

Clarke, Modet & C^o

COLOMBIA

P-1715

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES

E.

S.

D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116814- -00004-0000

Fecha: 2009-02-11 15:01:37 Dep. 2020 NUECREACION
Tra 2 PATENTES Eve: 1 REGDEPOSITO
Act. 444 RESPUESTAREQUE Folios: 9

Ref.: Expediente No. 08-116.814
Solicitud de Patente a nombre de
McNeil-PPC, Inc.

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad **McNeil-PPC, Inc.**, domiciliada en Skillman, New Jersey, Estados Unidos de América, solicitante de la patente de la referencia, en respuesta al oficio No. 15292 notificado por fijación en lista el día 4 de diciembre de 2008, me permito presentar el documento(s) en que consta la cesión del derecho a la patente otorgada por el inventor a favor de mi mandante, junto con la traducción de las partes pertinentes del inglés al español.

Espero con esto haber dado cabal cumplimiento a lo solicitado por ese despacho y de conformidad con lo indicado en los artículos 3º, inciso 3; 35, inciso 2 y 59, inciso 2 del CCA, al analizar este memorial, atentamente ruego se traten todas las cuestiones planteadas con motivo del mismo.

Señor Superintendente,


JIMENA ESCOBAR URIBE
C.C.39.779.452 de Usaquén
T.P. 68228
Cód. 5376

P-1715

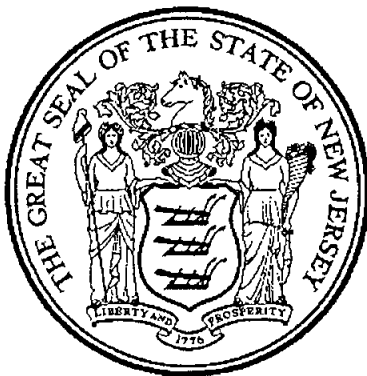
APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

1. COUNTRY: UNITED STATES OF AMERICA
2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY:
CHRISTINA A CLICKNER
3. ACTING IN THE CAPACITY OF:
NOTARY PUBLIC OF NEW JERSEY
4. BEARS THE SEAL/STAMP OF:
CHRISTINA A CLICKNER, NOTARY

CERTIFIED

5. AT TRENTON, NEW JERSEY
6. THE 27TH DAY OF JANUARY 2009
7. BY: R. David Rousseau, NEW JERSEY TREASURER
8. NO. A352382
9. SEAL/STAMP:
10. SIGNATURE



A handwritten signature in dark ink, appearing to read "R. David Rousseau", is written over a horizontal line.

Certificate Number: 113520921

Verify this certificate online at

https://www1.state.nj.us/TYTR_StandingCert/JSP/Verify_Cert.jsp

186

2

PPC5287CONP

CERTIFICATION

I hereby certify that I have compared the attached document with the original, and that such said document is a true copy of the original Assignment document as filed in the U.S. Patent Office in connection with USSN 60/984,204 filed OCTOBER 31, 2007 and USSN 11/958,970 filed DECEMBER 18, 2007.



Christina A. Clickner

(Notary Public of New Jersey)

My Commission Expires:

March 2, 2010

A S S I G N M E N T

WHEREAS, Leonard G. Rosenfeld, residing at 1260 Madison Drive, Yardley, PA 19067, hereinafter called "Assignor"), has made certain new and useful inventions or discoveries relating to

BODY-ATTACHABLE SANITARY NAPKIN

for which he has executed an application for Letters Patent of the United States; and

WHEREAS, McNeil-PPC, Inc., a corporation of the State of New Jersey, having its principal place of business at 199 Grandview Road, Skillman, NJ 08558 (hereinafter called "Assignee"), is desirous of acquiring Assignors' entire right, title, and interest therein:

NOW, THEREFORE, BE IT KNOWN that for and in consideration of the sum of One Dollar and other valuable considerations, the receipt of which is hereby acknowledged, Assignor has sold, assigned, and transferred, and does hereby sell, assign, and transfer unto said Assignee the entire right, title, and interest in and to all said inventions and discoveries disclosed in said application whose identification above by serial number and filing date, when available is hereby authorized, and in and to said application, all substitutions, divisions, and continuations thereof, and in and to all Letters Patent, United States and foreign, that may be granted for said inventions and discoveries, and in and to all extensions, renewals, and reissues thereof, the same to be held and enjoyed by said Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made;

And Assignor hereby authorizes and requests the Commissioner of Patents of the United States to issue said Letters Patent in accordance with this Assignment;

And for the consideration aforesaid, Assignor covenants and agrees with said Assignee that he has a full and unencumbered title to the inventions and discoveries above described and hereby assigned, which title he warrants unto said Assignee, its successors and assigns;

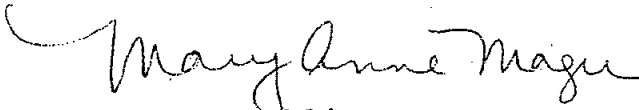
And for the consideration aforesaid, Assignor further covenants and agrees that he will, whenever requested, but without cost to him promptly communicate to said Assignee or its representatives any facts known to him relating to said inventions and discoveries, testify in any interference or legal proceedings involving said inventions and discoveries, and execute any additional papers that may be necessary to enable said Assignee or its representatives, successors, nominees, or assigns to secure full and complete protection for the said inventions and discoveries or that may be necessary to vest in said Assignee the complete title to the said inventions and discoveries and patents hereby conveyed and to enable it to record said title.

IN TESTIMONY WHEREOF, Assignor has hereunto set his hand and seal this 14 day of December, 2007.


_____(L.S.)
LEONARD G. ROSENFELD

STATE OF ND)
) ss.
COUNTY OF Somerset

BE IT REMEMBERED, That on this 14th day of December 2007, before me, a Notary Public, personally appeared LEONARD G. ROSENFELD, who I am satisfied is the person named in and who executed the foregoing instrument in my presence, and I having first made known to him the contents thereof, he did acknowledge that he signed, sealed, and delivered the same as his voluntary act and deed for the uses and purposes therein expressed.


Notary Public

MARY ANNE MAGEE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires January 21, 2008

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✓

Traducción oficial hecha por Jimena Escobar Uribe, traductora e intérprete oficial según resolución No. 0369 del Ministerio de Justicia, del documento legalizado mediante la **APOSTILLA** No. **A352382** de 27 de enero de 2009 de 2009 expedida en Estados Unidos de América correspondiente a un documento de cesión.

PPC5287CONP

CERTIFICACION

Por medio del presente certifico que he comparado el documento anexo con el original y que dicho documento es una copia veraz de la cesión original tal como fue presentada en la Oficina de Patentes de los Estados Unidos en relación con USSN 60/984,204 presentada el 31 DE OCTUBRE DE 2007 y USSN 11/958,970 presentada el 18 DE DICIEMBRE DE 2007.

(fdo) Christina A. Clickner, Notario Público
Mi comisión termina el 2 de marzo del 2010
(sello notarial, Estado de New Jersey)

Archivo No PPC-5287-USPSP

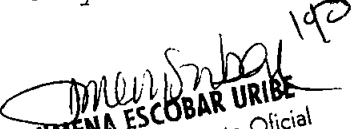
PPC-5287-USNP

Único Inventor

CESION

CONSIDERANDO que Leonard G. Rosenfeld residente en 1260 madison Drive, Yardley, PA 19067 (de ahora en adelante denominado "Cedente"), ha realizado ciertos novedosos y útiles inventos o descubrimientos relacionados con

TOALLA SANITARIA ADJUNTABLE AL CUERPO


JIMENA ESCOBAR URIBE
Traductor e Intérprete Oficial
Resolución No. 0369 Min. Justicia 1995
e

para el cual ha presentado una solicitud para Título de Patente en los Estados Unidos; y

CONSIDERANDO que McNeil-PPC, Inc., una sociedad del Estado de Nueva Jersey, con lugar principal de negocios en 199 Grandview Road, Skillman, NJ 08558 (de ahora en adelante denominada "Cesionario"), esta deseosa de adquirir la totalidad de los derechos, títulos e intereses del Cedente sobre el mismo:

AHORA, POR LO TANTO, SE HACE SABER que por la suma y en consideración de la misma por Un Dólar y otras consideraciones de valor, del cual se acusa recibo por medio del presente escrito, el Cedente ha vendido, cedido y transferido, y por medio del presente vende, cede y transfiere al Cesionario la totalidad del derecho, título e interés relacionado con los inventos y descubrimientos mencionados en dicha solicitud, cuya identificación por número de serie y fecha de presentación cuando sea disponible se autoriza por medio del presente y con dicha solicitud, todas las sustituciones, divisiones y continuaciones de la misma y con todos los Títulos de Patentes de los Estados Unidos de América o extranjeras que sean otorgados para dichos inventos y descubrimientos y con todas las prórrogas, renovaciones y re-expediciones de la misma, para que sean de y disfrutadas por el Cesionario, sus sucesores y cesionarios, tan amplia y cabalmente como los mismos hubieran sido encabezados y disfrutados por el Cedente si esta Cesión y venta no se hubiera realizado;

Y, el Cedente por medio del presente autoriza y solicita al Comisionado de Patentes de los Estados Unidos

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*

expedir el Título de patente en concordancia con esta Cesión;

Y, por las consideraciones anteriores, el Cedente pacta y acuerda con el Cesionario que él tiene un título entero y sin cargas sobre los inventos y descubrimientos descritos atrás y aquí cedidos, cuyo título él garantizan al Cesionario, sus sucesores y cesionarios;

Y, por las consideraciones anteriores, el Cedente además pacta y acuerda que, cuando le sea solicitado y sin costo adicional para él, comunicará al Cesionario o sus representantes cualquier hecho de que tenga conocimiento relacionado con dichos inventos y descubrimientos, testificará en cualquier interferencia o procedimientos legales relacionados con dichos inventos y descubrimientos y suscribirá cualquier documento adicional que sea necesario para permitir al Cesionario o sus representantes, sucesores, nominados o cesionarios que aseguren la completa protección para los mencionados inventos o descubrimientos o que sean necesarios para conferir al Cesionario el título completo de dichos inventos y descubrimientos y las patentes aquí transmitidas y para permitirle registrar dicho título.

EN TESTIMONIO DE LO CUAL, el Cedente ha estampado su firma y sello, hoy 14 de diciembre de 2007

Firmado: LEONARD G. ROSENFELD

Estado de Nueva Jersey
Condado de Somerset

QUE SEA RECORDADO, que el 14 de diciembre 2007, ante mí, Notario Público, compareció personalmente LEONARD G.

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ROSENFELD, quien estoy satisfecho es la persona nombrada en el instrumento precedente y quien lo suscribió en mi presencia, y habiéndole yo indicado el contenido del mismo, él reconoció que lo firmó, selló y otorgó como un acto voluntario para los usos y propósitos allí expresados.

Firmado: Firma ilegible, Notario Público

Sello: Mary Anne Magee, notario público de Nueva Jersey, comisión termina el 21 de enero de 2008

APOSTILLA

(Convención de la Haya de 5 de octubre de 1961)

1. País: Estados Unidos de América
2. Este documento público ha sido firmado por:
Christina A. Clickner
3. Actuando en su calidad de:
Notario Público de Nueva Jersey
4. Lleva el sello/estampilla de:
Christina A. Clickner, Notario

CERTIFICADO

5. En Trenton, Nueva Jersey
6. El 27 de enero de 2009
7. Por R. A352382
9. Sello/Estampilla: Sello del Estado de Nueva Jersey
10. Firma: ilegible

Certificado número: 113520921

Verifique este número en línea en

https://www1.state.nj.us/TYTR_StandingCert/JSP/Verify_Cert.jsp

sp

MINISTERIO DE
RELACIONES EXTERIORES
2009 FEB -9 A 10:53
JEFE DE LEGALIZACIONES
BOGOTA D.C.

NO SE ASUME
RESPONSABILIDAD
DEL TEXTO
873256
MAGDA ESCOBAR
COPIA DEL DOCUMENTO EN EL
DOCUMENTO DESEMPENA
AS FUNCIONES INDICADAS

MonSibers
JIMENA ESCOBAR URIBE
Traductor e Intérprete Oficial
Resolución No. 0369 Min. Justicia 1995

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JUGOIA B.C.
REFLECTORSTANDARD

STANDARD/STANDARD
REFLECTORSTANDARD

23 FEB - 6 V 10:23

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STANDARD/STANDARD
REFLECTORSTANDARD

STANDARD/STANDARD
REFLECTORSTANDARD



2020

Bogotá D.C.,

Doctor(a)

ESCOBAR URIBE JIMENA

Apoderado(a) y/o Representante de

MC NEIL - P P C, INC.

REFERENCIA	Radicación No. 8 116814
	Trámite 2
	Evento 1
	Actuación 416
	Oficio No. 9619
	Folios 1

Teniendo en cuenta que la solicitud de privilegio de patente que se tramita bajo el expediente indicado en la referencia, reúne los requisitos de forma establecidos en los artículos 26 y 27 de la Decisión 486 de la Comisión de la Comunidad Andina, y en las demás disposiciones vigentes sobre la materia, se envía el extracto de la solicitud a la Oficina de Comunicaciones para efecto de su publicación en la Gaceta de Propiedad Industrial, conforme lo establece el artículo 40 de la misma Decisión.

Siendo manifestación expresa del interesado de efectuar la publicación "inmediato", está se realizará en la próxima gaceta de Propiedad Industrial.

