930505	EP19880307706	19880819
ES2040348 T3	19931016	ES19880307706T	19880819
FI883892 A	19890225	FI19880003892	19880823
FI883892 A0	19880823	FI19880003892	19880823
FI95221 B	19950929	FI19880003892	19880823
FI95221 C	19960110	FI19880003892	19880823
GR3007862 T3	19930831	GR19930403258T	19930517
HK99696 A	19960614	HK19960000996	19960606
IE61582 B	19941116	IE19880002574	19880823
IE882574 L	19890224	IE19880002574	19880823
JP1264839 A2	19891023	JP19880210384	19880824
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KR0125441 B1	19971226	KR19880010750	19880824
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MX170750 B	19930913	MX19880012796	19880824
NZ225905 A	19910226	NZ19880225905	19880823
PT88319 A	19890630	PT19880088319	19880822
PT88319 B	19940729	PT19880088319	19880822
TH10662 B	20010710	TH19881000713	19880822
TH14109 A	19940622	TH19881000713	19880822
US4772444 A	19880920	US19870088923	19870824
US4778644 A	19881018	US19870088930	19870824
US4846821 A	19890711	US19870088933	19870824

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s):(std): PROCTER AND GAMBLE ; CURRO JOHN J ; BRUCE PETER

Assignee(s): CHAPPELL CHARLES WILBUR ; ADAMS RUSSELL ELECTRONICS CO INC ; ADAMS RUSSELL ELECTRONICS CO INC 1380 MAIN ST WALTHAM MA 02154 (A R) A CORP OF DE ; ADAMS RUSSELL ELECTRONICS CO INC 1380 MAIN ST WALTHAM MA 02154 A R A CORP OF DE ; BATTRELL CHARLES FREDERICK ; PROCTER AND GAMBLE CO ; PROCTER AND GAMBLE CO THE ; PUROKUTAA ANDO GYANBURU CO ZA ; PETER BRUCE ; PROCTER AND GAMBLE COMPANY THE ; LYONS JULIE W ; CREE JAMES WILLIAM ; CURRO JOHN JOSEPH ; LYONS JULIE WALSTON ; OUELLETTE WILLIAM ROBERT ; GERTH DONALD LEROY ; MULLANE WILLIAM IRVIN JR ; THE PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO US

Inventor(s):(std): CHIYAARUZU FUREDERITSUKU BATSU ; LYONS JULIE WALSTON ; BATTRELL CHARLES FREDERICK ; OUELLETTE WILLIAM ROBERT ; CURRO JOHN JOSEPH ; CHAPPELL CHARLES WILBUR ; CREE JAMES WILLIAM ; GERTH DONALD LEROY ; MULLANE WILLIAM IRVIN JR ; LYONS JULIE W ; BATTRELL CHARLES F ; OUELLETTE WILLIAM R ; CURRO JOHN J ; CHAPPELL CHARLES W ; CREE JAMES W ; GERTH DONALD L ; MULLANE JR WILLIAM I ; MULLANE WILLIAM IRVIN ; MULLANE WILLIAM I JR ; OUELLETTE WILLIAM ROBERT ; IRVIN JR MULLANE WILLIAM ; CHIYAARUZU UIRUBAA CHIYAPERU ; JIEEMUZU UIRIAMU KURII ; UIRIAMU ROBAATO KERETSUTO ; UIRIAMU AABIN MAREN JIYUNIA ; JIYURII UORUSUTON RAIONZU ; JIYON JIYOSUFU KAARO ; DONARUDO RIIROI GAASU ; CHAARUZU FUREDERITSUKU BATSUTO ; MULLANE JR WILLIAM IRVINE ; WILLIAM

Inventor(s): MULLANE JR ; WILLIAM ROBERT OUELLETTE ; JAMES WILLIAM CREE ; CHARLES WILBUR CHAPPELL ; WILLIAM IRVIN JR MULLANE ; DONALD LEROY GERTH ; JOHN JOSEPH CURRO ; CHARLES FREDERICK BATTRELL ; JULIE WALSTON LYONS ; MULLANE WILLIAM I ; BATTRELL CHARLES FREDERICK CINCINNATI OHIO 45213 US ; JEEMUZU UIRIAMU KURII ; JURII UORUSUTON RAIONZU ; JON JOSEFU KAARO ; UIRIAMU AABIN MAREN JUNIA ; CHAARUZU FUREDERITSUKU BATSUTORERU ; CHAARUZU UIRUBAA CHAPERU ; WILLIAM IRVIN MULLANE JR ; IRVIN JR ; OUELLETTE WILLIAM ROBERT CINCINNATI OHIO 45240 US ; CURRO JOHN JOSEPH CINCINNATI OHIO 45213 US ; CREE JAMES WILLIAM CINCINNATI OHIO 45220 US ; GERTH DONALD LEROY CINCINNATI OHIO 45245 US ; CHAPPELL CHARLES WILBUR WEST CHESTER OHIO 45069 US ; LYONS JULIE WALSTON NORTH BEND OHIO 45052 US ; MULLANE WILLIAM IRVIN JR CINCINNATI OHIO 45215 US ; BATTRELL CHARLES FREDERICK CINCINNATI OHIO 45213 U ; CHIYAARUZU FUREDERITSUKU BATSUTORERU

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

Designated states: AT BE CH DE ES FR GB GR IT LI LU NL SE

International class (IPC 8-9): A41B9/12 A61F13/00 A61F13/15 A61F13/49 A61F13/514 A61F5/44 A61L15/00 B26F1/26 B29C51/10 B29C51/22 B29C51/42 B29C59/00 B29C59/02 B29C59/04 B29C59/06 B32B3/28 B32B7/02 (Advanced/Invention); A61F5/44 B32B3/28 B32B7/02 (Advanced/Non-invention); A41B9/00 A61F13/00 A61F13/15 A61F5/44 A61L15/00 B26F1/00 B29C51/10 B29C51/18 B29C59/00 B29C59/02 B32B3/28 B32B7/02 (Core/Invention)

International class (IPC 1-7): A41B13/00 A41B13/02 A41B13/04 A41B9/12 A61F13/00 A61F13/15 A61F13/16 A61F13/18 A61F13/46 A61F5/44 A61L15/00 A61L15/00 B29C51/10 B29C51/42 B29C59/00 B29C59/02 B29C59/04 B29C59/06 B29C69/02 B32B3/12 B32B3/28 B32B31/22 B32B7/02 D04H5/08

CPC: Y10S428/913 Y10T428/24 Y10T428/24446 Y10T428/24479 Y10T428/24595 Y10T428/24603 Y10T428/24661 A61F13/5146 A61F13/51476 A61F2013/51411 A61F2013/51472 A61F2013/51492 B26F1/26 B29C51/10 B29C51/22 B29C51/225 B29C59/022 B29C2059/023

European class: A61F13/15C3 A61F13/514B1A A61F13/514C1 B26F1/26 B29C51/10 B29C51/22 B29C51/22B B29C59/02C K61F13/514A4A K61F13/514B5 K61F13/514C4C L29C59/02C1

US class: 264/154 264/280 264/299 264/504 264/519 264/555 264/557 264/570 425/290 425/304 425/326.1 425/328 425/363 425/365 425/384 425/385 425/387.1 425/388 428/152 428/156 428/170 428/171 428/178 428/913 428/98 604/358 604/369 604/372 604/378 604/383

[Classification Explorer](#)

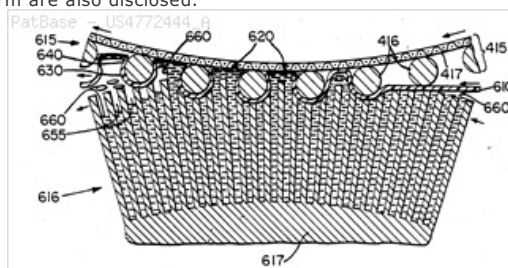
Cited documents: US4695422 A, US4681793 A, US4637819 A, US4629643 A, US4609518 A, US4601868 A, US4591523 A, US4552709 A, US4546029 A, US4518643 A, US4463045 A, US4395215 A, US4376147 A, US4351784 A, US4343848 A, US4342314 A, US4327730 A, US4323069 A, US4317792 A, US4303609 A, US4280978 A, US4272473 A, US4262049 A, US4259286 A, US4226828 A, US4192699 A, US4155693 A, US4151240 A, US4132594 A, US3989867 A, US3966383 A, US3957414 A, US3947174 A, US3929135 A, US3911187 A, US3881491 A, US3881489 A, US3881210 A, US3862282 A, US3814101 A, US3760940 A, US3724673 A, US3709647 A, US3704194 A, US3685930 A, US3654047 A, US3645264 A, US3605191 A, US3560601 A, US3540959 A, US3484835 A, US3468311 A, US3084389 A, US3054148 A, US3038198 A, US2905969 A, US2862251 A, US2776452 A, US2776451 A, US2660757 A, US23910 A, US2123552 A, US2045384 A, GB2021479 A1, EP0156471 A2, EP0138601 A2, EP0059506 A2, DE596599 A, DE506599 A, DE1177324 B,

Forward Citations: WO9944809, WO9726850, WO9609024, WO9200050, WO19060647, WO18106851, WO18098056, WO18098055, WO17003802, WO16073724, WO16073713, WO15187520, WO15148697, WO15066588,

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Abstract:

A method for hydraulically deforming a web of polymeric film while the film is supported on a moving forming structure to produce a novel microbubbled substantially fluid-impervious web exhibiting substantially the same consumer preferred soft and silky tactile impression and reduced noise generation levels heretofore only achievable in microapertured, and hence substantially fluid pervious polymeric webs. In a particularly preferred embodiment, the microbubbled polymeric web exhibits a fine-scale pattern of discrete mushroom shaped surface aberrations, each of said surface aberrations having its amplitude oriented substantially perpendicular to the surface in which the surface aberration originates. The method may also be utilized to produce fluid pervious microapertured webs which are known in the art. Apparatus for producing microbubbled and/or microapertured webs either in "planar" or "macroscopically expanded" form are also disclosed.



8) Family number: 58858495 (US2015094682A)

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Title: METHOD OF FORMING AN ABSORBENT STRUCTURE

Priority: US20130884184P 20130930 US20140186305 20140221 EP20140849414 20140918
WO20141B64629 20140918 US20170399100 20170105 US20170723323 20171003

Family:	Publication number	Publication date	Application number	Application date
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	AU2014326263 BB	20180201	AU20140326263	20140918
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	US10548782 BB	20200204	US20170723323	20171003
	WO15044842 A1	20150402	WO20141B64629	20140918

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s):(std): KIMBERLI KLARK VORLDDVAJD INK ; KIMBERLY CLARK CO ; KIMBERLY CLARK CO LTD ; KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC

Assignee(s): KIMBERLY CLARK WORLDWIDE INC NEENAH

Inventor(s):(std): HIMBERGEN JAMES GEORGE VAN ; KENDELL JEAN WILLIAMS ; NICHOLAS ALAN KRAFT ; DAVID ARTHUR FELL ; JAMES GEORGE VAN HIMBERGEN ; STEVEN MICHAEL HURLEY ; DAVID JOHN PAULSON ; JOHANNA MARIE BUSS ; THOMAS GERARD VERCAUTEREN ; DONALD LEROY SMITH ; SARA LYNN ROSACK ; ROZAK SARA LINN ; VERKAUTEREN TOMAS DZHERARD ; VAN KIMBERGEN DZHEJMS DZHORDZH ; POLSON DEVID DZHON ; BASS DZHOANNA MERI ; UILYAMS KENDELL DZHIN ; KRAFT NIKOLAS ALAN ; SMIT DONALD LEROJ ; KHERLI STIVEN MAJKL ; FELL DEVID ARTUR ; PAUSON DAVID JOHN ; KRAFT NICHOLAS ALAN ; WILLIAMS KENDELL JEAN ; ROSACK SARA LYNN ; SMITH DONALD LEROY ; VAN HIMBERGEN JAMES GEORGE ; PAULSON DAVID JOHN ; FELL DAVID ARTHUR ; BUSS JOHANNA MARIE ; HURLEY STEVEN MICHAEL ; VERCAUTEREN THOMAS GERARD

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Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; SPRUSON AND FERGUSON; DAVIES CHRISTOPHER ROBERT; DEHNS; MV KHMARA; KIMBERLY CLARK WORLDWIDE INC; FOSTER III ROBERT 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 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

International class (IPC 8-9): A61F13/00 A61F13/15 A61F13/49 A61F13/53 A61F13/531 A61F13/538 B32B27/06 B32B27/32 (Advanced/Invention); A61F13/53 (Advanced/Non-invention)

CPC: A61F13/15626 A61F13/531 A61F2013/530489 A61F13/00991 A61F13/538 A61F2013/530635 A61F2013/15926 B32B27/065 B32B27/32 B32B2555/02

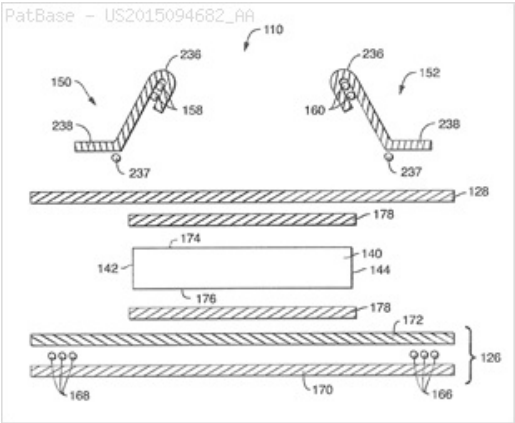
US class: 1/1 264/109 427/2.3 604/367 604/384

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Forward Citations: KR20190105900, KR20160033648, KR20160033647, KR102047581, KR102047580,

Abstract:
A liquid absorbent structure is made by dry laying a fibrous web having incorporated therein a superabsorbent material, and applying an aqueous composite stabilizer to at least one surface of the web. The aqueous composite stabilizer imparts integrity to the resulting structure without substantially impairing the effectiveness of the superabsorbent material to absorb liquid while forming the absorbent structure without removing the water from aqueous composite stabilizer or drying out the absorbent structure. The absorbent composite absorbs the water from the aqueous composite stabilizer. The absorbent composite comprises about 70 percent by weight of a superabsorbent material.



9) Family number: 29993504 (US2003132556A) © PatBase

Title: PROCESS AND APPARATUS FOR MAKING A REINFORCED FIBROUS ABSORBENT MEMBER

Priority: US20020350079P 20020115 US20020306086 20021127 US20020306185 20021127
US20020306269 20021127 WO2003US00294 20030103 WO2003US00879 20030109
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Family:	Publication number	Publication date	Application number	Application date
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	AR038292 AA	20050112	AR2003P100064	20030110
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WO03059233 A3	20031113	WO2003US00294	20030103

Probable Assignee: KIMBERLY CLARD WORLDWIDE INC

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

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

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Agent(s): ZIMMERMANN AND PARTNER PATENTANWALTE MBB ; DAVIES CHRISTOPHER ROBERT ; MABEY KATHERINE FRANCES ; SENNIGER POWERS LEAVITT AND ROEDEL ; CHRISTOPHER M GOFF 27839 ARMSTRONG TEASDALE LLP ; SENNIGER POWERS ; ARMSTRONG TEASDALE LLP

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 SC SD SE SG SI SK SL SN SZ TD TG TT TH TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): A61F13/15 A61F13/20 A61F13/49 A61F13/53 A61F13/534 A61F13/538 B27N3/04 B28B5/00 B28B5/10 B29B11/14 B29B11/16 B29C67/00 (Advanced/Invention); A61F13/15 A61F13/53 A61F13/534 A61F13/538 (Advanced/Non-invention); A61F13/15 (Core/Invention)

International class (IPC 1-7): A61F13/15 A61F13/20 A61F13/53 A61F13/534 A61F13/538 B27N1/00

CPC: A61F13/15626 A61F13/15634 A61F13/4702 A61F13/539 A61F2013/53463 A61F13/535 A61F13/534

European class: A61F13/15M3B A61F13/15M3C A61F13/47A A61F13/534 A61F13/535 A61F13/539 K61F13/47A K61F13/534E K61F13/539

US class: 264/112 264/113 264/118 264/119 264/138 264/162 264/163 264/516 264/516P 425/145 425/169 425/173 425/405.1 425/81.1 425/82.1 425/821 425/83.1 425/83.100P 425/83.100S 425/93.1 425/931 604/367 604/378 604/378P 604/385.01 604/385.010P 604/385.31 604/385.310S

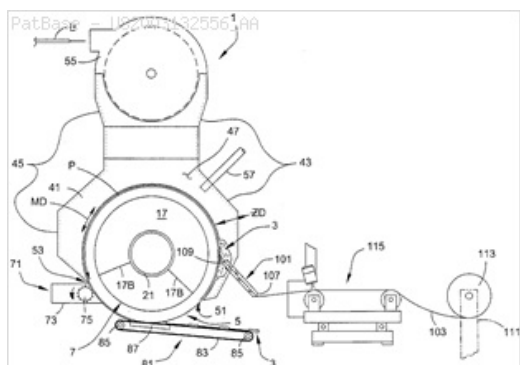
[Classification Explorer](#)

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Abstract:

In a process and apparatus for making a reinforced fibrous absorbent member, fibrous material is collected on a forming surface to at least partially form the absorbent member. Fibrous material is entangled with a reinforcing web which is overlaid on at least a portion of the partially formed absorbent member. Additional fibrous material is collected on the forming surface to further form the absorbent member whereby at least a portion of the fibrous material forming the absorbent member becomes entangled with at least one of the reinforcing web and the fibrous material entangled with the reinforcing web to secure the reinforcing web within the absorbent member.



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Probable Assignee: KIMBERLY CLARK CORP

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

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC

Inventor(s):(std): LEMINTH TOAN THANH ; MELIUS SHANNON KATHLEEN ; FELL DAVID ARTHUR ; GRUBE VIOLET MAY ; HUNTOON ANDREW EDEL ; LEMINH TOAN THANH ; RANGANATHAN SRIDHAR ; REEVES WILLIAM GROVER ; SAWYER LAWRENCE HOWELL ; SOERENS DAVE ALLEN ; SOREBO HEATHER ANNE ; VEITH MICHAEL WILLIAM ; WALLAJAPET PALANI RAJ RAMASWAM ; ZENKER DAVID LOUIS ; PALANI RAJ RAMASWAMI WALLAJAPET ; SRIDHAR RANGANATHAN ; WILLIAM GROVER REEVES ; TOAN THANH LEMINH ; LAWRENCE HOWELL SAWYER ; HEATHER ANNE SOREBO ; MICHAEL WILLIAM VEITH ; ANDREW EDEL HUNTOON ; DAVID ARTHUR FELL ; DAVE ALLEN SOERENS ; VIOLET MAY GRUBE ; TOAN THANH LEMINTH ; WALLAJAPET PALANI RAJ RAMASWAMI ; SHANNON KATHLEEN MELIUS ; DAVID LOUIS ZENKER ; ZENKER AVID LOUIS ; LEMINH OAN THANH ; GROVERREEVES WILLIAM ; SOREBO EATHER ANNE ; PALANI RAJ RAMASWAMI WALLAJATEP ; LEMINH TOON THANH

Inventor(s): OAN THANH LEMINH ; AVID LOUIS ZENKER ; WILLIAM GROVERREEVES ; EATHER ANNE SOREBO ; RAMASWAMI WALLAJATEP PALANI RAJ ; THANH LEMINH TOAN ; LEMINH TOAN T ; HUNTTON ANDREW ; FELL DAVID A GRUBE VIOLEM REEVES WILLIAM ; MELIUS SHANNON K ; SAWYER LAWRENCE H SOEREN ; LEMINH TOON THANH AND

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; PORZIO; 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 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 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 UZ VN YU ZA ZW

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/53 A61F5/44 (Advanced/Invention); A61F5/44 A61L15/42 (Advanced/Non-invention); A61F13/15 A61F5/44 (Core/Invention); A61F (Subclass/Invention)

International class (IPC 1-7): A01K29/00 A61F A61F13/00 A61F13/15 A61F13/49 A61F13/53 A61F5/44 A61L15/42 E01H1/12

CPC: A61F13/15203

European class: A61F13/15J

US class: 604/367 604/368 604/378 604/385.01

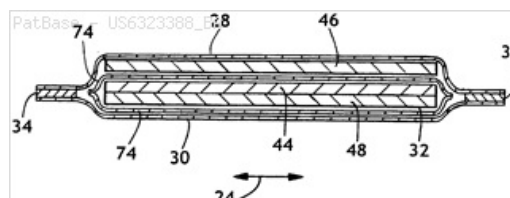
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Abstract:

The present invention provides an absorbent article (10) having a longitudinal direction (26), and a lateral, cross direction (24). The article includes a liquid permeable top sheet layer (28), a substantially liquid impermeable backsheet layer (30), and an absorbent structure (32) having a primary retention portion (48) sandwiched between the top sheet and backsheet layers. The retention portion (48) includes a wet-formed mixture of fibers and superabsorbent material. The retention portion has a selected edge-wise compression value, such as an edge-wise compression value of not more than a maximum of about 9 g/gsm, and a modified circular bend value, such as a modified circular bend value of at least minimum of about 0.3 g/gsm. In particular aspects, the retention portion (48) can include cellulosic fibers.