Cúmplase

Dado en Bogotá DC,

19 5 DIC. 2019

ALIX CARMENZA CESPEDES DE VERGEL
Directora de Nuevas Creaciones (c)

jfernand

195

Clarke, Modet & Co

COLOMBIA

P-1715

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
No. 08-116814-00005-0000
Fecha: 2010-05-19 15:01:39 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 538 PETICION Folios: 2

SEÑORES
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES
E.S.D.

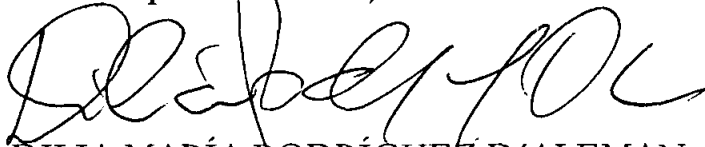
REF: EXPEDIENTE No. 08.116.814
SOLICITANTE: McNeil-PPC, Inc.

ASUNTO: SOLICITUD EXAMEN DE PATENTABILIDAD

DILIA RODRÍGUEZ D'ALEMAN identificada como aparece al pie de mi firma, domiciliada en Bogotá, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad solicitante, pido a usted que se proceda a examinar si la invención, cuya patente se tramita en el expediente de la referencia, es patentable.

Adjunto al presente memorial el recibo No. 10-24,917 de 6 de mayo de 2010 por la suma de \$470.000.00, con lo cual queda cubierta la tasa oficial correspondiente a dicho estudio.

Señor Superintendente,



DILIA MARÍA RODRÍGUEZ D'ALEMAN
C.C. 41.654.882 de Bogotá.
T.P. 20824 CSJ

196

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 10 - 24,917
FECHA : ABRIL 5 DE 2010

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116814-00005-0000

Fecha: 2010-05-19 15:01:39 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 538 PETICION Folios: 2

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	353190121	31/03/2010	84,780,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	114 PTC CAP-II EXAMEN DE PATENTIBILIDAD	470,000.00
		TOTAL :	\$ 470,000.00

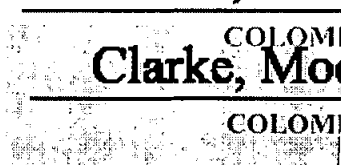
SON: CUATROCIENTOS SETENTA MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

P-1715

Clarke, Modet & C^o



SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116814-00006-0000

Fecha: 2010-09-23 15:23:13 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 329 CTOINFORMACION Folios: 2

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES**

E. S. D.

Re: Expediente No. 08.116.814
Solicitud de patente a nombre de McNeil-PPC, Inc.

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, de acuerdo al poder que adjunto en copia auténtica y que **ya obraba en el expediente**, con base en la especial facultad que me otorgó el mandante para ratificar, **RATIFICO** todo lo actuado por la Doctora **Dilia Rodríguez D'Aleman** en el expediente de la referencia, en especial la presentación que hizo

El 19 de mayo de 2010 solicitando el examen de patentabilidad.

Atentamente.

JIMENA ESCOBAR URIBE

C.C. 39.779.452 de Usaquen.

T.P. 68.228

PRESENTACION PERSONAL
El anterior escrito fue presentado ante el
NOTARIO 11 DEL CIRCULO DE BOGOTA, D.C.
personalmente por Jimeno Escobar
Ulabe
quien exhibió la c.c. 39779542 de Bogota
y Tarjeta Profesional No. Jimeno Escobar
Fecha 28 DIC 2000
Guillermo Chávez Cristancho
NOTARIO



SEÑORES

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIVISIÓN DE NUEVAS CREACIONES

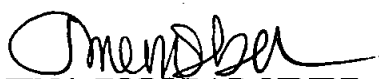
E. S. D.

REF:

EXPEDIENTE NR. : 08.116.814

SOLICITUD DE PATENTE A NOMBRE DE McNeil-PPC, Inc.

Yo, **JIMENA ESCOBAR URIBE**, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53 Piso 6, atentamente digo a usted que sustituyo el poder con que obro a la doctora **DILIA RODRIGUEZ D´ALEMAN**, domiciliada en Bogotá, D.C., portadora de la tarjeta profesional No. 20.824, con las mismas facultades con que me fueron conferidas para este caso.


JIMENA ESCOBAR URIBE

C.C. 39.779.452 de Usaquén

T.P. 68.228

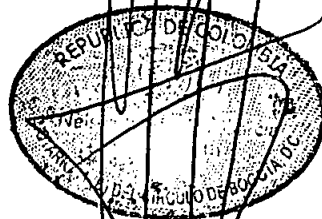
Acepto sustitución

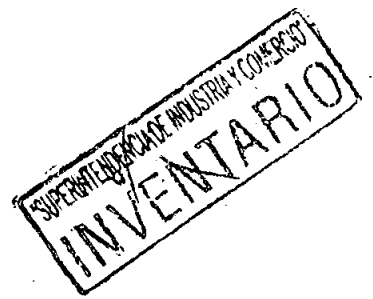
DILIA RODRIGUEZ D´ALEMAN

C.C. 41.654.882 de Bogotá

T.P. 20.824

PRESENTACION PERSONAL
El anterior escrito fue presentado ante el
NOTARIO OSCAR DEL CIRCULO DE BOGOTA, D.C.
personalmente por Dimeno Escobar
Uribe
quien exhibió la c.c. 39279482 Escapuren
y Tarjeta Profesional No. 68228 C.S.J.
Firma [Signature]
Fecha 23 AGO 2010 [Signature]
Nelson J. Sánchez Carriá
NOTARIO (E)





Delegatura de propiedad Industrial
División de Nuevas Creaciones

SOLICITUD
PATENTE DE INVENCION

21. EXPEDIENTE No.

08-116816

54. TÍTULO

TOALLA SANITARIA ADHERIBLE AL CUERPO.

51. CLASIFICACIÓN INTERNACIONAL

71. SOLICITANTE

McNEIL-PPC, INC.

DOMICILIO

SKILLMAN, NEW JERSEY, ESTADOS UNIDOS DE AMERICA

74. APODERADO

JIMENA ESCOBAR URIBE

22. BOGOTÁ, D. C.,



No. 08-116816- -00000-0000

Fecha: 2008-10-31 15:13:25 Dep. 2020 NUECREACIONE
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 411 PRESENTACION Folios: 69

FORMULARIO ÚNICO DE SOLICITUD DE PATENTE

SOLICITUD DE:

1

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Patente de Invención

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Patente de Modelo de Utilidad

2

**SOLICITANTE
(71)**

Nombre: **McNeil-PPC, Inc.**

Dirección: 199 Grandview Road, Skillman,
New Jersey 08558, Estados Unidos de
América.

Nacionalidad o Domicilio: Skillman, New
Jersey, Estados Unidos de América.

Lugar de Constitución: New Jersey,
Estados Unidos de América

Teléfono :
E-mail:

Fax:

IDENTIFICACIÓN

C.C.

☐

NIT

☐

C.E.

☐

Otro

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Cual

Número

3

**REPRESENTANTE
O APODERADO**

Nombre: JIMENA ESCOBAR URIBE

Dirección: Cra. 11 No. 86-53 piso 6

Teléfono: 6 162051/61 Fax: 6 161889

E-mail: Jiescobar@clarkemodet.com.co

IDENTIFICACIÓN

C.C.

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Otro

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Cual

Número 39.779.452 T.P. 68228

4

**INVENTORES (ES)
(72)**

Nombre: **ROSENFELD, Leonard, G.**

Dirección: 1260 Madison Drive, Yardley, Pennsylvania 19067, Estados Unidos de
América

Nacionalidad o Domicilio: Estadounidense.

5 Titul (54)

TOALLA SANITARIA ADHERIBLE AL CUERPO

6 Clasificación Internacional (51)

A61

7 Prioridad

(33) País de Origen

Estados Unidos de América

Estados Unidos de América

(32) Fecha

31 de octubre de 2007

18 de diciembre de 2007

(31) Número de Solicitud

60/984,218

11/958,986

SI

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NO

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8 - Para publicar a partir de la fecha de la presente solicitud a los:

6 meses

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12 meses

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18 meses

☐

otros

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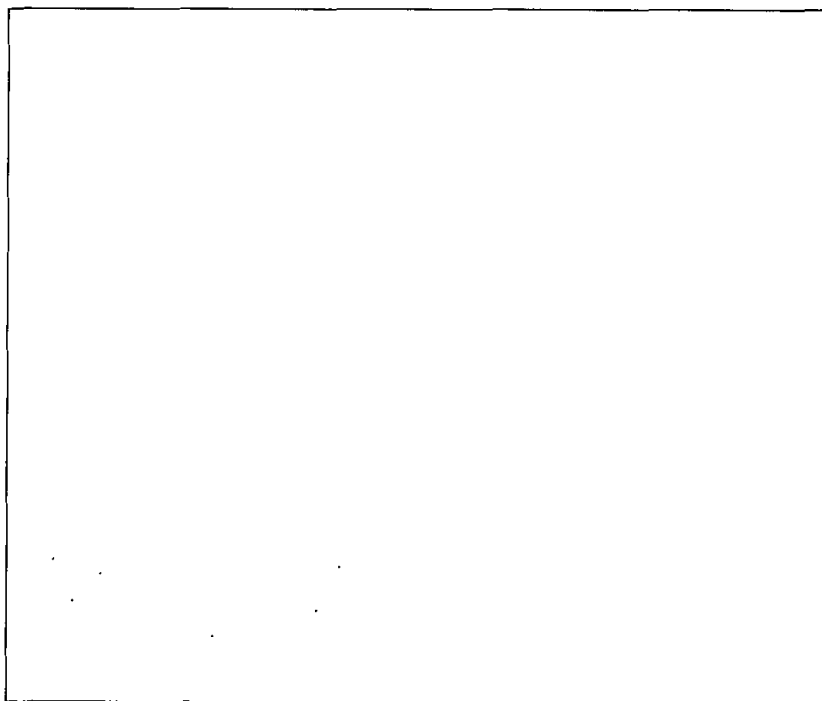
Cual

9 Comprobante de pago No. 08 - 83,384 // 08 - 83,443 // 08 - 83,444

F cha 22 de octubre de 2008.

- ☐ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Comprobante de pago de la tasa por concepto de excedente de palabras en la publicación
- ☐ Comprobante de pago por la reivindicación de prioridad
- ☐ Documento que acredite la existencia y representación legal cuando el solicitante sea persona jurídica
- ☐ Poderes, si fuere el caso * Protocolo No. **16.465**
- ☐ Certificado de la fecha de presentación de la solicitud prioridad expedida por la autoridad correspondiente y una copia certificada de la primera solicitud, si se reivindica prioridad
- ☐ Traducción simple de la primera solicitud, si se reivindica prioridad
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Resumen
- ☐ Descripción de la invención.
- ☐ Una o más reivindicaciones
- ☐ Dibujos y/o planos necesarios
- ☐ De ser el caso, copia del contrato de acceso
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas.
- ☐ De ser el caso, certificado de deposito del material biológico
- ☐ Arte final 12 X 12 .
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud.

11 FIGURA CARACTERÍSTICA





SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 08 - 83,384
FECHA : OCTUBRE 22 DE 2008

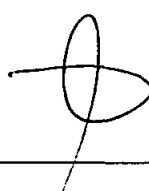
***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	94343303	21/10/2008	49,440,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		1 TRAMITES DE SOL. DE PATENTE DE IN	501,000.00
		TOTAL :	\$ 501,000.00

SON: QUINIENTOS UN MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

P-1716



SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 08 - 83,443
FECHA : OCTUBRE 22 DE 2008

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	94343303	21/10/2008	49,440,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		82 INVOCACION DE UNA PRIORIDAD EN NU	140,000.00
		TOTAL :	\$ 140,000.00

SON: CIENTO CUARENTA MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

P-1716
3

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00000-0000

Fecha: 2008-10-31 15:13:25 Dep. 2020 NUECREACION!
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 411 PRESENTACION Folios: 69

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

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RESPONSABLE : 

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8-1716
4

RESUMEN

Una toalla sanitaria adherible al cuerpo que incluye una
capa de cubierta permeable a los fluidos, un ensamble de
5 retención de fluidos; y una capa de barrera que tiene un
adhesivo para conectar al cuerpo dispuesto sobre por lo
menos las primeras porciones de ésta. La toalla sanitaria
de acuerdo con la invención permanece adherida de forma
segura al cuerpo durante uso, se mueve con el cuerpo
10 durante uso, aún al mismo tiempo permite al usuario
remover selectivamente la toalla de una forma libre de
dolor

5

TOALLA SANITARIA ADHERIBLE AL CUERPO

REFERENCIA CRUZADA A SOLICITUDES RELACIONADAS

5 Esta solicitud reivindica la prioridad para la solicitud
No 60/984,218 presentada en Octubre 31, 2007, de la cual se
incorporan aquí los contenidos completos como referencia.

CAMPO DE LA INVENCION

10

La presente invención se relaciona de manera general con
artículos absorbentes sanitarios y en particular a toallas
sanitarias que se adhieren directamente al cuerpo.

15

ANTECEDENTE DE LA INVENCION

Las toallas sanitarias utilizadas externamente, son una
de muchas clases de dispositivos de protección femenina
actualmente disponibles. En uso, la toalla sanitaria típica
20 se posiciona en la región perineal para capturar la descarga
corporal, por ejemplo, menstruación. Con el fin de evitar que
la toalla sanitaria se desplace a una posición que pudiera
comprometer la capacidad de la toalla sanitaria para manejar
las descargas corporales, la toalla sanitaria se fija
25 generalmente a una prenda interior del usuario, más
comúnmente con adhesivo que se aplica a una prenda que
enfrenta la superficie de la toalla sanitaria. El adhesivo

une esencialmente la toalla sanitaria a la prenda interior del usuario.