Title: ABSORBENT ARTICLE WITH CENTER FILL PERFORMANCE
Priority: US19980165875 19981002 WO1999US22167 19990924

Family:	Publication number	Publication date	Application number	Application date
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Probable Assignee: KIMBERLY CLARK CORP
Assignee(s):(std): KIMBERLY CLARK CO
Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; LINDSAY JEFFREY D ; BEDNARZ JULIE M ; CHEN FUNG JOU ; DI PALMA JOSEPH
Inventor(s):(std): BEDNARZ J M ; BEDNARZ JULIE M ; CHEN FUNG JOU ; DI PALMA JOSEPH ; DIPALMA JOSEPH ; FUNG JOU CHEN ; LINDSAY J D ; LINDSAY JEFFREY D ; PALMA JOSEPH DI
Inventor(s): JD LINDSAY ; JM BEDNARZ ; JULIE M ; CHEN ; JEFFREY D ; FUNG JOU ; JOSEPH ; DIPALMA ; LINDSAY ; BEDNARZ ; J D LINDSAY ; J M BEDNARZ ; JEFFREY D LINDSAY ; JOSEPH DI PALMA ; JOSEPH DIPALMA ; JULIE M BEDNARZ
Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP; SARGENT; 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 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 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 TZ UA UG UZ VN YU ZA ZW
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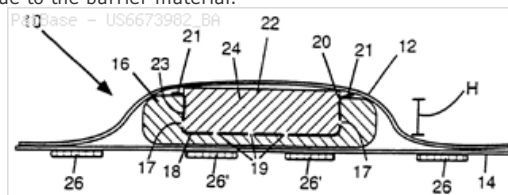
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Abstract:

An absorbent article comprising a central absorbent member and a lateral wicking barrier for inhibition of wicking from the central regions of the article to an outlying outer absorbent member. The wicking barrier has a vertical component for prevention of radial wicking in the plane of the article and thus promotes center filling of the article with fluid and reduces the likelihood of leaks from the sides of the article. The wicking barrier can also have a horizontal component to prevent leakage, redirect fluid flow, and improve fit and performance of the article. In one embodiment, the central absorbent member is a concentric absorbent structure having alternating rings of barrier material and absorbent material, including a spiral wound composite formed from a layer of barrier material wound with a layer of absorbent material and then sliced to provide a thin absorbent layer having high permeability in the thickness direction but low permeability in the plane due to the barrier material.



12) Family number: 47845567 (US2004102752A)

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Title: ABSORBENT ARTICLE WITH CENTER FILL PERFORMANCE
Priority: US19980165875 19981002 US20030662251 20030915
Family:

	Publication number	Publication date	Application number	Application date
	US2004102752 AA	20040527	US20030662251	20030915
	US7429689 BB	20080930	US20030662251	20030915

Probable Assignee: KIMBERLY CLARK CORP
Assignee(s):(std): KIMBERLY CLARK CO ; KIMBERLY CLARK CORP
Assignee(s): LINDSAY JEFFREY D ; KIMBERLY CLARK WORLDWIDE INC ; BEDNARZ JULIE M ; CHEN FUNG JOU ; DIPALMA JOSEPH
Inventor(s):(std): LINDSAY JEFFREY D ; CHEN FUNG JOU ; BEDNARZ JULIE M ; DIPALMA JOSEPH
Agent(s): ARMSTRONG TEASDALE LLP
International class (IPC 8-9): A61F13/15 A61F13/472 A61F13/49 A61F13/511 A61F13/514 A61F13/515 A61F13/53 A61F13/534 A61F13/539 A61F5/44 (Advanced/Invention); A61F13/15 A61F5/44 (Core/Invention)
International class (IPC 1-7): A61F13/15 A61F13/20

CPC: Y10T428/24273 A61F13/53704 A61F13/4751 A61F13/4755 A61F13/4758 A61F13/51474 A61F13/532 A61F13/5323 A61F13/53409 A61F13/535 A61F13/536 A61F13/53743 A61F13/53752 A61F13/5376 A61F13/539 A61F2013/4568 A61F2013/53782 A61F13/42

European class: A61F13/475A A61F13/475A2 A61F13/475B A61F13/514C A61F13/532 A61F13/532B A61F13/534B A61F13/535 A61F13/536 A61F13/537A A61F13/537C A61F13/537C4 A61F13/537D A61F13/539 K61F13/45C4 K61F13/537E4

US class: 428/131 604/358 604/378 604/378P 604/383 604/385.01 604/385.08 604/385.101

[Classification Explorer](#)

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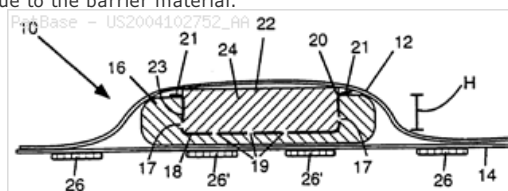
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Forward Citations:

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Abstract:

An absorbent article comprising a central absorbent member and a lateral wicking barrier for inhibition of wicking from the central regions of the article to an outlying outer absorbent member. The wicking barrier has a vertical component for prevention of radial wicking in the plane of the article and thus promotes center filling of the article with fluid and reduces the likelihood of leaks from the sides of the article. The wicking barrier can also have a horizontal component to prevent leakage, redirect fluid flow, and improve fit and performance of the article. In one embodiment, the central absorbent member is a concentric absorbent structure having alternating rings of barrier material and absorbent material, including a spiral wound composite formed from a layer of barrier material wound with a layer of absorbent material and then sliced to provide a thin absorbent layer having high permeability in the thickness direction but low permeability in the plane due to the barrier material.



13) Family number: 11359587 (WO9925284A1)

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Title: ABSORBENT ARTICLES WITH MEANS FOR ACHIEVING OR MAINTAINING CONEXO-CONCAVE BUNCHING

Priority: BR1997PI14972 19971113 WO1997US20792 19971113

Family:	Publication number	Publication date	Application number	Application date
	AT280557 E	20041115	AT19970953032T	19971113
	AU199856865 A1	19990607	AU19980056865	19971113
	AU757120 B2	20030206	AU19980056865	19971113
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	KR100426104 B1	20040408	KR20007005193	20000512
	KR20010032071 A	20010416	KR20007005193	19971113
	WO9925284 A1	19990527	WO1997US20792	19971113

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s):(std): MICCIO SILVIO ; PROCTER AND GAMBLE ; WILLMS ERIC JOACHIM ; SCHMITT ACHIM ; WOSCHNIK THOMAS ; THURNAY EVA SUSANNE ; BLANCO AGUSTIN RAMOS

Assignee(s): BLANCO AGUSTIN RAMOS ; PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY ; THE PROCTER AND GAMBLE COMPANY CINCINNATI

Inventor(s):(std): WILLMS ERIC JOACHIM ; SCHMITT ACHIM ; WOSCHNIK THOMAS ; MICCIO SILVIO ; THURNAY EVA

Inventor(s): SUSANNE ; BLANCO AGUSTIN RAMOS ; BLANCO AUGUSTIN RAMOS ; WILLMS JOACHIM ; BLANCO RAMOS ; THURNAY SUSANNE

Agent(s): EVA SUSANNE THURNAY ; THOMAS WOSCHNIK ; ERIC JOACHIM WILLMS ; SILVIO MICCIO ; AGUSTIN RAMOS BLANCO ; ACHIM SCHMITT

Designated states: AL AM AT AU AZ BA 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 GH GN GR 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 US UZ VN YU ZW

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/53 A61F5/44 (Advanced/Invention); A61F13/15 A61F5/44 (Advanced/Non-invention); A61F13/15 A61F5/44 (Core/Invention)

International class (IPC 1-7): A61F13/15 A61F13/49 A61F13/53 A61F5/44

CPC: A61F13/45 A61F2013/4543

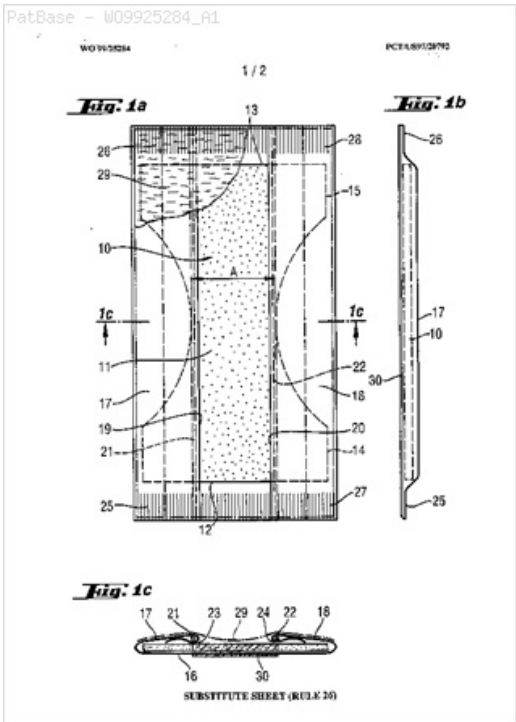
European class: A61F13/45 K61F13/45C3

[Classification Explorer](#)

Cited documents: WO9641602 A1, WO9531165 A1, WO9517148 A2, WO9301781 A1, WO8804547 A1, US5611790 A, US5300055 A, US5127911 A, US5098423 A, US4673402 A, US4610678 A, US2064431 A, EP0585904 A2, EP0302523 B1,

Forward Citations: WO1105109, US9144521, US8147472, US7799967, JP2006239290, EP2345432, EP2345431, EP1613685, EP1613583, EP1516010,

Abstract:
The present invention relates to absorbent articles comprising a means to achieve or maintain a convexo-concave shape with an upwardly bulged (i.e. towards the wearer during use) center crotch part, and outwardly bulged parts at the longitudinal ends of the article following the body curvature to surround the waist.



14) Family number: 30467597 (US2001039405A)

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Title:	ABSORBENT ARTICLE WITH INCREASED WET BREATHABILITY			
Priority:	US19980097810P 19980825	US19980139820 19980825	US19980139824 19980825	
	US19990298314 19990423	US19990328681 19990609	US19990141788P 19990630	
	US19990343861 19990630	US19990146934P 19990730	US19990377294 19990819	
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	WO1999US19572 19990825	WO2000US11088 20000420	US20000578759 20000525	
	WO2000US17999 20000629	WO2000US17997 20000629	WO2000US19933 20000721	
	US20000671356 20000927	US20000671446 20000927	US20000671447 20000927	
	US20000671357 20000927	US20010770809 20010126	KR20017002292 20010223	
	US20010139820 20010825	US20030376986 20030228		

Family:	Publication number	Publication date	Application number	Application date
	AR020240 AA	20020502	AR1999P104202	19990820
	AR021190 AA	20020703	AR1999P104025	19990811
	AR022064 AA	20020904	AR1999P104028	19990811
	AR023514 AA	20020904	AR2000P101763	20000414
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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 LK LR LS LT LU LV MA MC MD MG MK ML 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 UZ VN YU ZA ZW

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CPC:

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European class:

A61F13/15J A61F13/532 A61K7/50K8 A61K7/50K8B A61K7/50K8F A61K8/02C A61K8/64 A61L15/18 A61L15/32 A61L15/34 A61L15/46 A61L15/48 A61Q19/00 K61F13/15J8 K61F13/537H K61L300/102 K61L300/220 K61L300/252 K61L300/412

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424/1.69 424/169 424/400 424/402 424/404 424/443 424/70.19 424/70.21 424/70.22 514/865 604/358 604/360 604/360P 604/363 604/364 604/365 604/367 604/367P 604/367S 604/378 604/378S 604/381 604/382 604/385.01 604/385.010S 604/385.21 604/385.23

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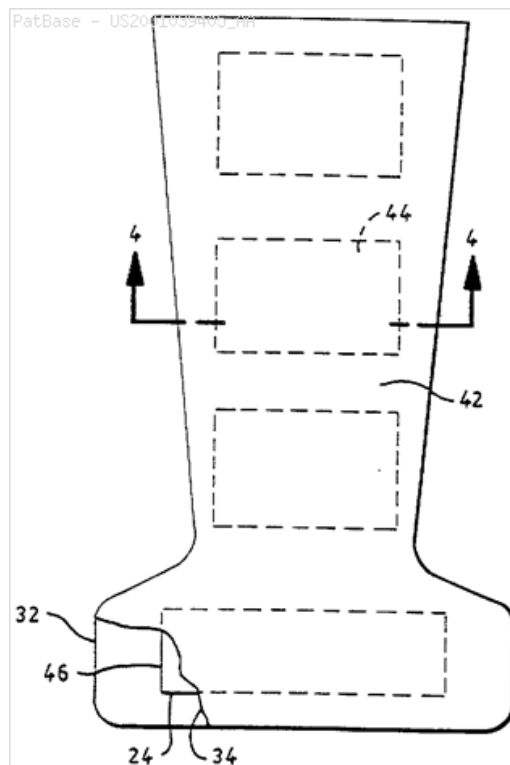
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Abstract:

An absorbent article includes a vapor permeable backsheet, a liquid permeable topsheet positioned in facing relation with the backsheet; and an absorbent body located between the backsheet and the topsheet. The absorbent body may include multiple zones of high air permeability or may include materials which provide improved air exchange after being wetted. The absorbent article may also include a ventilation layer between the absorbent body and the backsheet and a surge management layer between the absorbent body and the topsheet. The article exhibits improved air exchange within the article during use. As a result, the article exhibits substantially reduced levels of hydration of the wearer's skin when in use which renders the skin less susceptible to the viability of microorganisms.



15) Family number: 32062644 (US2005148258A)

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Title: ABSORBENT STRUCTURES HAVING ENHANCED FLEXIBILITY

Priority: US20030750480 20031231

Family:

Publication number	Publication date	Application number	Application date
US2005148258 AA	20050707	US20030750480	20031231
WO05065611 A1	20050721	WO2004US42053	20041215

Probable Assignee: KIMBERLY CLARK CORP

Assignee(s):(std): CHAKRAVARTY JAYANT ; KIMBERLY CLARK CO ; VAN HIMBERGEN JAMES G ; ZENKER DAVID L

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC

Inventor(s):(std): CHAKRAVARTY JAYANT ; VAN HIMBERGEN JAMES G ; ZENKER DAVID L

Inventor(s): ZENKER DAVID ; VAN HIMBERGEN JAMES

Agent(s): KIMBERLY CLARK WORLDWIDE INC

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 KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class
(IPC 8-9): A61F13/15 D04H3/00 (Advanced/Invention);
A61F13/15 D04H3/00 (Core/Invention)

International class
(IPC 1-7): A61F13/15 D04H3/00

CPC: Y10T442/60 D04H3/00 A61F13/532

European class: A61F13/532 D04H3/00

US class: 442/327 442/327P

[Classification Explorer](#)

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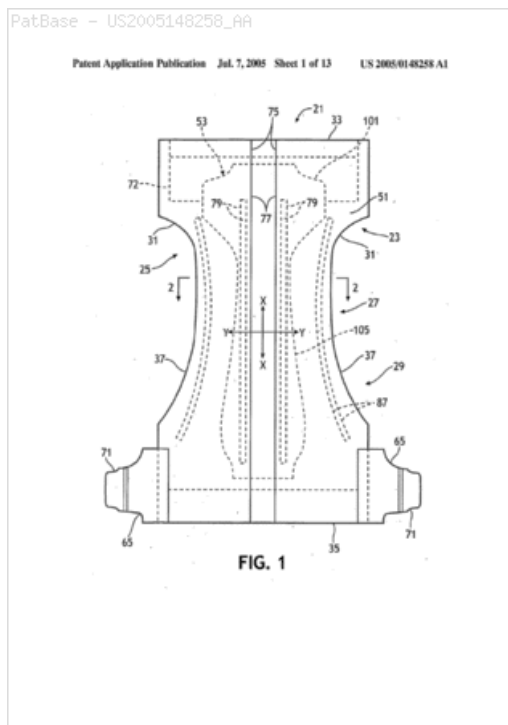
A, US5540796 A, US5536921 A, US5509915 A, US5496298 A, US5490846 A, US5466409 A, US5451442 A, US5382400 A, US5336552 A, US5226992 A, US5192606 A, US5176672 A, US5176668 A, US5108827 A, US5108820 A, US4892535 A, US4798603 A, US4795668 A, US4761258 A, US4704116 A, US4663220 A, US4005957 A, US2003129392 AA, US2003119406 AA, US2003118814 AA, US2003116888 AA, EP1402864 A1, EP0933074 A1, EP0291316 A2,

Forward Citations:

WO12170781, WO12170779, USD708739, USD708321, USD708320, USD708319, US9987176, US9974699, US9913763, US9789011, US9789009, US9763835, US9713557, US9713556, US9668926, US9649232, US9592165, US9532910, US9492328, US9468566, US9375358, US9340363, US9326896, US9241845, US9216118, US9216116, US9173784, US9072634, US9066838, US9060904, US8992498, US8979815, US8916083, US8899318, US8777915, US8518007, US8430857, US8409163, US8317768, US8262635, US8062276, US7629501, US2014338822, US2013072890, US2010331804, US2010087794, US2009312229, US2008215027, US2008183148, US2008065039, US10543129, US10517777, US10507144, US10470948, US10449097, US10441481, US10335324, US10322040, US10292875, US10272001, US10271997, US10245188, US10149788, US10130527, US10130525, US10071002, US10052242, US10022280, US10004647, RU2671283, RU2630211, RU2575757, RU2568565, EP3284449, EP3284449, EP3266430, EP2717821, EP2717820, CN103607989, CN103607989, CN103596534, CN103596534,

Abstract:

Absorbent structures suitable for incorporation into disposable absorbent articles. Specifically, non-woven absorbent structures having a unitary construction and comprising absorbent fibers, a portion of the absorbent structure having discontinuous absorbent zones that define channels. The absorbent structures having the discontinuous absorbent zones demonstrating an enhanced flexibility.



16) Family number: 44313669 (US2012238985A)

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Title: ARTICLES WITH OVERFOLDED AND ATTACHED SIDE MARGINS

Priority: GB20090020571 20091124 GB20100004733 20100322 GB20100007486 20100505
GB20100016540 20101001 GB20100016544 20101001 EP20100779826 20101124
EP20100787351 20101124 WO2010EP68158 20101124 WO2010EP68162 20101124

Family:

Publication number	Publication date	Application number	Application date
AU2010323162 AA	20110603	AU20100323162	20101124
AU2010323162 AA	20120524	AU20100323162	20101124
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WO11064275 A1	20110603	WO2010EP68162	20101124

Probable Assignee: CONCEPTS FOR SUCCESS C4S

Assignee(s):(std): CONCEPTS FOR SUCCESS ; CONCEPTS FOR SUCCESS C4S ; SCHMITZ CHRISTOPH

Inventor(s):(std): SCHMITZ CHRISTOPH ; CHRISTOPH SCHMITZ ; SCHMITZ CHRISTOPH JOHANN

Inventor(s): CHRISTOPH JOHANN SCHMITZ

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; PLISCHKE MANFRED; KITA AOYAMA INT PATENT BUREAU; BROOKS KUSHMAN PC

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 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 NZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU 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

International class (IPC 8-9): A41B9/00 A41B9/12 A47J31/46 A61F13/15 A61F13/49 A61F13/49A A61F13/49S A61F13/496 A61F13/511 A61F5/44 B31F5/00 (Advanced/Invention)

International class (IPC 1-7): A61F13/15

CPC: A41B9/12 A61F13/15593 A61F13/15804 A61F13/49 A61F13/49S A61F13/496

European class: A61F13/15M10 A61F13/15M2B A61F13/49 A61F13/49S A61F13/496

US class: 1/1 2/400 493/379 604/378 604/385.23

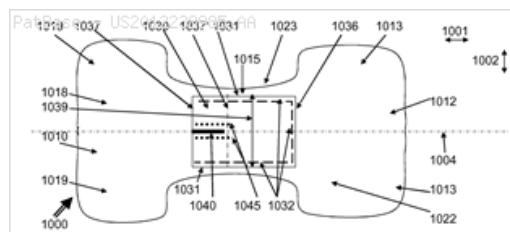
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Forward Citations: WO13148749, WO13087655, WO13045518, US9248055, US2016228308, US10531992, GB2512049, GB2508619, GB2497545, EP3043761, EP2760404,

Abstract:

An article such as an article to be worn on the lower torso of a wearer, such as pants or diapers. The article has a flexible faeces separation member, such as a faeces trap sheet, which is attached in a particular way such that an effective separation of faeces and skin respective genitals can be achieved.



CA2310727 AA	20000518	CA19982310727	19981203
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PE20000146 A1	20000419	PE19980001177	19981203
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ZA9811024 A	19990603	ZA19980011024	19981202

Probable Assignee: PROCTER AND GAMBLE CO

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

Assignee(s): THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; THE PROCTER AND GAMBLE CO CINCINNATI ; VAIDYA SHAILAJA RAJEEV ; OSTAPCHENKO GEORGE JOSEPH ; PROCTER AND GAMBLE CO CINCINNATI ; PROCTER AND GAMBLE CO ; PROCTER AND ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY CINCINNATI ; BECK THEODORA ; CURRO JOHN JOSEPH ; GAMBLE CO ; LAVON GARY DEAN ; LIM HYUN SUNG ; MCKENNA JAMES MICHAEL

Inventor(s):(std): LAVON GARY DEAN ; LIM HYUN SUNG ; MCKENNA JAMES MICHAEL ; OSTAPCHENKO GEORGE JOSEPH ; VAIDYA SHAILAJA REJEEV ; BECK THEODORA ; CURRO JOHN JOSEPH ; VAIDYA SHAILAJA RAJEEV ; LAVON GARY D ; MCKENNA J MICHAEL ; VAIDYA SHAILAJA R ; MCKENNA JAMES ; HYUN SUNG LIM ; MCKENNA JAMES M ; MCKENNA MICHAEL ; OSTAPCHENKO JOSEPH ; LIM SUNG ; CURRO JOSEPH ; VAIDYA REJEEV ; LAVON DEAN ; SHAILAJA REJEEV VAIDYA ; DEAN LAVON GARY

Inventor(s): JOSEPH CURRO ; BECK ; THEODORA BECK ; JOHN JOSEPH CURRO ; GARY DEAN LAVON ; GEORGE JOSEPH OSTAPCHENKO ; LAVON GARY DEAN AND ; JAMES MICHAEL MCKENNA ; GARY D LAVON ; JAMES M MCKENNA

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 HR HU ID IE IL IS IT JP KE KG KP KR LZ 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

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/514 A61F5/44 A61L15/16 A61L15/24 A61L15/26 B32B27/12 B32B5/16 (Advanced/Invention); A61F13/15 A61F5/44 B32B27/12 (Advanced/Non-invention); A61F13/15 A61F5/44 A61L15/16 B32B27/12 B32B5/16 (Core/Invention)

International class (IPC 1-7): A61F13/15 A61F13/49 A61F13/514 A61F5/44 A61L15/16 B32B27/12

CPC: A61F13/15203 A61F13/51462 A61F13/5148 A61L15/24 A61L15/26 A61L15/42 B32B5/16

European class: A61F13/15C3 A61F13/15J A61F13/514B1B A61F13/514C2A A61L15/24 A61L15/26 B32B5/16