Un diseño de toalla sanitaria alternativo, la llamada,
5 toalla sanitaria "adherible al cuerpo", incluye unos medios para fijar la toalla sanitaria directamente al cuerpo del usuario, utilizando típicamente un adhesivo que se puede poner en contacto con el cuerpo. Por ejemplo, la Patente U.S. No, 6,213,993 propone describir un artículo absorbente
10 autoadhesivo que incluye una cubierta permeable a los líquidos, un núcleo absorbente, un deflector impermeable a los líquidos, y un adhesivo de costado de artículo dispuesto sobre la cubierta para asegurar el artículo al cuerpo.

15 Desafortunadamente, es difícil diseñar una toalla sanitaria adherible al cuerpo que permanezca adherida al usuario en una forma que sea cómoda al usuario y suficiente para evitar escapes. Los solicitantes han reconocido que las toallas sanitarias adheribles al cuerpo convencionales no se
20 mueven suficientemente con el cuerpo durante el movimiento lo que resulta en escape y/o desprendimiento del cuerpo. Los solicitantes han reconocido adicionalmente que las toallas sanitarias adheribles al cuerpo convencionales no permanecen adheridas de forma segura al cuerpo durante el uso, se mueven
25 con el cuerpo durante el uso, aún en el mismo tiempo permiten al usuario remover selectivamente la toalla en una forma libre de dolor. Como tal, existe la necesidad de superar una o más de las desventajas mencionadas anteriormente.

RESUMEN DE LA INVENCION

De acuerdo con un primer aspecto de la invención, la presente invención proporciona una toalla sanitaria adherible
5 al cuerpo que comprende:

Una capa de cubierta permeable a fluido; una capa que retiene fluido; y una capa de barrera que tiene un adhesivo conectable dispuesto sobre por lo menos una primera porción de éste en donde dicha toalla sanitaria satisface lo
10 siguiente

$$G/tE > 0.1 \text{ N/m}; \text{ y } tGE < 2 \times 10^5 \text{ N}^2/\text{M}^2$$

en donde G/tE es Energía de Pelado, t es espesor de la toalla sanitaria, y E es el módulo Young efectivo de la toalla, en
15 donde G/tE y tGE se determinan utilizando el PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO y el PROCEDIMIENTO DE PRUEBA DE TENSIÓN DE FUERZA DE PICO 20%, los cuales se describen aquí

BREVE DESCRIPCION DE LOS DIBUJOS

Los ejemplos de las modalidades de la presente invención se describirán ahora con referencia a los dibujos, en los que:

25 La Figura 1 es una vista en plano superior de una toalla sanitaria de acuerdo con una primera modalidad de la presente invención;

La Figura 2 es una vista seccional de la toalla sanitaria de la Figura 1, tomada a través de la línea central transversal, línea 2-2' de ésta;

5 La Figura 3 es una vista de plano superior de una toalla sanitaria de la Figura 1, que muestra las características adicionales de ésta;

La Figura 4 es una vista de plano superior de una toalla
10 sanitaria de la Figura 1, que muestra aún características adicionales de ésta;

La Figura 5 es una vista en sección cruzada de una toalla sanitaria de acuerdo con una segunda modalidad de la presente
15 invención;

La Figura 6 es una vista lateral esquemática de un aparato de prueba adecuado para conducir procedimientos de prueba descritos allí sobre toallas sanitarias adheribles al cuerpo;
20

La Figura 7 es una descripción gráfica de dolor de remoción y permanencia para las toallas sanitarias así como también ejemplos comparativos.

25

BREVE DESCRIPCIÓN DE LA INVENCION

La presente invención proporciona una toalla sanitaria adherible al cuerpo que es capaz generalmente de acomodarse a

las demandas de movimiento del cuerpo, permanece adherida a este en uso, mientras que permite que el ensamble de retención de fluidos permanezca posicionado para recibir y retener el fluido corporal. Como tal, la toalla sanitaria incluye, en ciertas modalidades un ensamble de retención de fluido que se asegura a una capa de barrera solo a lo largo de las porciones seleccionadas de un área de yuxtaposición entre el ensamble de retención de fluidos y la barrera. Al incluir un ensamble de retención de fluidos que tiene un aseguramiento reducido a la capa de barrera, la demanda que podría de otra forma ser colocada sobre la capa de barrera o adhesivo, o ambos se reduce grandemente.

Los solicitantes han determinado adicionalmente que una toalla sanitaria adherible al cuerpo puede superar el reto de proporcionar simultáneamente alta permanencia en el lugar así como también dolor de remoción reducido al seleccionar la capa de barrera, seleccionar el adhesivo conectable al cuerpo y disponer la toalla sanitaria, todo en una forma certera. En particular, los solicitantes han proporcionado aquí una construcción de Toalla Sanitaria que permanece adherida de forma segura al cuerpo durante uso, moverse con el cuerpo durante uso, también permite aún al usuario remover selectivamente la toalla en una forma libre de dolor.

25

Los valores de fuerza de pelado descritos aquí se afectan por la naturaleza del adhesivo que está en contacto con el cuerpo así como también la selección de la capa de

barrera. Lo critico de los resultados del PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO del Solicitante así como también la combinación de los critico combinado con lo critico de los resultados del PROCEDIMIENTO DE PRUEBA DE TENSION DE FUERZA DE PICO 20% del Solicitante no se ha identificado previamente como parámetros útiles en el diseño de toallas sanitarias adheribles al cuerpo.

Al diseñar la toalla sanitaria conectable al cuerpo para que cumplan los requerimiento anteriores, es posible incluir un rango más amplio de materiales de barrera, un rango más amplio de adhesivos y/o una variedad más amplia de diseños que se sugieren en la técnica anterior.

Con referencia a las Figura 1-2, se muestra aquí una primera modalidad de la presente invención, una toalla sanitaria femenina 10, la Figura 1 describe una vista de plano superior de la toalla sanitaria mostrada en la Figura 1. La toalla sanitaria 10, un primer costado transversal 26 define una porción frontal de este y un segundo costado transversal 28 define una porción trasera de éste. La toalla sanitaria 10 también tiene dos costados longitudinales, a saber un primer costado longitudinal 30 y un segundo costado longitudinal 32.

25

La toalla sanitaria 10 tiene una línea central longitudinal 14 que disecta la toalla sanitaria 10 en dos mitades idénticas y una línea central transversal imaginaria

16 dispuesta perpendicular a la línea central longitudinal
14. La Figura 2 describe una vista en sección transversal de
la toalla sanitaria mostrada en la Figura 1, tomada a través
de la línea 2-2'.

5

Como se muestra en las Figuras 1-2, la toalla sanitaria
10 es de una construcción laminada y comprende una capa de
barrera extensible 24. la capa de barrera extensible 24 tiene
una cara superior 33 que enfrenta generalmente el cuerpo del
10 usuario y una cara de fondo 35 que enfrenta generalmente la
prenda interior de usuario.

Un ensamble de retención de fluido 37 está dispuesto en
relación traslapante con una primera porción 27 de la capa de
15 barrera extensible 24, que define por lo tanto un área de
yuxtaposición 34 entre el ensamble de retención de fluido 37
y la capa de barrera extensible 24. La primera porción 24 de
la capa de barra extensible 24, el ensamble de retención de
fluido 37, y el área de yuxtaposición 34 definido por el
20 traslapante de estos componentes se describe en la Figura 1
como la región "con forma de maní" transversal. La primera
porción 27 de la capa de barrera extensible 24, ya que se
traslapa por el ensamble de retención de fluidos, no incluyen
una superficie que puede entran en contacto con la piel.

25

La capa de barrera extensible 24 incluye adicionalmente
una segunda porción 29 que se extiende hacia fuera más allá
de la primera porción. El adhesivo que puede entrar en

contacto con el cuerpo 31 se forma sobre la cara superior 33 de la segunda porción 29 de la capa de barrera extensible 24.

La capa de barrera extensible 24 también puede incluir una tercera porción 39. La tercera porción 39 está en el exterior del área de yuxtaposición 34. Como tal este se puede conectar al cuerpo. Sin embargo, la tercera porción 39 no incluye adhesivos conectables al cuerpo formados allí.

La forma de la capa de barrera extensible 24 es variable y se puede diseñar para facilitar el contacto con la piel con piel a lo largo del muslo interno/ingle. Adicionalmente, la forma del ensamble de retención del fluidos 37 es variable y se puede seleccionar para facilitar el cubrimiento de la región perineal del usuario. Como un porcentaje del área total de la capa de barrera extensible 24 cuando permanece plano (es decir, la "huella" de la capa de barrera extensiblemente 24- como se muestra en la Figura 1), el área de la porción de retención de fluido 37 puede ser de aproximadamente 10% aproximadamente 90%, preferiblemente de aproximadamente 40% a aproximadamente 80%.

La forma de la segunda porción 29 de la capa de barrera extensible 24 también es variable y se puede diseñar para facilitar el contacto con el usuario y se puede diseñar adicionalmente para facilidad de fabricación. Como se describe en la Figura 1, la forma de la segunda porción 29 puede incluir o consistir esencialmente de una o más tiras

orientadas longitudinalmente sobre cualquier lado de la línea central longitudinal 14. También se contemplan otras configuraciones, por ejemplo, uno o más cuadrados, rectángulo, círculos, tiras punteadas, tiras, remolino, u
5 ondas

El ensamble de retención de fluido 37 se asegura a la primera porción 27 de la capa de barrera extensible 24 a lo largo de una porción seleccionada 36 (el bosquejo del cual se
10 muestra como un área con forma rectangular en la Figura 1) del área de yuxtaposición 34. A lo largo de las porciones no seleccionadas 38 (descritas en la Figura 1 como una porción del área "con forma de maní" de yuxtaposición 34 que es externa a la porción seleccionada con forma rectangular 36),
15 el ensamble de retención 37 no se asegura a la primera porción 27 de la capa de barrera extensible 24. Por "asegurado" significa que la porción seleccionada 36, la capa de barrera extensible 24 y la porción de retención de fluido 37 se conectan directa o indirectamente y están diseñadas
20 para permanecer conectada en uso.

La porción seleccionada 36 como una fracción del área de yuxtaposición 34 no es tan lenta para permitir que el ensamble de retención de fluido 37 se mueva muy libremente
25 y/o este en riesgo de despegarse de la toalla sanitaria 10, aunque ese movimiento no sea tan grande que se restrinja innecesariamente. En una modalidad de la invención, la porción seleccionada es de aproximadamente 5% a

aproximadamente 90% del área de yuxtaposición 34, preferiblemente de aproximadamente 20% a aproximadamente 80% más preferiblemente de aproximadamente 30% a aproximadamente 70%.

5

La Figura 3 es una vista de plano superior de la toalla sanitaria de la Figura 1, que muestra características adicionales de ésta. Como se muestra en la Figura 3, la parte traslapante del ensamble de retención de fluido 37 con la
10 capa de barrera extensible 24 define adicionalmente un perímetro 46 de yuxtaposición, una forma imaginaria que señala los límites de la porción de retención de fluido 37. El perímetro 46 de la yuxtaposición define una región periférica de yuxtaposición 44, esa porción del área de
15 yuxtaposición 34 a lo largo del perímetro 46 de yuxtaposición y que tiene un ancho constante 48, de tal manera que la región periférica de la yuxtaposición 44 cuenta con el 10% del área total de la yuxtaposición 34. En una modalidad de la invención, por lo menos aproximadamente 50% de la región
20 periférica de yuxtaposición no se asegura a la capa de barrera extensible 24. En una modalidad preferida, más del 75% de la región periférica de yuxtaposición no se asegura.

La Figura 4 es una vista de plano superior de la toalla
25 sanitaria de la Figura 1, que muestra características adicionales de ésta. Como se muestra en la Figura 3, la parte traslapante del ensamble de retención de fluido 37 con la capa de barrera extensible 24 define adicionalmente uno o más

segmentos de adhesión 50, por ejemplo, los segmentos de la línea central transversal 16 dentro de área de yuxtaposición 34 que se asegura a la capa de barrera extensible 24 (mostrada en línea intermitente en la Figura 4) y uno o más
5 segmentos de no adhesión 52; por ejemplo, un segmento de la línea central transversal 16 dentro del área de yuxtaposición 34 que no se asegura a la capa de barrera extensible 24 (mostrada como una línea sólida en la Figura 4). En una modalidad, la longitud total de los segmentos de no adhesión
10 52 son mayores de aproximadamente el 15% de aquel de la longitud total de los segmentos de adhesión 50. En una modalidad preferida, la longitud del segmento de no adhesión 52 es mayor de aproximadamente el 30% de aquel de la longitud de los segmentos de adhesión 50. Mientras que en la Figura 4,
15 la línea de la que los segmentos de adhesión 50 y los segmentos de no adhesión 52 están en línea transversal 16, la línea central 14 o un línea en cualquier ángulo entre la línea central transversal 16 y la línea central longitudinal se pueden utilizar para determinar segmentos adecuados de
20 adhesión o no adhesión.

Mientras la Figura 1,3 y 4 describen la forma de la porción seleccionada 36 del área de yuxtaposición 34 por ser un área rectangular continua única, se contemplan otras
25 formas para la porción seleccionada 36. Por ejemplo, la porción seleccionada 36 puede incluir una o más áreas de cuadrados, rectángulo, círculos, tiras punteadas, tiras, remolinos u ondas etc. Y puede incluir o no el centro

26

(intercesión de la línea central longitudinal 14 y la línea central transversal 16).