US class: 604/358 604/367 604/370 604/378 604/385.1 604/385.23

[Classification Explorer](#)

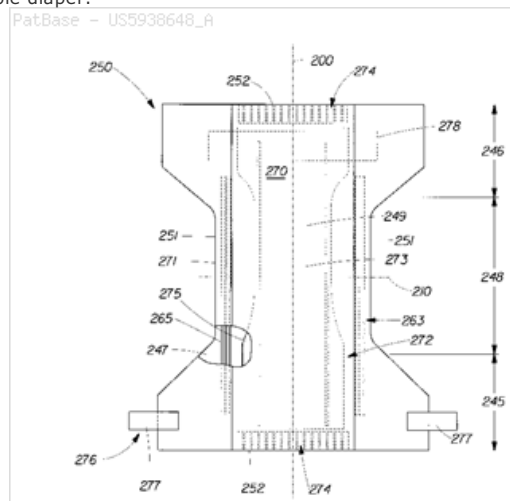
Cited documents: WO9819861 A2, WO9745259 A1, WO9636248 A1, WO9516746 A1, WO9516562 A1, WO9010424 A1, USH1750 H1, US5865823 A, US5599610 A, US5599420 A, US5589249 A, US5562983 A, US5532054 A, US5532053 A, US5523146 A, US5520980 A, US5518801 A, US5514470 A, US5447783 A, US5445874 A, US5445862 A, US5422172 A, US5358500 A, US5330458 A, US5326612 A, US5234423 A, US5151092 A, US5147345 A, US5137537 A, US5064703 A, US5006394 A, US4988345 A, US4988344 A, US4946527 A, US4938753 A, US4938752 A, US4909803 A, US4908260 A, US4894060 A, US4888231 A, US4869724 A, US4868062 A, US4857067 A, US4846815 A, US4842666 A, US4834741 A, US4834735 A, US4828556 A, US4795454 A, US4789699 A, US4785996 A, US4769273 A, US4739012 A, US4725481 A, US4710190 A, US4707407 A, US4704115 A, US4695278 A, US4673402 A, US4663220 A, US4662875 B1, US4662875 A, US4634625 A, US4610678 A, US4578429 A, US4578072 A, US4573986 A, US4515595 A, US4493870 A, US4463045 A, US4381781 A, US4368295 A, US4342314 A, US4324246 A, US4209563 A, US4107364 A, US3968183 A, US3929135 A, US3914488 A, US3911173 A, US3904706 A, US3860003 B2, US3860003 B1, US3860003 A, US3848594 A, US3766146 A, US3763109 A, US3651014 A, US3025199 A, US2075189 A, JP8126663 A2, JP8120097 A2, JP8117281 A2, JP8117280 A2, JP8117271 A2, JP8117270 A2, JP8108504 A2, JP8084749 A2, JP8041316 A2, GB2024100 A1, EP0688826 A1, EP0560630 A1, DE3902019 A1, AU673646 B2, AU673646,

Forward Citations: WO18009456, WO18009455, WO18009454, WO17151544, WO17151528, WO16183304, WO16022795, WO15183671, WO15183670, WO15183669, WO15183668, WO15095514, WO15044842, WO15041784, WO14200794, WO14168810, WO14093323, WO14093319, WO14093311, WO14093310, WO14052564, WO14052547, WO14052540, WO14004802, WO14004440, WO13184859, WO13148539, WO13059533, WO13003677, WO12012722, WO12012685, WO12012522, WO11146199, WO11087503, WO11022344, WO10120705, WO10088636, WO10083293, WO10083290, WO10083287, WO09042934, WO08012751, WO07050480, WO0249838, WO0249838, WO0213878, WO0072794, USRE45716, US9987176, US9974699, US9974698, US9974697, US9968497, US9913761, US9907709, US9907707, US9877881, US9849209, US9844478, US9808381, US9789011, US9789009, US9770893, US9770374, US9770371, US9763835, US9750651, US9730843, US9713557, US9713556, US9693909, US9669606, US9668926, US9662250, US9649232, US9622925, US9610203, US9572729, US9554951, US9554947, US9532910, US9522089, US9517168, US9510980, US9510979, US9498391, US9498390, US9498389, US9492328, US9480606, US9474657, US9468566, US9468265, US9446163, US9445955, US9408758, US9399083, US9393342, US9387138, US9375362, US9375358, US9340363, US9333120, US9327477, US9326896,

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Abstract:

The present invention relates to absorbent articles such as diapers, adult incontinence garments, and feminine hygiene products. The present invention further relates to such absorbent articles having outer coverings designed to provide breathability and promote more healthy internal environmental conditions for the wearer. More specifically, the present invention provides an absorbent article comprising (a) a topsheet; (b) a backsheet; and (c) an absorbent core located between the topsheet and the backsheet; wherein the backsheet comprises a non-porous, substantially fluid impermeable, moisture vapor permeable composite sheet material. Preferably, the composite sheet material is oriented such that the film layer of the composite sheet material faces toward said absorbent core. Where the film layer of the composite sheet comprises a substantially hydrophilic elastomer film layer, the substantially hydrophilic elastomer film is preferably located in contact with the fibrous substrate. Where the film layer of the composite sheet comprises a multiple layer film with a substantially hydrophilic elastomer film layer and a substantially hydrophobic elastomer film, the substantially hydrophilic elastomer film is preferably located between the substantially hydrophobic elastomer film and the fibrous substrate. In another embodiment, the film layer may further comprise a third film layer comprising a substantially hydrophobic elastomer film located between the substantially hydrophilic elastomer film and the fibrous substrate. The absorbent article may comprise a disposable diaper.



Title: TOPSHEET FOR CONTACTING HYDROUS BODY TISSUES AND ABSORBENT DEVICE WITH SUCH A TOPSHEET

Priority: US20000637440 20000811 US20010905804 20010713 WO2001US24438 20010803

Family:

Publication number	Publication date	Application number	Application date
AU2001279178 AA	20020225	AU20010279178	20010803
AU200179178 A1	20020225	AU20010079178	20010803
AU200179178 A5	20020225	AU20010079178	20010803
BRPI0113196 A	20030916	BR2001PI13196	20010803
BRPI0113196 B1	20130205	BR2001PI13196	20010803
CA2418723 AA	20030206	CA20012418723	20010803
CA2418723 C	20091027	CA20012418723	20010803
CN100379397 C	20080409	CN20018013978	20010803
CN100525735 C	20090812	CN200410089765	20010803
CN1446069 A	20031001	CN20018013978	20010803
CN1618419 A	20050525	CN200410089765	20010803
EP1311216 A2	20030521	EP20010957431	20010803
JP2004512063 T2	20040422	JP20020518899T	20010803
MXPA03000717 A1	20030604	MX2003PA00717	20010803
US2003191442 AA	20031009	US20010905804	20010713
WO0213750 A2	20020221	WO2001US24438	20010803
WO0213750 A3	20021017	WO2001US24438	20010803

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 ; AHR NICHOLAS ALBERT ; BEWICK SONNTAG CHRISTOPHER PHILIP ; KIRKBRIDE TANA MARIE ; OSBORN THOMAS WARD III

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Inventor(s): OSBORN N THOMAS WARD ; THOMAS WARD OSBORN III ; CHRISTOPHER PHILP BEWICK SONNTAG ; CHRISTOPHER P BEWICK SONNTAG ; TANA M KIRKBRIDE ; THOMAS W OSBORN OAO ; CHRISTOPHER PHILIP BEWICK SONNTAG ; TANA MARIE KIRKBRIDE ; THOMAS WARD OSBORN ; NICHOLAS ALBERT AHR

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP

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 PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TZ UA UG UZ VN YU ZA ZW

International class (IPC 8-9): A61F13/00 A61F13/15 A61F13/26 A61F13/472 A61F13/49 A61F13/511 A61F13/514 A61F13/53 A61F13/539 A61F5/44 B32B5/26 (Advanced/Invention)

International class (IPC 1-7): A61F13/00 A61F13/15 A61F13/20 A61F13/26 A61F13/472 A61F13/49 A61F13/511 A61F13/514 A61F13/53 A61F5/44

CPC: A61F13/47209 A61F13/47227 A61F13/51104 A61F13/51305 A61F13/84 A61F2013/00102 A61F2013/51322

European class: A61F13/472A A61F13/472B1 A61F13/511 A61F13/84 K61F13/00J2 K61F13/513D

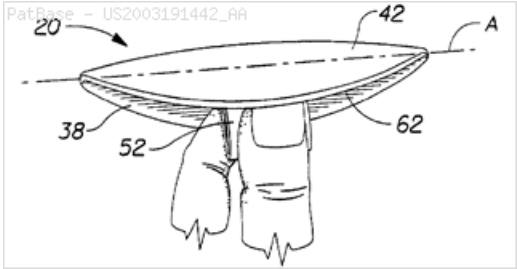
US class: 604/385.01 604/385.010S 604/385.17 604/385.170P 604/385.18 604/385.180S

[Classification Explorer](#)

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Forward Citations: WO14040603, WO07147116, WO05055897, US9981418, US9962867, US9925731, US9795705, US9724245, US9694556, US9555151, US9550309, US9408684, US9394629, US9308133, US9260802, US9242406, US9163336, US9120268, US9091004, US9044353, US9023261, US8927443, US8841386, US8710172, US8708687, US8697218, US8679391, US8657596, US8609808, US8510922, US8502013, US8470222, US8440286, US8410007, US8357445, US8241543, US8158043, US8153225, US8137327, US8075977, US7989062, US7972692, US7935207, US7931634, US7910195, US7880052, US7845055, US7838099, US7829173, US7785690, US7785306, US7732657, US7718243, US7682686, US7670665, US7553532, US7507459, US7410683, US7270861, US7105716, US7105716, US2016257063, US2016095759, US2015265472, US2014257218, US2007293837, US2006264874, US2006135923, US2006058772, US2005148967, US2005113775, US10350326, US10322038, US10307942, US10279535, US10143772, US10085892, US10010393, KR101143077, KR101013921, JP6621328, JP4818729, JP4818729, JP2015519137, JP2009519805, JP2005055902, JP2004261231, GB2451364, GB2451364, EP2095802, EP2085099, EP1605981, CN104434402, CN104434402, CN103519938, CN103519938,

Abstract:
An absorbent article insertable into the interlabial space of a female wearer comprising an absorbent storage core and a body-contacting vaginal discharge receiving layer overlaying the storage core. The body-contacting vaginal discharge receiving layer is compressible and is adjustable to conform to the inner labial surface texture to fill in channels within the inner labia which transport and collect bodily discharges. The absorbent storage core and the body-contacting vaginal discharge layer are placed into communication by needle punching.