La Figura 5 describe una modalidad alternativa de la invención de una toalla sanitaria 20. La toalla sanitaria 20 es idéntica a la toalla sanitaria 10 de las Figuras 1-2, excepto que la toalla sanitaria 20 incluye una capa de barrera impermeable a los fluidos adicional 42, distinta de la capa de barrera extensible 24. La capa de barrera adicional 42 se posiciona intermedia (por ejemplo entre) el ensamble de retención de fluido 37 y la capa de barrera extensible 24. Como tal, la capa de barrera adicional 42 proporciona capacidad adicional para atrapar fluidos corporales y evitar el escape al exterior de los fluidos de la toalla sanitaria 20. En una modalidad, la capa de barrera adicional 42 es de un tamaño que se acomoda solo al ensamble de retención de fluido 37 y, como tal, la capa de barrera adicional 42 no se extiende más allá del área de yuxtaposición 34 y está libre del adhesivo que puede estar en contacto con el cuerpo 31.

Capa de Barrera

La capa de barrera extensible 24 es generalmente impermeable a los líquidos. Por "impermeable a los líquidos" significa que los líquidos tal como menstruación y orina, bajo condiciones en uso son incapaces de pasar. Por "extensible" significa que cuando se coloca bajo tensión en

el plano de la capa, la capa de barrera extensible 24 se puede estirar (elásticamente) 10% o más, preferiblemente 20% o más y recuperar esencialmente su longitud original. La capa de barrera extensible 24 puede influir, por ejemplo, película polimérica tal como polietileno o polipropileno; no tejidos impermeables a los líquidos (por ejemplo tratado con repelente) (por ejemplo spunbond, fundido por soplado, o poliolefina termopegada o fibras de poliuretano que se han tratado para evitar la penetración de fluidos corporales; o combinaciones o sus laminados. La capa de barrera extensible 24 puede tener un peso base de aproximadamente 5 gsm aproximadamente 20 gsm. Las películas de barrera extensible permeables a los líquidos notables incluyen no tejidos impermeable a los líquidos spunbond de poliuretano y/o polipropileno; con o sin capas de fibras fundidas por soplado dispuestas entre ésta.

La capa de barrera extensible 24 puede ser respirable, es decir, permite que el vapor transpire. Los materiales conocidos para este propósito incluyen materiales no tejidos y películas microporosas en las que se crea la microporocidad al, inter alia, colocar la capa de barrera extensible 24 en tensión. Capas sencillas o múltiples de películas permeables, telas, materiales fundidos por soplado, y sus combinaciones que proporcionan una ruta tortuosa, y/o cuyas características de superficie proporcionan un repelente de superficie liquido a la penetración de líquidos también se puede utilizar para proporcionar una capa de barrera respirable.

La capa de barrera adicional 42, como se muestra en la Figura 4 puede ser de composición similar y tiene generalmente similar impermeabilidad a los líquidos como se describió anteriormente para la capa de barrera extensible 24.

Adhesivo para Contacto con el Cuerpo

El adhesivo para contacto con el cuerpo 31 se forma sobre un costado que enfrenta el cuerpo de la capa de barrera extensible 24 para asegurar la toalla sanitaria 10 al cuerpo de un usuario, durante uso. El adhesivo para contacto con el cuerpo 31 se puede cubrir con papel de liberación removible de tal manera que el adhesivo que se puede poner en contacto con el cuerpo 31 se cubre por el papel de liberación removible antes de uso.

El adhesivo para contacto con el cuerpo 31 puede incluir adhesivo sensible a la presión y se puede aplicar en varias configuraciones adecuadas como se describió previamente. Como se utiliza aquí, el término adhesivo sensible a la presión se refiere a cualquier adhesivo liberable o medios tenaces liberables.

25

La composición de la adhesivo para conecta al cuerpo 31 es variable, mientras que el adhesivo se selecciona de tal manera que cuando la toalla sanitaria se prueba de acuerdo

con los métodos de prueba descritos aquí, (1) una fuerza adecuada para efectuar pelado del adhesivo y (2) una fuerza suficientemente baja para efectuar una tensión particular del 20% cuando se somete a tensión a través de la toalla
5 sanitaria.

El adhesivo para conectar al cuerpo 31 utilizado en la toalla sanitaria puede ser un adhesivo basado en copolímeros de bloque tal como aquellos que pueden incluir estructuras de
10 copolímero lineal o radial que tienen la fórmula $(A-B)_x$ en donde el bloque A es un bloque de polivinilareno, el bloque B es un bloque de poli(monoalqueno), X denota el número de brazos poliméricos y en donde X es un entero mayor que o igual a 1. Los polivinilarenos de bloque A adecuados
15 incluyen, pero no se limitan a poliestireno, polialfa-metilestireno, poliviniltolieno, y sus combinaciones. Los bloques de poli(monoalqueno) bloque B adecuados incluyen, pero no se limitan a elastómeros dieno conjugados tal como por ejemplo polibutadieno o poliisopreno o más
20 preferiblemente elastómeros hidrogenados tal como etileno-butileno o etileno-propileno o poliisobutileno o sus combinaciones, específicamente, adhesivos que consisten de copolímeros de bloque estireno-etileno-butileno-estireno (SEBS) y aceites minerales, aceites de procesos parafínicos o
25 napténicos, y opcionalmente unas resinas pegajosas adecuadas incluyen resinas naturales y modificadas; esteres de glicerol y pentaeritritol de resina naturales y modificadas; resinas de politerpeno; copolímeros y terpolímeros de terpenos

naturales; resinas de terpeno fenólicas modificadas y los sus derivados hidrogenados; las resinas de petróleo alifático y sus derivados hidrogenados; resinas de petróleo aromático y sus derivados hidrogenados; y resinas de petróleo alifático/aromático y sus derivados hidrogenados, y sus combinaciones.

El adhesivo para conectar al cuerpo 31 empleados en el artículo de acuerdo con la presente invención puede tener más de aproximadamente 50% en peso de un plastificante líquido, tal como más del 65% en peso de una plastificante líquido. Los plastificantes líquidos adecuados pueden incluir aceites blancos, aceites minerales, aceites de procesos parafínicos, polietilenglicol, glicerina, polipropilenglicol, aceites napténicos y politerpenos líquidos. El plastificante líquido tiene preferiblemente un peso molecular menor de 100 g/mol, más preferiblemente menos de 750 g/mol y más preferiblemente menos de 500 g/mol.

El adhesivo conectable al cuerpo 31 puede ser del tipo descrito en al Patente U.S.6191189USB No 6,191,189 otorgada a Cinelli et al. En particular, el adhesivo puede comprender:

- De 0.5 a 20% preferiblemente 5% a 15%, por peso de una sustancia polimérica macromolecular o una mezcla de tales sustancias solubles o hinchables en el plastificante mencionado anteriormente. Como ejemplos no limitantes tales sustancias macromoleculares o

poliméricas pueden ser naturales y/o sintéticas tal como gomas naturales o derivados tal como gomas naturales y gelatinas, sus derivados y alginatos; poliacrílicos; alcohol polivinílico; óxido de polietileno; 5 polivinilporrolidona (PVP) o poliviniléteres, sus copolímeros y derivados; derivados de celulosa; elastómeros termoplásticos de copolímeros en bloque y preferiblemente copolímero en bloque sintético y más preferiblemente los grados hidrogenados de 10 estírol/etileno-butileno/estírol (SEPS);

- De 45 a 99.5% en peso, preferiblemente de 51 a 99.5% en peso, de una sustancia plastificante o una mezcla de sustancias plastificantes, que son líquidas a 15 temperatura ambiente. Ejemplos no limitantes de plastificadores pueden ser agua, varios alcoholes (en particular glicerol) glicoles y sus éteres, poliglicoles, polibutenos líquidos, ésteres de tales ftalatos, adipatos, estearatos, palmitatos, sebacatos, o 20 miristatos, aceites naturales o sintéticos tal como aceite vegetal, aceites minerales o, sus combinaciones;

- De 0% a 50% en peso de la composición, preferiblemente de 0 a 600% por peso de la sustancia polimérica 25 macromolecular de una resina pegajosa cuyo alcance principal está dirigido al Tg especialmente en sistemas basados en polímeros sintéticos.

- De 0 a 10% y más preferiblemente de 0 a 5% en peso de sustancias para facilitar y estabilizar el gel y el proceso formador de gel hidrófilo o plastificantes líquidos hidrólogos. Estos pueden ser para sistemas aceitosos, por ejemplo, los ácidos grasos de C_8 a C_{22} , sus sales metálicas y sus derivados polioxo; derivados de lanolina, sílice; bentonita, montmorilonita y sus derivados; poliamidas, ceras o sus mezclas.

10

El adhesivo también puede ser del tipo descrito en la Patente U.S 6213993USB No 6,213,993 otorgada a Zacharias et al, en particular el adhesivo puede comprende:

15

- Un adhesivo basado en caucho tal como estirenoburadieno, poliisobutileno, polibutadieno y poliisopreno; un adhesivo soluble en agua tal como alcohol polivinílico acetato de polivinilo, y metil celulosa; un adhesivo de fundido en caliente tal como copolímero de bloque de estireno-butadieno-estireno, estireno-isopreno-estireno, estireno-etilino-propileno-estireno; estireno-etileno-butileno-estireno y copolímeros de tetrabloque tal como estireno-etileno-propileno-estireno-etileno-propileno.

20

25

Se pueden incorporar con los adhesivos las resinas pegajosas adecuadas y, si es apropiado, aceites.

Otros tipos de adhesivos incluidos aquí son los geles anhidros que consisten de polímero 2-hidroxietilmetacrilato, polietilenglicol y opcionalmente agua como se enseña en la patente U.S. 4303066USA No. 4,303,066 y geles de poliuretano, como se describe en la patente U.S. 4661099USA No 4,661,099, o geles de silicona que incluyen productos comerciales tal como Silgel 612 de Wacker Silicone (Adrian, MI) o SSA-9700 Solf Skin Adhesives Dow-Corning (Midland, MI).

Otras composiciones adhesivas adecuadas, incluyen, por ejemplo, adhesivos sensibles a la presión basados en agua tal como adhesivos acrilato. Alternativamente, las composiciones adhesivas pueden incluir adhesivos basados en lo siguiente: Adhesivos nacidos en disolventes o emulsión de poliisopreno natural o sintético, estireno-butadieno, o poliacrilato, copolímero de vinil acetato o sus combinaciones; adhesivos de fusión en caliente basados en copolímero de bloque adecuado - copolímero de bloque adecuado para uso en la invención incluyen estructuras de copolímero radial o lineal que tiene la fórmula $(A-B)_X$ en donde el bloque A es un bloque de polivinilareno, el bloque B es un bloque de poli(monoalquenilo), X denota el número de brazos poliméricos, y en donde X es un entero mayor que o igual a uno. El bloque A de polivinilareno incluye, pero no se limitan a poliestireno, polialfa-metilestireno, poliviniltolueno, y sus combinaciones. Los bloques de poli(monoalquenilos) de bloque B adecuados incluyen, pero no se limitan a elastómeros dieno conjugados tal como por

ejemplo polibutadieno o poliisopreno o elastómeros
 hidrogenados tal como etileno butileno o etileno propileno o
 poliisobutieleno o sus combinaciones. Ejemplos comerciales de
 estos tipos de copolímeros en bloque incluyen elastómeros
 5 KRATON de Shell Chemical Company, elastómeros VECTOR de
 Dexco, SolpreneTM de Enichem Elastómeros STERION de Firestone
 Tire&Rubber Co.; adhesivos de fundido en calor basados en
 polímeros de olefinas y copolímeros en donde el polímero de
 olefinas es un terpolímero de etileno y unos co-monómeros,
 10 tal como vinil acetato, ácido acrílico, (ácido metacrílico,
 acrilato de etilo, anhídrido maléico o silano vinilo acrilato
 n-butilo. Ejemplos comerciales de estos tipos de polímeros
 incluyen Ateva (polímero de plásticos AT), Nucrel (polímeros
 de DuPont), Escor (de Exxo Chemical).

15

Ensamble de Retención de Fluidos

Las toallas sanitarias de la presente invención incluyen
 ensambles de retención de fluido 37, como se utiliza aquí, el
 20 término "ensamble de retención de fluidos" se refiere a
 cualquier material o capas de múltiples materiales cuya
 función principal es absorber, almacenar o distribuir fluido
 especialmente menstruación que se descarga por el usuario y
 se evita el retroflujo de los fluidos almacenados hacia la
 25 cubierta y el contacto con el usuario.

El ensamble de retención de fluido 37 puede incluir una
 capa sencilla de material o puede incluir múltiples capas

(por ejemplo, un núcleo absorbente recubierto por una llamada capa de "transferencia" "distribución" o "adquisición"). En una modalidad, el ensamble de retención de fluido 37 es una mezcla de fibras celulósicas o superabsorbentes dispuestas en
5 y entre las fibras de esa pulpa.

Es posible que el ensamble de retención de fluido 37 se pueda integral con la cubierta y/o barrera de tal manera que exista solo esencialmente una estructura de capa sencilla o
10 una estructura de dos capas que incluya la función de múltiples capas descritas aquí.

Las fibras celulósicas que se pueden utilizar en el ensamble de retención de fluidos 37 se conocen bien en la técnica e
15 incluyen pulpa de madera, algodón, lino y serina. Se prefiere la pulpa de madera. Las pulpas se pueden obtener a partir de materiales mecánicos o quimimecánicos, sulfito, kraft, materiales de rechazo de pulpa, pulpas de disolventes orgánicos, etc. Las especies de maderas blandas y duras son
20 útiles. Las pulpas de madera blanda se prefieren. No es necesario tratar las fibras celulósicas con agentes de descomposición química, agentes de reticulación y similares para uso en los materiales actuales. Alguna porción de la pulpa se puede tratar químicamente como se describe en la U.S
25 5,916,670 para flexibilidad mejorada del producto. La flexibilidad del material también se puede mejorar mediante trabajo mecánico del material o ablandamiento del material. El ensamble de retención de fluidos 37 puede contener

cualquier polímero superabsorbente (SAP), cuyo SAP se conoce bien en la técnica. Para los propósitos de la presente invención el término "polímero superabsorbentes" (o "SAP") se refiere a materiales que son capaces de absorber y retener
5 por lo menos aproximadamente 10 veces su peso en fluidos corporales bajo una presión de 0.5 psi. Las partículas de polímero superabsorbente de la invención pueden ser polímero hidrófilos reticulados orgánicos o inorgánicos, tal como alcoholes polivinílicos, óxidos de polietileno, almidones
10 reticulados, goma guar, goma xantano, y similares. Las partículas pueden estar en la forma de un polvo, granos, gránulos, o fibras. Las partículas de polímeros superabsorbente preferidas para uso en la presente invención son poliacrilatos reticulados, tal como el producto ofrecido
15 por Sumitomo Seika Chemical Co., Ltd de Osaka, Japon, bajo la designación de SA70N y productos ofrecidos por Stockhausen Inc.

El ensamble de retención de fluidos 37 puede comprender
20 un material fabricado al utilizar medios de colocación en el aire bien conocidos en la técnica. En un ejemplo específico, el ensamble de retención de fluido 37 es un material de colocación en el aire hecho de fibras celulósicas, materiales de pegado y componentes que no pueden formar una unión
25 (materiales no unidos) con los otros materiales de componente. En una modalidad específica de la invención, el sistema absorbente está compuesto de pulpa de lanilla.

Adhesión del Ensamble de Retención de Fluidos a la Capa de Barrera

En ciertas modalidades de la invención, el ensamble de retención de fluidos 37 se asegura a la capa de barrera extensible 24 a lo largo de una porción seleccionada 36 del área de yuxtaposición 34. El aseguramiento se puede hacer por medio de adhesivos de construcción, pegado al calor, pegado ultrasónico, sellado de radio frecuencia, grapado mecánico, o técnicas similares conocidas en el arte de unir fibras y/o materiales de película para uso en artículos absorbentes.

En una modalidad, la porción seleccionada 36 se asegura utilizando un adhesivo de construcción. Los adhesivos de construcción adecuados incluyen, por ejemplo, adhesivos de fundido por calor, tal como aquellos que son suficientemente sensibles a la presión a temperaturas elevadas (aplicación) y tienen suficiente resistencia de pelado y resistencia cohesiva a temperatura ambiente para mantener una unión firme en la porción seleccionada 36 de la capa de barrera a la porción de retención de fluido 37 mientras que la toalla sanitaria está en uso. El adhesivo de construcción puede incluir copolímeros de bloque, plastificantes y/o resinas de pegado o de refuerzo.

Capa de Cubierta

La toalla sanitaria puede incluir la capa de cubierta 22. La capa de cubierta 22 puede incluir material de red no tejido, una película termoplástico abierta (tal como aquella descrita en la Patente U.S. No. 4,690,679), o sus combinaciones. La capa de cubierta 22 puede estar compuesta de solo un tipo de fibra, tal como poliéster o polipropileno o este puede incluir una mezcla de más de una fibra. La capa de cubierta 22 puede estar compuesta de fibras conjugadas o bi-componentes que tienen un componente de bajo punto de fusión y un componente y un componente de alto punto de fusión. Las fibras se pueden seleccionar de una variedad de materiales naturales y sintéticos tal como nailon, poliéster, rayón (en combinación con otras fibras), algodón fibras acrílicas y similares y sus combinaciones. Preferiblemente, la capa de cubierta 22 tiene un peso base en el rango de aproximadamente 10 gsm a aproximadamente 75 gsm.

Las fibras bi-componentes adecuadas para uso en la capa de cubierta 22 se pueden hacer de una capa de poliéster y una lámina de polietileno. El uso de materiales bi-componentes apropiados resulta en una tela no tejida fusible. Ejemplos de tales telas fusibles se describen en la Patente U.S. No. 4,555,430 publicada en Noviembre 26, 1985 otorgada a Chicopee. La utilización de una tela fusible incrementa la facilidad con la que la capa de cubierta 22 se puede montar en la capa absorbente y/o la capa de barrera.

El material de cubierta debe contener preferiblemente una cantidad significativa de aberturas o poros relativamente grandes. Esto se debe a que la capa de cubierta 22 está destinada a tomar el fluido corporal rápidamente y transportarlo lejos del cuerpo y del punto de deposición. Por lo tanto, la capa de cubierta 22 contribuye poco al tiempo tomado para que la toalla absorba una cantidad dada de líquido (tiempo de penetración)

10

Ventajosamente, las fibras que hacen que la capa 22 no sea floja son sus propiedades físicas cuando ellas se humectan, en otras palabras ellas no deben colapsar o aflojar su elasticidad cuando se someten al agua o a los fluidos corporales. La capa de cubierta 22 se puede tratar para permitir que los fluidos pasen a través de esta fácilmente. La capa de cubierta 22 también funciona para transferir rápidamente el fluido a las otras capas del sistema absorbente 44. Así, la capa de cubierta 22 se humecta ventajosamente, es hidrófila y porosa. Cuando está compuesta de fibras hidrófobas sintéticas tal como fibras de poliéster o bi-componentes, la capa de cubierta 22 se puede tratar con un tenso activo para impartir el grado deseado de humectabilidad.

25

Las fibras de la cubierta no tejidas se pueden pegar mediante cualquiera de varios medios tal como "spunlacing (hidroentramado), termopegado, pegado con látex y similares.

La capa de cubierta 22 con el ensamble de retención de fluido 37 con el fin de ayudar en promover la hidrofiliidad al fusionar la capa de cubierta 22 con la siguiente capa. Tal fusión se puede efectuar localmente, en una pluralidad de sitios o sobre la superficie de contacto completa de la capa de cubierta 22 y el sistema absorbente 44. Alternativamente, la capa de cubierta 22 se puede adherir al ensamble de retención de fluido 37 mediante otros medios tal como adhesión.

Otras Estructuras y Atributos

Las toalla sanitaria de acuerdo con la presente invención son preferiblemente delgadas, tienen preferiblemente un espesor de menos de 4.0 mm, más preferiblemente menos de 3.0 mm, y más preferiblemente menos de 2.5 mm.

Cualquiera o toda la cubierta, la capa absorbente, la capa de transferencia, la capa de respaldo, y las capas adhesivas se pueden colorear. Tales colores incluyen, pero no se limitan a, blanco, negro, rojo, amarillo, azul, naranja, verde, violeta, y sus mezclas. El color se puede impartir de acuerdo con la presente invención a través de tinte, pigmentación, e impresión. Los colorantes utilizados de acuerdo con la presente invención incluyen tintes y pigmentos orgánicos e inorgánicos. Los tintes incluyen, pero no se

limitan a, tintes de antraquinona (Disolventes Rojos 111, Violeta Disperso 1, Disolvente Azul 56, y Disolvente Verde 3), tintes de Xantano (Disolvente Verde 4, Rojo Ácido 52, Rojo Básico 1, y Disolvente Naranja 63), tintes de azina 5 (Chorro Negro), y similares. Los pigmentos inorgánicos incluyen, pero no se limitan a, dióxido de titanio (blando), negro de humo (negro) óxido de hierro (rojo, amarillo, y café), óxido de cromo (verde), ferrocianuro de amonio férrico (azul) y similares.

10

Los pigmentos orgánicos incluyen, pero no se limitan a amarillo diariluro (AAOA) (Pigmento Amarillo 12), amarillo diariluro AAOT (Pigmento Amarillo 14), azul ftalocianina (Pigmento Azul 15), rojo litol (pigmento rojo 49:1), rojo 15 lago C (Pigmento Rojo), y similares.

El artículo absorbente puede incluir otros materiales conocidos, capas, y aditivos tal como, espuma, material similar a red, perfumes, medicamentos o agentes 20 farmacéuticos, humectantes, agentes de control de olor y similares. El artículo absorbente puede opcionalmente ser repujado con diseños decorativos.

El artículo absorbente se puede empacar como artículos 25 absorbentes desenvueltos dentro de un cartón, caja o bolsa. El consumidor retira el artículo listo para uso según los necesite. El artículo absorbente también se puede empacar

individualmente (cada artículo absorbente es envuelto dentro de una cubierta).

Mientras que la forma general de la toalla sanitaria
 5 puede ser simétrica como se muestran en las figuras, también
 se contempla aquí que incluyen artículos absorbentes
 asimétricos y simétricos que tienen bordes longitudinales
 paralelos, con forma de maní o hueso de pero, así como
 también artículos que tienen una construcción ahusada para
 10 uso con prendas interiores de estila tanga.

La toalla sanitaria de la presente invención se puede
 aplicar a la entrepierna al colocar el adhesivo para contacto
 con el cuerpo contra la región interior del muslo del
 usuario, asegurando por los tanto el ensamble absorbente
 15 contra la región perineal.

Procedimiento de Prueba para Artículos Sanitarios:

Procedimiento para Medir (1) Fuerza de Pelado (2) Fuerza de
Pico para Tensión 20% de Toalla Sanitaria Adherible al
 20 Cuerpo.

De acuerdo con un cierto aspecto de la invención, con el
 fin de proporcionar dolor reducido así como también ubicación
 en el lugar mejorado, las toallas sanitarias adheribles al
 25 cuerpo tienen una energía de Pelado G_c y un módulo de Young,
 E que satisface la siguiente relación:

$$G/tE > 0.1 \text{ N/m}; \text{ y } tGE < 2 \times 10^5 \text{ N}^2/\text{M}^2$$

G/tE es una medida de la capacidad de la toalla sanitaria que enfrenta el cuerpo para permanecer en el lugar. Se calcula utilizando la "fuerza de pelado", P, que a su vez se determina utilizando el PROCEDIMIENTO DE FUERZA DE PELADO. El tGE es una medición de la capacidad de la toalla sanitaria para ser pelada del cuerpo con dolor reducido. Se calcula utilizando los resultados del procedimiento de prueba de fuerza de pelado así como también la "fuerza de pico en resistencia del 20%", F, la ultima de las cuales se determina utilizando la fuerza de pico -PROCEDIMIENTO DE PRUEBA DE RESISTENCIA DEL 20%. EL PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO y la fuerza de pico -procedimiento de prueba de resistencia 20% cada uno se establece en detalle adelante.

15

La "fuerza de Pelado" se determina mediante una prueba desarrollada como sigue. El PROCEDIMIENTO DE FUERZA DE PELADO es una medida de la fuerza requerida para pelar un adhesivo de una lámina estándar de película plástica. El aparato necesario para el procedimiento de prueba de fuerza de pelado incluye las siguientes partes:

20

(1) Un manómetro para medición de fuerza y más específicamente una célula de carga de tensión invertida Instron. La máquina de prueba Instron Universal con célula de carga capaz de medir las fuerzas de tensión de 10 a 200 gramos (capacidad preferida 2000 gramos), tal como la máquina Instron,

25

por ejemplo, Instron 1122 o 1125, disponible comercialmente de Instron Engineering Corporation, Canton, Mass.

5 (2) Mecanismo de pelado de 90 grados tal como Instron 2820-035 o 2820-036

(3) Una grapa adherible para manómetro de medición de fuerza y adecuado para halar una tira de pelado de 1
10 cm sin deslizamiento o rasgado (por ejemplo, placas de quijada de caucho de 1 ½" X 1").

(4) Piezas de 2.5" por 7" de doble cinta de cinta de barra, por ejemplo, PERMACEL disponible de Permacel,
15 A Nitto Denko Company of East Brunswick, NJ

(5) Plástico rígido o placa de metal para agarrar un dispositivo de pelado y adherir cinta de barra doble y secciones de toalla. Aproximadamente de 3" por
20 7".

(6) Secciones de un centímetro de ancho por 12" de largo de película de poliolefina (aquí en adelante, "película adherente") por ejemplo, Pliant # 3471 0.7
25 mil de película de polipropileno blanca.

La Figura 6 describe una vista lateral esquemática de un aparato 60 adecuado para el PROCEDIMIENTO DE PRUEBA DE FUERZA

DE PELADO. El adhesivo para cuerpo se debe proteger del ambiente hasta brevemente antes de prueba mediante una liberación del recubrimiento o cubierta similar. Una muestra de la sección de adhesivo corporal de la toalla se corta para
5 formar muestras de prueba 62. La muestra de prueba 62 debe ser por los menos un centímetro de ancho y preferiblemente 6'' pulgadas de longitud. Sin ninguna de tales regiones continuas de los adhesivos que enfrentan el cuerpo existe, entonces una debe escoger una porción de 1 cm de ancho y 6''
10 pulgadas de largo que abarca luego la mayor cantidad de adhesivo para contacto con el cuerpo como sea posible. La capa de material en contacto con el adhesivo corporal se deja intacta pero capas menores se remueven de tal manera que la muestra de prueba es tan plana como sea posible. La muestra
15 de prueba restante incluye así un sustrato 64 y adhesivo para contacto con el cuerpo 66. La cinta de barra doble 68 se adhiere a la placa rígida 70 de tal manera que el adhesivo que enfrenta el cuerpo 66 se enfrenta. Cualquier recubrimiento liberado se remueve y la película adherente 72
20 se coloca sobre la muestra de adhesivo corporal con el extremo largo hacia la grapa de tornillo 5. Se coloca una pieza de 1'' cuadrada de papel liberable (si no se proporciona papel liberable con la muestra de prueba, se puede utilizar cualquier tira liberable adecuada) se coloca
25 en el punto en donde la muestra de 1 cm gira a 90°, esta será el punto de partida de la prueba. La película adherente 72 se cubre con papel liberable y se enrolla una vez con un peso de 5 Lb. La película de liberación se remueve luego. La placa

rígida 70 se adhiere firmemente a la etapa 74. La grapa Instron 76 se adhiere al extremo de la película adherente 72 con la pieza cuadrada de papel de liberación, que a su vez se adhiere rígidamente para poderse mover en forma cruzada 80 del Instron.