Title: ABSORBENT COMPOSITE

Priority: US19930016312 19930224 US19930145452 19931029 CA19942114815 19940202
CA19942114815 19940202 AU19940056327 19940223 EP19940102838 19940224
EP19940102838 19940224 US19960621390 19960325 US19960773716 19961220
AU19970046910 19971205

Family:

Publication number	Publication date	Application number	Application date
AU199456327 A1	19940901	AU19940056327	19940223
AU199746910 A1	19980212	AU19970046910	19971205
AU721476 B2	20000706	AU19970046910	19971205
AU721476 C	20010719	AU19970046910	19971205
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EP0962206 A2	19991208	EP19990202846	19940224
EP0962206 A3	20000322	EP19990202846	19940224
ES2144464 T3	20000616	ES19940102838T	19940224
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KR100312393 B1	20020708	KR19940003183	19940223
KR19940019319 A	19940914	KR19940003183	19940223
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MX200843 B	20010213	MX19930001105	19930226
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TH16476 A	19950829	TH19941000212	19940208
TW355359 Y	19990401	TW19970219335U	19940223
US5601542 A	19970211	US19960621390	19960325
US6646179 BA	20031111	US19960773716	19961220
ZA9400576 A	19940913	ZA19940000576	19940127

Probable Assignee: KIMBERLY CLARK CORP**Assignee(s):(std):** KIMBERLY CLARK CO

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Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP**Designated states:** BE DE ES FR GB IT NL SE

International class (IPC 8-9): A61F13/15 A61F13/20 A61F13/49 A61F13/53 A61L15/16 A61L15/24 A61L15/60
B32B5/16 (Advanced/Invention);
A61L15/20 (Advanced/Non-invention);
A61F13/15 A61F13/20 A61L15/16 (Core/Invention);
B32B5/16 (Core/Non-invention);
A61F B32B (Subclass/Invention)

International class (IPC 1-7): A61F13/15 A61F13/20 A61F13/46 A61L15/10 A61L15/16 A61L15/20 A61L15/24 A61L15/60 B32B B32B5/16

CPC: A61F13/15203 A61F13/49009 A61F13/51 A61F13/514 A61F13/536 A61F2013/530481 A61F2013/53051 A61F2013/530554 A61F2013/530569 A61F2013/530583 A61F2013/530708 A61F2013/530715 A61F2013/530744

European class: A61F13/15J A61F13/49D2 A61F13/536 K61F13/51 K61F13/514 K61F13/53Q K61F13/53Q2 K61F13/53Q2E1 K61F13/53Q3 K61F13/53Q4 K61F13/53Q8 K61F13/53Q8A K61F13/53Q8B1

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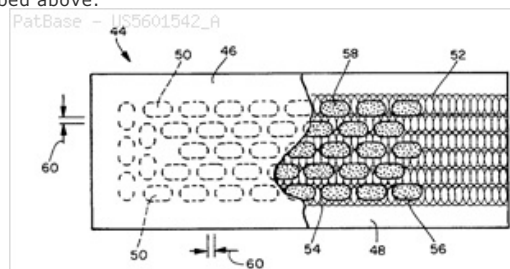
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Abstract:

One aspect of the present invention relates to an absorbent composite suitable for use in a disposable absorbent garment. The absorbent composite includes means for containing a superabsorbent material and a superabsorbent material contained by said containment means. The superabsorbent material has a Pressure Absorbency Index of at least 100 and a 16-hour extractable level of less than about 13 weight percent; a Pressure Absorbency Index of at least 100 and a Vortex Time of less than about 45 seconds; or a Pressure Absorbency Index of at least about 110. The superabsorbent material is present in said containment means in an amount of from about 30 to about 100 weight percent based on total weight of the containment means and the superabsorbent material. In a second aspect, the present invention relates to a disposable absorbent garment including an outer cover, a body-side liner, and an absorbent composite such as that described above.



20) Family number: 31808693 (US6635799B)

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Title: TOPSHEET FOR CONTACTING HYDROUS BODY TISSUES AND ABSORBENT DEVICE WITH SUCH A TOPSHEET

Priority: US19980071425 19980501 US20000637440 20000811

Family:	Publication number	Publication date	Application number	Application date
	US6635799 BA	20031021	US20000637440	20000811

Probable Assignee: PROCTER AND GAMBLE CO

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

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International class (IPC 8-9): A61F13/15 (Advanced/Invention); A61F13/00 (Advanced/Non-invention); A61F13/15 (Core/Invention); A61F13/00 (Core/Non-invention)

International class (IPC 1-7): A61F13/15

CPC: A61F13/51104 A61F13/47227 A61F13/47209 A61F13/84 A61F2013/00102 A61F2013/51322

European class: A61F13/472A A61F13/472B1 A61F13/84 K61F13/00J2 K61F13/513D

US class: 604/367 604/385.101 604/385.17

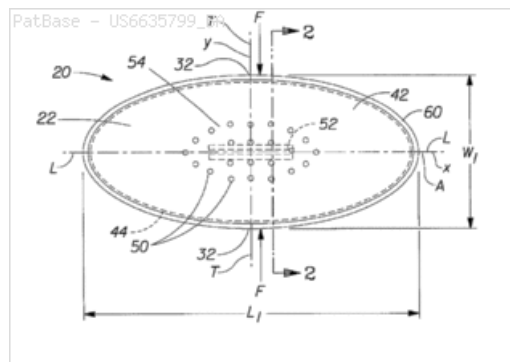
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Abstract:

A body-contacting surface or topsheet for absorbent articles or devices that is comfortable when it is placed in contact with hydrous body tissues is disclosed. In one non-limiting embodiment, the topsheet is a non-absorbent, moderately hydrophilic to substantially hydrophobic nonwoven web. The topsheet can have a critical surface tension of less than or equal to about 45 dynes/cm. In one embodiment, the nonwoven web has been mechanically modified so that it is extensible in an amount greater than equal to about 30 percent under a force of 50 grams, and undergoes a caliper change of greater than or equal to about 30 percent under a pressure of 1,000 Pa after being subjected to a pressure of 250 Pa. The topsheet is placed on absorbent devices such as sanitary napkins, tampons, pantliners, interlabial devices, incontinence devices, bandages, and other types of articles. A method of capturing discharges from a source of discharges on a wearer's body in which at least a portion of the source of discharges is located within hydrous membranes having irregular surfaces (e.g., a female wearer's interlabial or intervaginal space) is also disclosed.



21) Family number: 20697730 (WO9925300A1)

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Title: NON-UNITARY ABSORBENT ARTICLES

Priority: BR1997PI14960 19971113 EP19970946938 19971113 WO1997US20791 19971113

Family:	Publication number	Publication date	Application number	Application date
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Assignee(s):(std): BLANCO RAMOS AUGUSTIN ; MICCIO SILVIO ; PROCTER AND GAMBLE ; WILLMS ERIC JOACHIM ; SCHMITT ACHIM ; WOSCHNIK THOMAS ; THURNAY EVA SUSANNE

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

Inventor(s):(std): BLANCO AGUSTIN RAMOS ; THURNAY EVA SUSANNE ; MICCIO SILVIO ; SCHMITT ACHIM ; BLANCO RAMOS AUGUSTIN ; WILLMS ERIC JOACHIM ; WOSCHNIK THOMAS ; THURNAY SUSANNE ; WILLMS JOACHIM

Inventor(s): RAMOS AUGUSTIN BLANCO ; THOMAS WOSCHNIK ; ACHIM SCHMITT ; SILVIO MICCIO ; AGUSTIN RAMOS BLANCO ; ERIC JOACHIM WILLMS ; EVA SUSANNE THURNAY

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

Designated states: AL AM AT AU AZ BA 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 GH GN GR 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 US UZ VN YU ZW

International class (IPC 8-9): A41B9/02 A41B9/12 A61F13/15 A61F13/72 A61F5/44 (Advanced/Invention); A61F13/72 A61F5/44 (Advanced/Non-invention); A41B9/00 A61F13/15 A61F13/56 A61F5/44 (Core/Invention)

International class (IPC 1-7): A41B9/02 A41B9/12 A61F13/15 A61F13/72 A61F5/44

CPC: A61F13/45 A61F13/495 A61F13/72 A61F2013/4543

European class: A61F13/45 A61F13/495 A61F13/72 K61F13/45C3

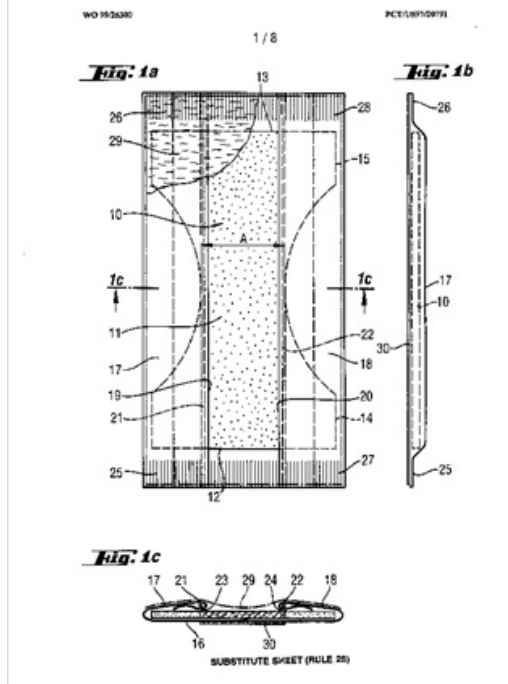
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Forward Citations: WO10137030, WO10137030, US8147472, KR101016853, JP3993839, JP2007308827, JP2006239290, JP2004357788, JP2001029375, DE202014004532,

Abstract:

The present invention relates to absorbent articles comprising an absorbent element and a fixation garment so as to achieve or maintain a convexo-concave shape of the absorbent core in the absorbent element with an upwardly bulged (i.e. towards the wearer during use) center crotch part, and outwardly bulged parts at the longitudinal ends of the absorbent element following the body curvature to surround the waist.

**22) Family number: 29596766** (US6107537A)

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Title: DISPOSABLE ABSORBENT ARTICLES PROVIDING A SKIN CONDITION BENEFIT
Priority: US19970926566 19970910 WO1998IB01343 19980828
Family:

Publication number	Publication date	Application number	Application date
AR016921 AA	20010801	AR1998P104520	19980910
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ZA9808117 A	19990310	ZA19980008117	19980904

Probable Assignee: PROCTER AND GAMBLE CO**Assignee(s):(std):** PROCTER 7 GAMBLE CO ; PROCTER 7 GAMBLE COMPANY ; PROCTER AND GAMBLE ; THE PROTECTOR AND GAMBLE COMPANY ; PROTECTOR AND GAMBLE CO**Assignee(s):** THE PROCTER AND GAMBLE COMPANY ; THE PROCTER 7 GAMBLE COMPANY ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; THE PROCTER AND GAMBLE CO CINCINNATI ; VAN RIJSWIJCK LAURA GRAVES SPALDING ; RULE JULIE CHARLENE ; ROE DONALD CARROLL ; PROCTER AND GAMBLE CO ; DOBRIN GEORGE CHRISTOPHER ; ELDER GRETCHEN LOUISE ; HERRLEIN MATHIAS KURT ; MILBRADA EDWARD JOHN ; PLISCHKE MANFRED**Inventor(s):(std):** ELDER GRETCHEN L ; ROE DONALD C ; RIJSWIJCK LAURA G S VAN ; ROE CARROLL ; MILBRADA JOHN ; HERRLEIN KURT ; RULE CHARLENE ; ELDER LOUISE ; VAN RIJSWIJCK GRAVES ; DOBRIN GEORGE ;

VANRIJSWIJCK LAURA GRAVES SPAL ; DOBRIN GEROGE CHRISTOPHER ; RIJSWIJCK GRETCHEN L ELDER DON ; LAURA GRAVES SPALDING RIJSWIJCK ; MANFRED PLISCHKE ; RONALD CARROLL ROE ; GRETCHEN LOUISE ELDER ; ELDER GRETCHEN LOUIS ; VAN RIJSWIJCK LAURA GRAVES ; DOBRIN GEORGE CHRISTOPHER ; RULE JULIE CHARLENE ; PLISCHKE MANFRED ; MILBRADA EDWARD JOHN ; HERRLEIN MATHIAS KURT ; RIJSWIJCK LAURA GRAVES SPALDIN ; ROE RONALD CARROLL ; ELDER GRETCHEN LOUISE ; ROE DONALD CARROLL ; VAN RIJSWIJCK LAURA GRAVES SPA

Inventor(s): Rijswijck ; Laura Graves ; GRETCHEN L ELDER DONALD C ROE LAURA G S VAN RIJSWIJCK ; GRETCHEN L ELDER DONALD C ROE LAURA G S VAN ; VANRIJSWIJCK LAURA GRAVES SPALDING ; LAURA GRAVES SPALDING VAN RIJSWIJCK ; VAN RIJSWIJCK LAURA GRAVES SPALDING ; HERRLEIN MATHIAS K ; VAN RIJSWIJCK LAURA G ; ROE DONAL C ; MATHIAS KURT HERRLEIN ; GEORGE CHRISTOPHER DOBRIN ; JULIE CHARLENE RULE ; EDWARD JOHN MILBRADA ; GRETCHEN L ELDER ; DONALD C ROE ; LAURA G S VAN RIJSWIJCK ; GRETCHEN L ELDER DONALD C ROE LAURA G S VAN RIJSWI ; DONALD CARROLL ROE ; LAURA GRAVES SPALDING VANRIJSWIJCK ; GEROGE CHRISTOPHER DOBRIN

Agent(s): SIM AND MCBURNEY; HARNECKER; ALVARO CORREA ORDONEZ

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

International class (IPC 8-9): A61F13/00 A61F13/15 A61F13/49 A61F13/511 A61F13/514 A61F5/44 (Advanced/Invention); A61F13/15 A61F5/44 (Advanced/Non-invention); A61F13/15 A61F5/44 (Core/Invention)

International class (IPC 1-7): A61F13/00 A61F13/15 A61F13/49 A61F13/511 A61F13/514 A61F5/44 A61L15/42

CPC: A61F13/51462

European class: A61F13/15C3 A61F13/511 A61F13/514B1B

US class: 604/364 604/378

[Classification Explorer](#)

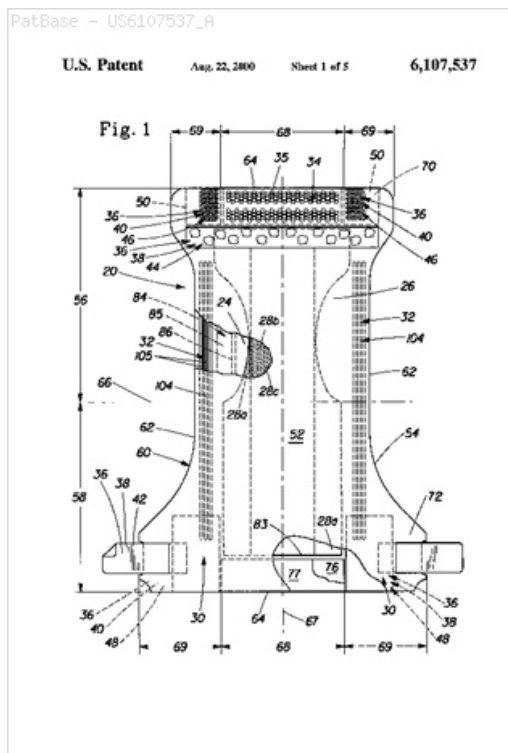
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Abstract:

The present invention relates to absorbent articles which provide improved protection against skin overhydration. A particularly preferred embodiment of an absorbent article of the present invention comprises a body contacting surface having a skin care composition thereon that, when at least a portion of the composition is transferred to a wearer's skin by normal body motion or body heat, the material is effective in providing a skin condition benefit and a liquid impermeable, breathable backsheet having a mass vapor transmission rate value (MVTR) of at least about 1300 grams per square metre/24 hr and an absorbent core having a post acquisition collagen rewet method value (PACORM) with a PACORM:MVTR ratio is less than 0.05 mg/(grams per square metre/24 hr).



Agent(s): DIMOCK STRATTON LLP; WILSON LUE LLP; KREMER VERONIQUE MARIE JOSEPHINE; NAGAI HIROSHI; CHRISTIAN M; WILLIAM E; THE PROCTER AND GAMBLE COMPANY

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 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 RO RS RU 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

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/56 A61F13/62 (Advanced/Invention)

CPC: A61F13/622 A61F13/5633 A61F13/49004 A61F13/505

European class: A61F13/49B1 A61F13/505 A61F13/56C A61F13/62

US class: 604/385.14 604/385.140P 604/385.22 604/385.220S 604/385.28 604/385.280S 604/387 604/389 604/390 604/391 604/391S 604/394 604/396

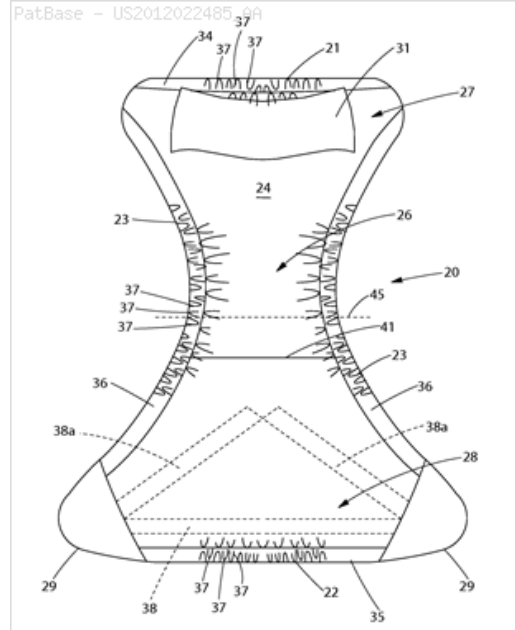
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Forward Citations: WO14138259, US9289332, US9095472, US9078789, US9060905, US8936586, US8926579, US2018294912, US2014257228, US2014199067, US2014012220, US10517771, US10279070,

Abstract:

A two-piece wearable absorbent article (such as a diaper) including an outer cover and an absorbent insert for use therewith, are disclosed. The outer cover may have a first hook-and-loop fastening system that provides for removable and refastenable and adjustable fastening of the outer cover about a wearer's lower torso. The absorbent insert and outer cover may have a second hook-and-loop fastening system that provides for removable and refastenable fastening of the insert within the outer cover. The first and second hook-and-loop fastening systems may have respective holding force and acoustic characteristics within advantageous performance ranges, individually and with respect to each other.



24) Family number: 40485862 (TR200003195T)

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Title: UEZERİNDE YERİNDE MUHAFAZA EDİLMESİNİ SAĞLAYAN BİR MADDEYE SAHİP, EMİCİ INTERLABIAL ARAC

Priority: US19980071425 19980501 US19980071444 19980501

Family:	Publication number	Publication date	Application number	Application date
	ES2193704 T3	20031101	ES19990921606T	19990430
	TR200003195 T2	20010621	TR20000003195T	19990430

Probable Assignee: PROCTER AND GAMBLE CO

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

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

Inventor(s):(std): OSBORN THOMAS WARD III ; KLOFTA THOMAS JAMES ; BROWN PAMELA JEAN ; III THOMAS WARD OSBORN

Inventor(s): THOMAS JAMES KLOFTA ; PAMELA JEAN BROWN ; THOMAS WARD OSBORN III

International class (IPC 8-9): A61F13/15 A61F13/472 (Advanced/Invention); A61F13/15 (Core/Invention)

International class (IPC 1-7): A61F13/00 A61F13/15

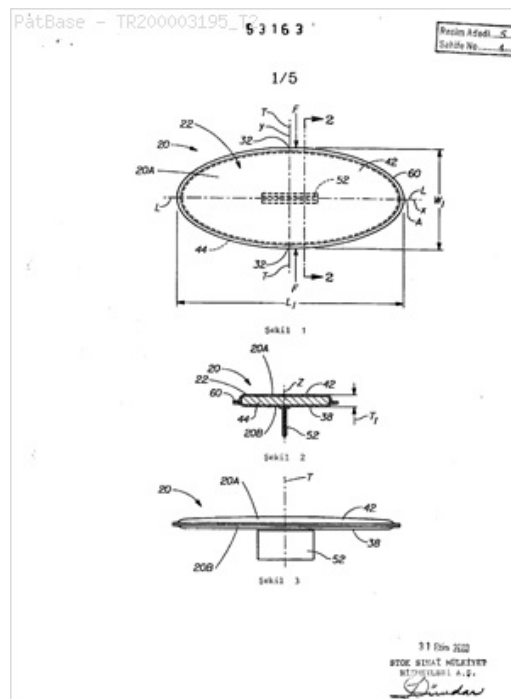
CPC: A61F13/47209

European class: A61F13/472A

[Classification Explorer](#)

Abstract:

Source: TR200003195T [TR] Menstrueasyon sırasında, inkontinansa karşı koruma sağlamak için veya her iki amaçla kadın kullanıcılar tarafından giyilebilen emici, interlabial bir araç açıklanmıştır. Emici interlabial araç, interlabial boşluk içinde istenen konumda yerinde tutulmasına yardımcı olmak için kullanıcının vücuduyla temas eden bir madde içeren en azından bir yüzeyle temas eden yüzeye sahiptir. Madde, yapışkan olabilir veya olmayabilir. Maddenin yapışkan olmadığı durumlarda, madde, araç dudaklar arasına yerleştirilirken kullanıcının vücudunun yanlış yerlerine yapışmaması için başlangıçta yapışkanlığa sahip olmayabilir. Yapışkan olmayan maddeler, nispeten az miktarlarda nemle temas ettiklerinde viskoz hale gelen ve bir yapışkanlık geliştiren, nemle etkilenen maddeleri içerir.