La célula de tensión 78 se le permite calentarse 20 minutos antes de partir al procedimiento de calibración. La célula de carga se calibra una vez antes que se haga cualquier prueba en un día dado. La calibración se desarrolla según las instrucciones del fabricante, al adherir un estándar de 100 gramos de masa directamente a la célula de carga.

La etapa 74 es tal que es capaz de deslizarse con poca fricción en una dirección normal con respecto a la parte de cabeza cruzada 80, permitiendo así que la película se pele del adhesivo en un ángulo continuo de 90 grados. Como tal esta puede incluir el rollo 80 con el fin de reducir la fricción. La velocidad de cabeza de cruce se establece en 10.00 In/Min.

El aparato de medición de fuerza registra la fuerza de la película adherente 72 que se pela (pelado) de la placa rígida a la que el adhesivo de cuerpo se adhiere. La fuerza de pelado medida se registra como el tiempo de fuerza promediado de una sección del registro XY cuando ocurre pelado estable. Como los determina fácilmente el experto en

la técnica, por "pelado estable" significa que el periodo de tiempo de la medición de fuerza puede ser delineado claramente como el inicio y la terminación del pelado.

5 Esta fuerza de pelado promedio, P se utiliza luego para calcular la Energía de Pelado, G_c del adhesivo corporal, como se establece utilizando el cálculo adelante:

$$G_c = \{P^2 / (2 A E w)\} + \{P / (1 - \cos \theta) w\}$$

10

θ = ángulo relativo al plano de etapa a lo largo del cual se hala la película = 90 grados,

que implica $1 - \cos \theta_{\text{pelado}} = 1 - \cos 90^\circ = 1$

15

P = fuerza de pelado medida de PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO

w = ancho de la película adherente

20

E_f = módulo elástico de la película adherente.

A = área de sección transversal de la película adherente.

25

Energía de Pelado, G_c del adhesivo corporal se utiliza luego para calcular G_c/tE , en donde t = espesor de la película adherente, y de nuevo, E = módulo elástico de la

película adherente. Esta también se utiliza para calcular tGE, descrito adelante.

5 "Fuerza de Pico en resistencia del 20%" se determina por una prueba desarrollada como sigue. LA FUERZA DE PICO-PROCEDIMIENTO DE PRUEBA DE RESISTENCIA 20% es una medición de la fuerza requerida para inducir una resistencia del 20% en la toalla sanitaria.

10 El aparato necesario para LA FUERZA DE PICO -PROCEDIMIENTO DE PRUEBA DE RESISTENCIA 20% incluye las siguientes partes:

1. Máquina de prueba Instran Universal con célula de
15 carga capaz de medir la fuerza de tensión hasta 50 libras.

2. Grapas superior e inferior de dos pulgadas de
ancho para grapar una estructura de toalla típica
20 sin deslizar o rasgar.

La FUERZA DE PICO-PROCEDIMIENTO DE PRUEBA DE RESISTENCIA 20% se puede desarrollar utilizando un aparato similar al aparato 60 descrito anteriormente con respecto al
25 procedimiento de prueba de fuerza de pelado y la figura 6. La liberación del papel se remueve de las tiras de adhesivo corporales. El polvo de talco se aplica sobre la porción pegajosa para eliminar el pegante. Dos puntos en los costados

opuestos de la línea central longitudinal de la toalla que están cubiertos con adhesivo corporal se seleccionan como los puntos de prueba.

5 Estos puntos se pueden oponer directamente a la línea central longitudinal de la otra o una puede estar adicionalmente al frente o atrás de la otra ("posicionamiento frente a atrás" está en la discreción del probador). Los puntos, son embargo se deben seleccionar de tal manera que
 10 cada punto se pueda central a través del ancho de su grapa particular. El ancho completo de la grapa estará en contacto con la toalla sanitaria. La distancia entre los dos puntos se mide y la longitud sobre la máquina de prueba se establece para este valor. La velocidad de la cabeza transversal se
 15 establece en 5.00 pulgada/min y el límite de carga se establece en 45 lb para célula de carga de 50 lb. La toalla sanitaria se estira a un 20% es decir, el cambio en longitud entre los puntos de prueba como un resultado del estiramiento por vía del aparato de prueba es 20% de la longitud original
 20 entre puntos de prueba. La Fuerza de Pico en la resistencia del 20% en gramos se lee luego del aparato de prueba. Se prueban 5 replicas para determinar una Fuerza de Pico promedio en 20% de resistencia para la toalla sanitaria. El producto, $E_{nap\tau}$ se calcula utilizando la fórmula de adelante:

25

$$E_{nap\tau} = F/W\epsilon$$

$E_{nap\tau}$ = módulo elástico efectivo de la toalla

t = Espesor de la toalla sanitaria

F = Fuerza de pico en 20% de resistencia, medido por la prueba de resistencia 20%

W = Ancho de la grapa sobre el que se sostiene el espécimen

ε = Cepa inducida por procedimientos de prueba = 0.2

$E_{nap}t$ = se multiplica por G_c , como se calculo previamente (de la Fuerza de Pelado, P que se midió previamente en el PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO) para determinar $tG_c E_{nap}$, una medición de la capacidad de la toalla sanitaria para ser pelado del cuerpo con dolor reducido.

Ejemplos de Toalla Sanitaria de la Invención

Los ejemplos específicos de las toallas sanitarias de la invención se describen adelante. También se proporcionan ejemplos comparativos.

Todos los ejemplos, excepto cuando se note utilizan una cubierta no tejida multidenier de 30 gsm a menos en donde se note.

Toallas Sanitarias de la Invención. Ejemplo 1

Se hace una toalla sanitaria adherible al cuerpo de acuerdo con las modalidades de la invención, en la que la porción que retiene el fluido se adhiere a la capa de barrera

extensible en una porción dispuesta centralmente de una región de yuxtaposición y despegado para dicha capa de barrera extensible en otras porciones de la región de yuxtaposición- similar a la construcciones de Toalla Sanitaria mostradas en la Figura 5. El área de adhesión mide 25 mm de ancho por 100 mm de largo. En la capa de barrera extensible es altamente extensible, ADC # 9540002, y 80 gsm de poliuretano/polietileno no tejido spunbond, disponible comercialmente de BBA Nonwovens de Peine, Alemania. El adhesivo para contacto corporal se selecciona para fuerte capacidad de permanecer en el lugar NS 548B, disponible comercialmente de Nacional Starch Corportion of Bridgewater, NJ. El adhesivo para contacto corporal está presente en una base en peso de 76 gsm.

15

Toalla Sanitaria de la Invención. Ej. 2

20

Se hace una toalla sanitaria adheridle al cuerpo de acuerdo con las modalidades de la invención, con una construcción similar al Ejemplo.1. La capa de barrera extensible es moderadamente extensible, un umbral de 30 gsm de polipropileno disponible comercialmente de PGI, Inc of Dayton, NJ. El NS 548B de adhesivo para contacto corporal está presente en una base en peso de 82 gsm.

Toalla Sanitaria de la Invención. Ej. 3

Una toalla sanitaria adherible al cuerpo se hace de acuerdo con las modalidades de la invención, con una construcción similar al ejemplo 1. La capa de barrera extensible es altamente extensible ADC # 95440002. El adhesivo conectable al cuerpo se selecciona para la capacidad de permanecer en el lugar., Fuller 1407, disponible comercialmente de HB HB Fuller Co., de St Paul, Mimosota. El adhesivo para conexión al cuerpo está presente en una base en peso de 83 gsm.

Toalla Sanitaria de la Invención. Ej. 4

Una toalla sanitaria adherible al cuerpo se hace de acuerdo con las modalidades de la invención, con una construcción similar al ejemplo 1. Excepto que la porción de retención de fluido no incluye porciones que no se adhieren a la capa de barrera extensible. La capa de barrera extensible es ADC # 95440002 altamente extensible. El adhesivo conectable al cuerpo es el adhesivo NS 548B "más fuerte". El adhesivo conectable al cuerpo está presente en una base en peso de 83 gsm.

Toalla Sanitaria de la Invención. Ej. 5

Una toalla sanitaria adherible al cuerpo se hace de acuerdo con las modalidades de la invención, con una

construcción similar al ejemplo 4. La capa de barrera extensible es ADC # 95440002 altamente extensible. El adhesivo conectable al cuerpo es el adhesivo Fuller 1407 "más débil". El adhesivo conectable al cuerpo está presente en una

5 base en peso de 86 gsm.

Ejemplo Comparativo, Toalla Sanitaria, Ejemplo Comparativo,
Ej. 1

10 Una toalla sanitaria adherible al cuerpo se hace en una construcción similar al ejemplo 4. La capa de barrera extensible se selecciona por tener pobre extensibilidad, un material compuesto SMMS de 25 gsm disponible comercial mente de BBA Nonwovens. El adhesivo con el cual el cuerpo es el

15 adhesivo NS 548B "Más fuerte".

Ejemplo Comparativo, Toalla Sanitaria, Ejemplo Comparativo,
Ej. 2

20

Una toalla sanitaria adherible al cuerpo se hace en una construcción que tiene una capa de cubierta y una capa de barrera que se extiende más allá de la capa de retención de fluido, y el adhesivo conectable al cuerpo presente sobre la

25 cubierta. Así la toalla sanitaria es similar a una prenda interior convencional adherida a la toalla sanitaria, pero con el adhesivo conectable al cuerpo aplicado sobre el costado superior de la capa de cubierta. La capa de cubierta

es un poliuretano spunbond de 80 gsm/ no polietileno no tejido. La capa de barrera extensible es el ADC # 95440002 altamente extensible. El adhesivo conectable al cuerpo es el adhesivo NS 548B "Más fuerte".

5

Ejemplo Comparativo, Toalla Sanitaria, Ejemplo Comparativo,
Ej. 3

Una toalla sanitaria adherible al cuerpo se hace con una
10 construcción similar al ejemplo comparativo 4. La capa de barrera extensible es polipropileno termopelado de 30 gsm moderadamente extensible. El adhesivo conectable al cuerpo es el adhesivo NS 548B "Más fuerte". El adhesivo conectable al cuerpo está presente sobre una base en peso de 83 gsm.

15

Ejemplo Comparativo, Toalla Sanitaria, Ejemplo Comparativo,
Ej. 4

Una toalla sanitaria adherible al cuerpo se hace de
20 acuerdo con las modalidades de la invención, con una construcción similar al ejemplo 4. La capa de barrera extensible es SMMS pobremente extensible. El adhesivo conectable al cuerpo es el adhesivo Fuller 1407 "más débil". El adhesivo conectable al cuerpo está presente en una base en
25 peso de 58 gsm.

Las toallas sanitarias adecuadas para uso en la presente invención y las muestras comparativas se prueban de acuerdo

con los métodos de prueba descritos en la sección "Procedimientos de Prueba para Artículos Sanitarios" anterior.

5 La fuerza de pelado, P en gramos se mide utilizando el PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO. Se utiliza la película Pliant # 3471 de 0.7 mil de propileno blanco como la película adherente para la prueba. La energía de pelado, G_c se calcula utilizando la formula descrita anteriormente. La
10 fuerza de pelado en gramos del PROCEDIMIENTO DE PRUEBA DE FUERZA DE PELADO. Se convierte a unidades de Newtons al multiplicar por un factor de conversión geométrico de 0.0098 N/g. para este adherente de película particular, el área en sección transversal de la película adherente, A es 0.000018 m
15 (ancho, w , es 0.01 m y espesor, t es 0.000018 m) y el módulo elástico del adherente de película E_f es 383×10^6 N/m². G_c , calculado de esa manera, tiene unidades de J/M² G_c/tE , la medida de permanencia en el lugar, se calcula luego utilizando el espesor de la película adherente, t y el módulo
20 elástico, E_f de la película adherente.

La fuerza de pico en resistencia del 20% medida utilizando la fuerza pico del PROCEDIMIENTO DE PRUEBA DE RESISTENCIA DEL 20%. La fuerza de pico en resistencia del 20%
25 de combinación en unidades de Newtons al multiplicar por un factor de conversión geométrico de 0.0098 N/g. El ancho W de la grapa es 2 pulgadas = a 5.8 cm. tGE , una medida de la capacidad de la toalla sanitaria para ser pelada del cuerpo

cón dolor reducido se calcula de esta manera, tiene unidades de N^2/m^2 .

Los resultados de los cuales se establecen en la Tabla 1
5 adelante.

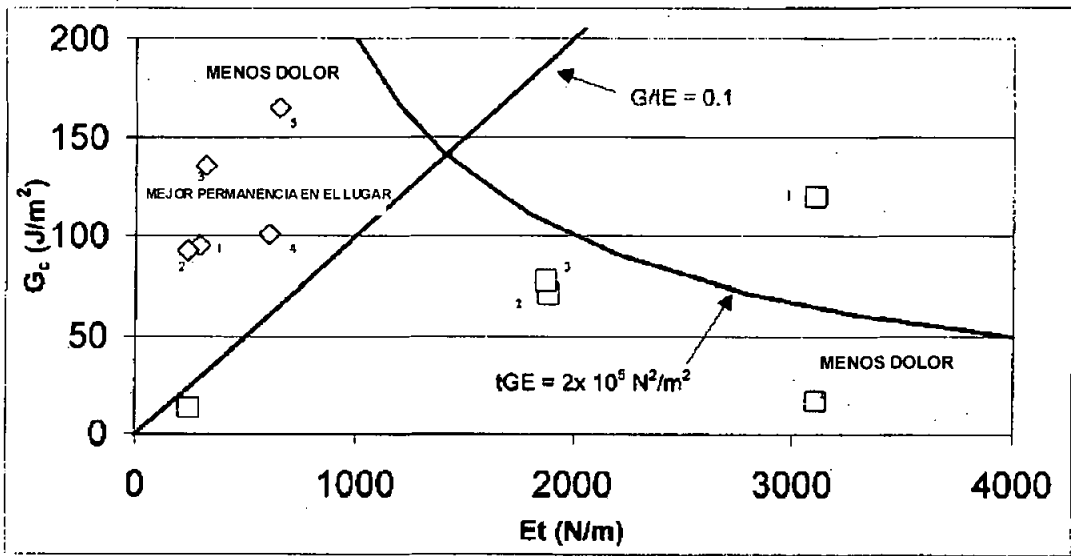
Tabla 1

Muestra	Fuerza de pelado, F (g)	Energía de pelado, G (J/m2)	Fuerza de Pico @ Resistencia del 20%, F (g) CENTRO	Fuerza de Pico @ Resistencia del 20%, F (g) FIN	Et (N/m) CENTRO	Et (N/m) FIN	tGE (N2/m2)	G/Et
Ej. 1	96.6	94.7	471	302	454.3	291.3	2.8E+04	0.3252111
Ej. 2	93.92	92.1	519	246	500.6	237.3	2.2E+04	0.3881591
Ej. 3	137.18	134.6	544	333	524.7	321.2	4.3E+04	0.4189559
EJ.4	102.11	100.1	941	629	907.7	606.7	6.1E+04	0.1650555
EJ.5	166.43	163.3	1004	678	968.4	654.0	1.1E+05	0.2496979
Ej. Comp 1	121.38	119.1	4369	3219	4214.2	3104.9	3.7E+05	0.0383441
EJ. Comp 2	72.27	70.9	2641	1950	2547.4	1880.9	1.3E+05	0.0376741
EJ. Comp 3	79.19	77.7	2698	1940	2602.4	1871.3	1.5E+05	0.0414963
Ej. Comp 4	18.32	18.0	4632	3221	4467.9	3106.9	5.6E+04	0.0057794

Los resultados se muestran gráficamente en la Figura 7.
El ejemplo particular se hace coincidir con los puntos de
10 datos en la Figura. Los puntos sobre las líneas, $G/tE = 0.1$
indican alta permanencia en el lugar. Los puntos por debajo
de la curva $tGE = 2 \times 10^5 N^2/m^2$ indican menor dolor de
remoción. Los puntos en el cuadrante superior izquierdo (en

donde caen los ejemplos 1-5) combinan alta permanencia en el lugar así como también menor dolor de remoción.

FIG. 7



5

En vista de los anteriores artículos absorbentes y los resultados de los procedimiento de prueba suministrados aquí, se puede ver que las toallas sanitarias de la presente invención permanecen adheridas de forma segura al cuerpo durante el uso, se mueven con el cuerpo durante el uso, aún en el mismo momento permiten al usuario remover selectivamente la toalla en una forma libre de dolor.

10

15

Las aplicaciones de la toalla sanitaria de acuerdo con la presente invención para usos sanitarios y otros cuidados de la salud se pueden lograr mediante cualquier protección sanitaria, incontinencia, técnicas y métodos absorbentes y método son actualmente o prospectivamente conocidos por aquellos expertos en la técnica. Así, se pretende que la

presente solicitud cubra las modificaciones y variaciones de esta invención proporcionada que estén dentro del alcance de las reivindicaciones adjunta y sus equivalentes.

REIVINDICACIONES

Reivindico:

5 1. Una toalla sanitaria adherible al cuerpo, que comprende

una capa de cubierta permeable a fluido;

una capa que retiene fluido; y

10

una capa de barrera que tiene un adhesivo conectable
dispuesto sobre por lo menos primeras porciones de ésta
en donde dicha toalla sanitaria satisface lo siguiente

15

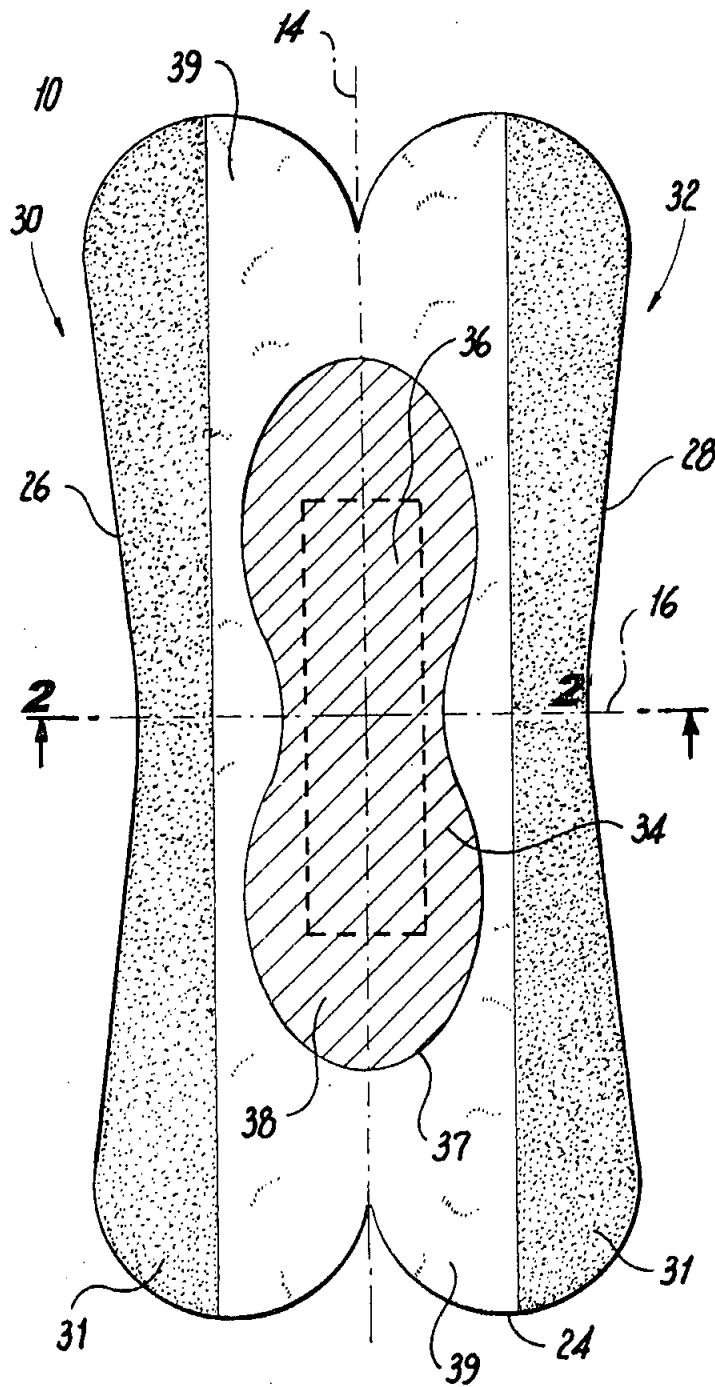
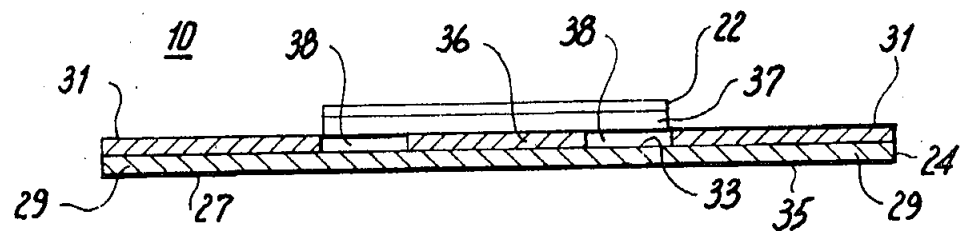
$$G/tE > 0.1 \text{ N/m}; \text{ y } tGE < 2 \times 10^5 \text{ N}^2/\text{M}^2$$

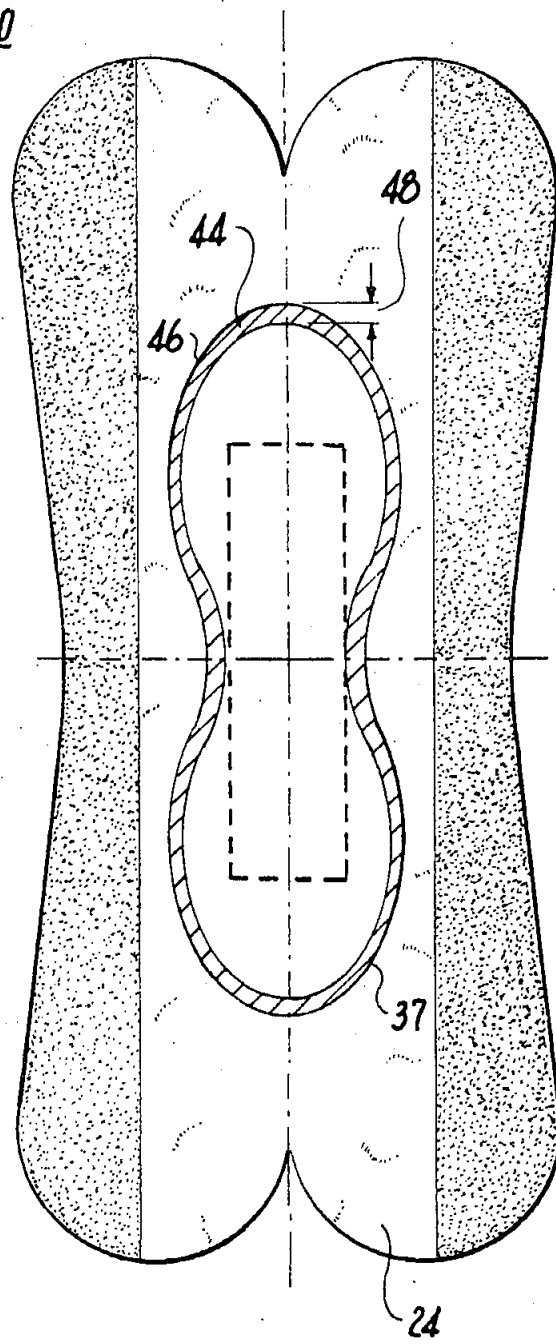
2. La toalla sanitaria adherible al cuerpo de la
reivindicación 1, en donde dicha capa de barrera tiene
una primera porción y una segunda porción, dicha segunda
20 porción tiene un adhesivo adherible al cuerpo dispuesto
allí; y en donde dicho ensamble de retención de fluidos
está dispuesto en relación traslapante con dicha primera
porción de dicha capa de barrera definiendo por lo tanto
un área de yuxtaposición entre dicho ensamble de
25 retención de fluidos y dicha capa de barrera; y en donde
dicho ensamble de retención de fluido se asegura a dicha
capa de barrera a lo largo de una porción seleccionada
de dicha área de yuxtaposición.

3. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 20% a aproximada 80% del área de yuxtaposición.
4. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 30% a aproximada 70% del área de yuxtaposición.
5. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un región periférica de yuxtaposición, y en donde por lo menos aproximadamente 50% de la región periférica de yuxtaposición no se asegura a la capa de barrera.
6. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un segmentos de no adhesión y un segmento de adhesión, y donde la longitud del segmento de no adhesión 52 es

mayor de aproximadamente 15% de aquel de la longitud de los segmentos de adhesión.

7. La toalla sanitaria adherible al cuerpo de la
5 reivindicación 2, que comprende adicionalmente una capa de barrera adicional posicionada intermedia a ensamble de retención de fluido y la capa de barrera extensible.
8. La toalla sanitaria adherible al cuerpo de la
10 reivindicación 7, en donde la capa de barrera adicional no se extiende más allá del área de yuxtaposición.
9. La toalla sanitaria adherible al cuerpo de la
15 reivindicación 7, en donde la capa de barrera adicional está libre de adhesivo para estar en contacto con el cuerpo.
10. La toalla sanitaria adherible al cuerpo de la
20 reivindicación 2, en donde dicha barrera extensible comprende adicionalmente una tercera porción que tiene una superficie para contacto con el cuerpo, en donde la tercera porción está libre de adhesivo para contacto con el cuerpo.