25) Family number: 31778907 (US2005067083A)

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Title: SYSTEM AND METHOD FOR INCORPORATING GRAPHICS INTO ABSORBENT ARTICLES
Priority: US20030673344 20030930 WO2004US32325 20040930 US20040979173 20041103
Family:

Publication number	Publication date	Application number	Application date
CA2539847 AA	20060322	CA20042539847	20040930
EP1667843 A1	20060614	EP20040789431	20040930
EP1667843 A4	20091125	EP20040789431	20040930
EP1667843 B1	20161228	EP20040789431	20040930
MXPA06003522 A1	20060608	MX2006PA03522	20040930
US2005067083 AA	20050331	US20030673344	20030930
US2005092427 AA	20050505	US20040979173	20041103
US7172667 BB	20070206	US20030673344	20030930
US7178571 BB	20070220	US20040979173	20041103
WO05032819 A1	20050414	WO2004US32325	20040930

Probable Assignee: FIRST QUALITY RETAIL SERVICES LLC

Assignee(s):(std): FIRST QUALITY RETAIL SERVICES ; FIRST QUALITY RETAIL SERVICES LLC ; VERGONA JOSEPH B ; TYCO HEALTHCARE RETAIL SERVICE ; TYCO HEALTHCARE RETAIL SERV AG ; TYCO HEALTHCARE RETAIL SERVICES AG

Assignee(s): JP MORGAN CHASE BANK NA ; JPMORGAN CHASE NA ; TYCO HEALTHCARE RETAIL GROUP INC

Inventor(s):(std): JOSEPH B VERGONA ; VERGONA JOSEPH B

Inventor(s): VERGONA JOSEPH

Agent(s): RIDOUT AND MAYBEE LLP; EARNSHAW GEOFFREY MARK; CHRISTOPHER C CAMPBELL ESQ HUNTON AND WILLIAMS; CHRISTOPHER C CAMPBELL ESQUIRE HUNTON AND WILLIAMS; GOSZ AND PARTNERS LLP; GOSZJ AND PARTNERS LLP

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 KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): A61F13/15 A61F13/42 A61F13/84 A61L15/16 B32B37/14 B32B37/20 B32B38/14 B41F13/02 B41F13/12 B41F17/00 B41F17/38 (Advanced/Invention); A61F13/15 A61F13/42 A61L15/16 B32B37/14 B32B38/14 B41F13/02 B41F13/08 B41F17/00 (Core/Invention)

International class (IPC 1-7): A61F13/15 B32B31/00 B32B31/20 B32B37/14 B32B38/14 B41B1/00 B41F1/00 C09J1/00

CPC: Y10T156/1052 A61F13/42 A61F13/15772 A61F2013/8497 B41F13/12 Y10T83/528

European class: A61F13/15M9 A61F13/42 B41F13/12 K61F13/84G

US class: 101/141 101/141S 101/250 101/250S 101/481 101/485 101/486 156/16 156/160 156/160S 156/25 156/250 156/250S 156/277 156/277S 156/350 156/350S 156/351 156/351S 156/353 156/361 156/378 156/384 156/384S 156/64 156/64P 83/362

[Classification Explorer](#)

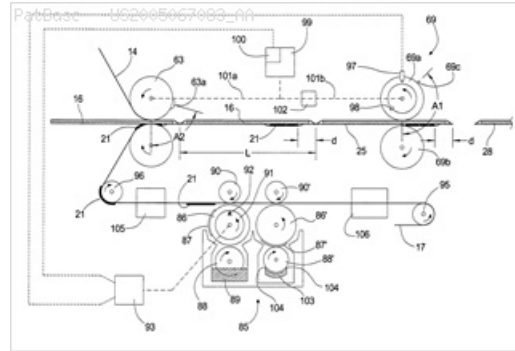
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Forward Citations: WO19034918, WO11022537, WO10078304, WO10078302, WO10078245, WO10078239, WO10078237, WO10078236, WO10078231, USD612491, US9943449, US9913761, US9895272, US9862180,

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Abstract:

A method for incorporating graphics into absorbent articles. The method involving: providing a moving substrate to a print cylinder; sensing a line speed reference signal from a line speed target machinery component; rotating the print cylinder at a predetermined speed, based on the line speed reference signal, to thereby print a series of graphics on the moving substrate at a predetermined distance frequency; sensing a phase difference signal from a phase target machinery component; and setting an actual print cylinder phase angle, based on the phase difference signal, to approximate a predetermined phase angle to thereby position the series of graphics on the moving substrate at a series of desired graphics locations. A system for executing the method and garments produced from the method and system are also provided.



European class: A61F13/472B A61F13/472B1 A61F13/475A2 A61F13/534 A61F13/537A A61F13/537B4 A61F13/537C
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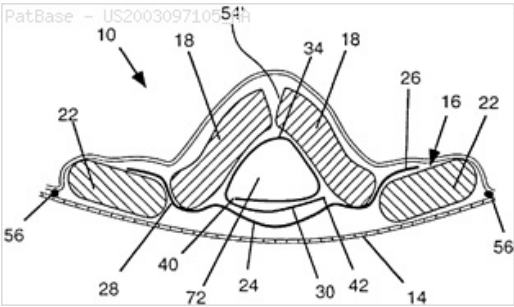
US class: 604/378 604/378P 604/385.01 604/385.12 604/385.120S 604/385.17 604/385.170S 977/712 977/712S
977/841 977/961

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Abstract:
An absorbent article is disclosed comprising a central absorbent member, an outer absorbent member, and a central rising member for urging the central absorbent member toward the body of the user when compressed laterally inward by the legs of the user. The article is able to achieve good center-fill performance when in use and maintain excellent body fit. Also disclosed is a lateral wicking barrier for inhibition of wicking from the central regions of the article to an outlying outer absorbent member. The combination of a wicking barrier isolating the central absorbent member from the longitudinal sides of the article and a central rising member urging the central absorbent member toward the body yields an article with excellent absorbency and leakage protection.



27) Family number: 52664929 (US2013006209A)					© PatBase
Title:	TWO-PIECE WEARABLE ABSORBENT ARTICLE HAVING ADVANTAGEOUS FRONT WAIST REGION AND LANDING ZONE CONFIGURATION				
Priority:	US20110503189P 20110630	US20110503215P 20110630	US20110275365 20111018		
	WO2012US44821 20120629				

Family:

Publication number	Publication date	Application number	Application date
CA2840639 AA	20131227	CA20122840639	20120629
EP2726038 A1	20140507	EP20120733389	20120629
JP2014519961 T2	20140821	JP20140517262T	20120629
JP5883130 B2	20160309	JP20140517262T	20120629
US2013006209 AA	20130103	US20110275365	20111018
US9078792 BB	20150714	US20110275365	20111018
WO13003677 A1	20130103	WO2012US44821	20120629

Probable Assignee:

PROCTER AND GAMBLE CO

Assignee(s):(std):

PROCTER AND GAMBLE ; RUIZ OSCAR ANTONIO

Assignee(s):

THE PROCTER AND GAMBLE COMPANY ; PROCTER AND GAMBLE CO

Inventor(s):(std):

RUIZ OSCAR ANTONIO

Agent(s):

DIMOCK STRATTON LLP; KREMER VERONIQUE MARIE JOSEPHINE; NAGAI HIROSHI; WILLIAM E; CHRISTIAN M; THE PROCTER AND GAMBLE COMPANY

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 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

International class

A61F13/15 A61F13/20 A61F13/49 A61F13/505 A61F13/66 A61F13/68 A61F13/74 (Advanced/Invention)

(IPC 8-9):

CPC:

A61F13/505 A61F13/15203 A61F13/15268 A61F13/49004 A61F13/68 A61F13/74 A61F2013/15276 A61F2013/15357 A61F2013/5055

European class:

A61F13/15J A61F13/49B1 A61F13/505 A61F13/68 A61F13/74 K61F13/15J6 K61F13/15J7 K61F13/15J8C K61F13/505A

US class:

1/1 604/385.14

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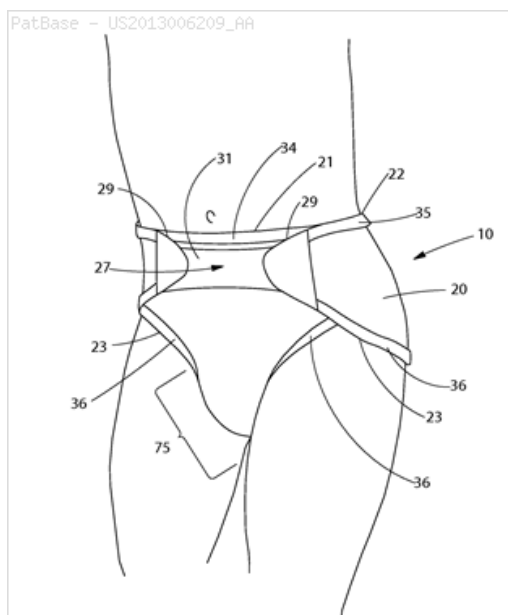
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Forward Citations: US2015196434, EP3134049, CN106232078,

Abstract:

A two-piece wearer absorbent article having an outer cover and an absorbent insert is disclosed. The outer cover has a landing zone comprising a loops material disposed on the front waist region, and extending laterally across substantially all of the front waist region. The inner surface of the outer cover has an insert fastener component disposed in the front region thereof, and the insert fastener component is secured directly to the loops material.



28) Family number: 16057940 (US6608237B)

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Title: High-strength, stabilized absorbent article
Priority: US20000631494 20000803 WO2001US24249 20010802
Family:

Publication number	Publication date	Application number	Application date
AR030101 AA	20030813	AR2001P103672	20010801
AU2001280997 AA	20020218	AU20010280997	20010802
EP1307244 A2	20030507	EP20010959440	20010802
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WO0211655 A2	20020214	WO2001US24249	20010802
WO0211655 A3	20020510	WO2001US24249	20010802

Probable Assignee: KIMBERLY CLARK CORP
Assignee(s):(std): KIMBERLY CLARK CO ; KIMBERLY CLARK WORLDWIDE INC
Assignee(s): KIMBERLY CLARK CORP
Inventor(s):(std): LI YONG X ; VAN DYKE WENDY LYNN ; WILLIAMS GARY DOUGLAS ; WISNESKI ANTHONY JOHN ; KRESSNER BERNHARDT EDWARD ; RANGANATHAN SRIDHAR ; KALMON MICHAEL FRANKLIN ; LI YONG ; DYKE WENDY LYNN VAN
Inventor(s): YONG X LI ; MICHAEL FRANKLIN KALMON ; ANTHONY JOHN WISNESKI ; BERNHARDT EDWARD KRESSNER ; GARY DOUGLAS WILLIAMS ; WENDY LYNN VAN DYKE ; SRIDHAR RANGANATHAN

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 PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

International class (IPC 8-9): A61F13/15 A61F13/49 A61F13/53 A61F13/551 A61F5/44 A61L15/22 (Advanced/Invention); A61L15/22 (Advanced/Non-invention); A61F13/15 A61F5/44 (Core/Invention)

International class (IPC 1-7): A61F13/14 A61F13/15 A61F13/49 A61F13/53 A61F13/551 A61F5/44 A61L15/20 A61L15/22 A61L15/26

CPC: A61F13/15203 A61F13/15617 A61F13/15658 A61F13/532

European class: A61F13/15J A61F13/15M3 A61F13/15M3G A61F13/532

US class: 604/364 604/382

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Abstract:
An absorbent article (10) includes a backsheet layer (30), a liquid permeable topsheet layer (28), and an absorbent body (32) sandwiched between the backsheet and topsheet layers. The absorbent body (32) includes a first fibrous stratum (52) having a first quantity of absorbent fibers, a second fibrous stratum (54) having a second quantity of absorbent fibers, and at least a third fibrous stratum (56) which is located between and integrally formed with the first and second fibrous strata (52, 54). In particular aspects, the third fibrous stratum (56) includes an operative quantity of a substantially hydrophilic, wet-strength agent. In other aspects, the wet-strength agent is distributed in the third quantity of absorbent fibers to render the third fibrous stratum (56) substantially non-dispersible.