**Fig. 1****Fig. 2**

10**Fig. 3**

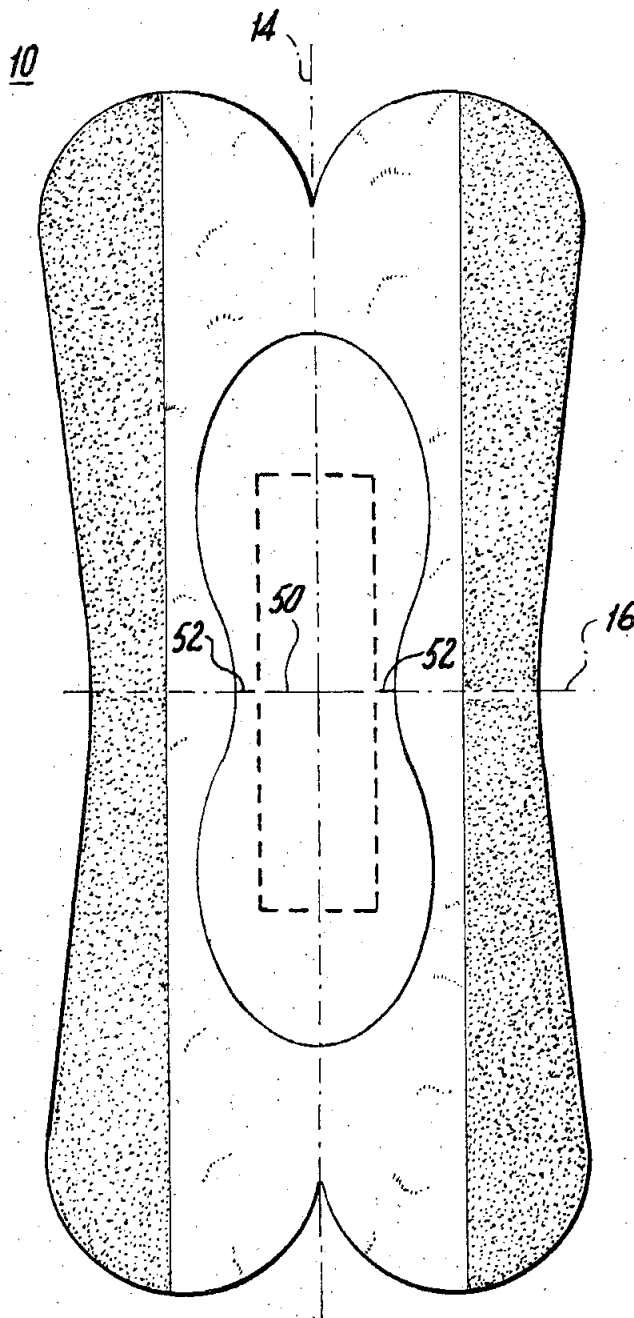


Fig. 4

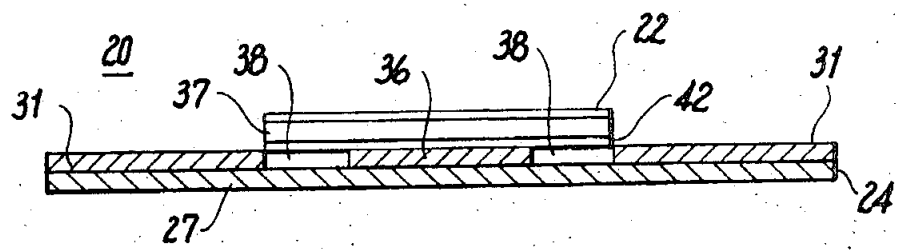
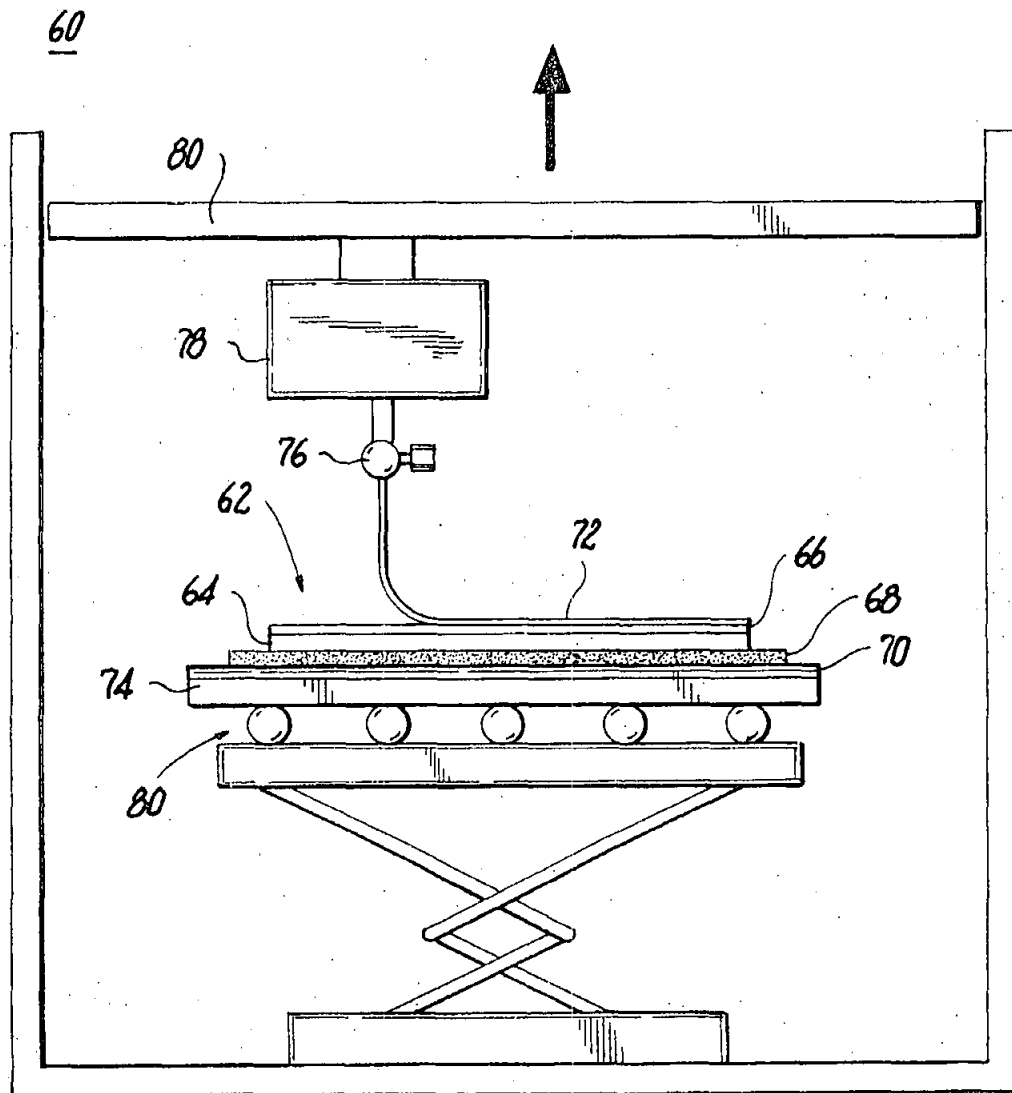


Fig. 5

**Fig. 6**

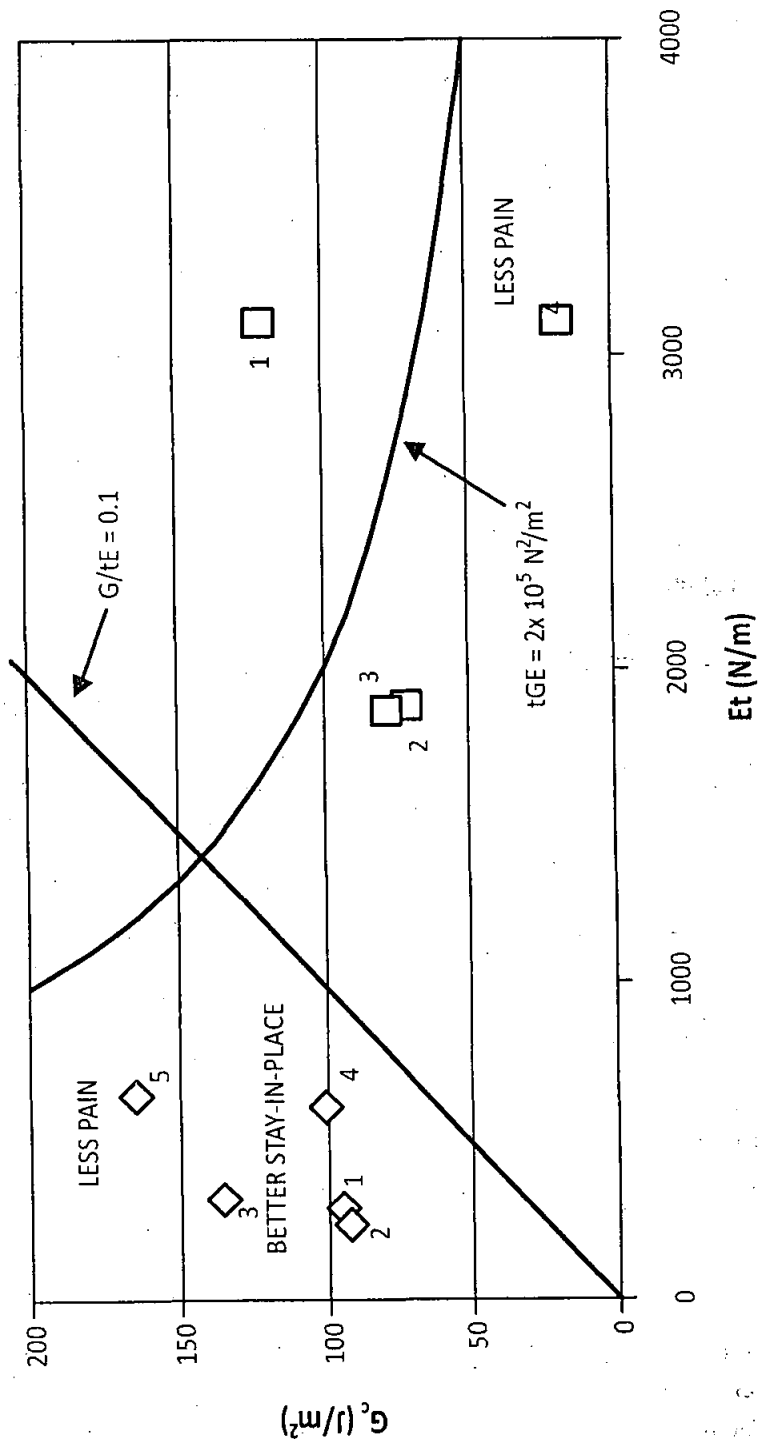


Fig. 7



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11/958,986	12/18/2007	3761	1030	PPC-5287-USNP1	10	1

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Applicant(s)

Leonard G. Rosenfeld, Yardley, PA;

Power of Attorney: The patent practitioners associated with Customer Number 000027777.

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/984,218 10/31/2007

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Title

BODY-ATTACHABLE SANITARY NAPKIN

Preliminary Class

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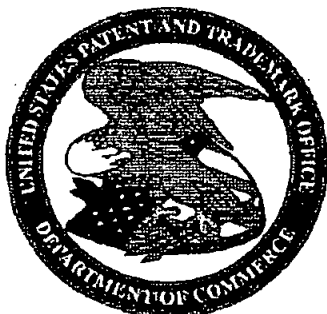
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Voice Phone:

From: Name: ASSIGNMENT SERVICES BRANCH
Voice Phone: 571-272-3350

37 C.F.R. 1.6 sets forth the types of correspondence that can be communicated to the Patent and Trademark Office via facsimile transmissions. Applicants are advised to use the certificate of facsimile transmission procedures when submitting a reply to a non-final or final Office action by facsimile (37 CFR 1.8(a)).

Fax Notes:

Pg#	Description
1	Cover Page
2	486.TXT
4	Document 1, Batch 1126500

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APPLICATION NUMBER	FILING or 37(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	TOT CLAIMS	IND CLAIMS
60/984,218	10/31/2007		210	PPC5287USPSP1		

CONFIRMATION NO. 1745

27777

PHILIP S. JOHNSON
JOHNSON & JOHNSON
ONE JOHNSON & JOHNSON PLAZA
NEW BRUNSWICK, NJ 08933-7003

FILING RECEIPT

RECEIVED

OC000000027254887

DEC 17 2007

Date Mailed: 12/14/2007

J & J PAT. DKT. SECTION

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

LEONARD G. ROSENFELD, Yardley, PA;

Power of Attorney:

Paul Higgins--44152

Permission to Access - A proper Authorization to Permit Access to Application by Participating Offices (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 12/10/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 60/984,218**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

Title

BODY-ATTACHABLE SANITARY NAPKIN

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process simplifies the filing

of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of

State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

A S S I G N M E N T

WHEREAS, Leonard G. Rosenfeld, residing at 1260 Madison Drive, Yardley, PA 19067 (hereinafter called "Assignor"), has made certain new and useful inventions or discoveries relating to

BODY-ATTACHABLE SANITARY NAPKIN

for which he has executed an application for Letters Patent of the United States; and

WHEREAS, McNeil-PPC, Inc., a corporation of the State of New Jersey, having its principal place of business at 199 Grandview Road, Skillman, NJ 08558 (hereinafter called "Assignee"), is desirous of acquiring Assignors' entire right, title, and interest therein:

NOW, THEREFORE, BE IT KNOWN that for and in consideration of the sum of One Dollar and other valuable considerations, the receipt of which is hereby acknowledged, Assignor has sold, assigned, and transferred, and does hereby sell, assign, and transfer unto said Assignee the entire right, title, and interest in and to all said inventions and discoveries disclosed in said application whose identification above by serial number and filing date, when available is hereby authorized, and in and to said application, all substitutions, divisions, and continuations thereof, and in and to all Letters Patent, United States and foreign, that may be granted for said inventions and discoveries, and in and to all extensions, renewals, and reissues thereof, the same to be held and enjoyed by said Assignee, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made;

And Assignor hereby authorizes and requests the Commissioner of Patents of the United States to issue said Letters Patent in accordance with this Assignment;

And for the consideration aforesaid, Assignor covenants and agrees with said Assignee that he has a full and unencumbered title to the inventions and discoveries above described and hereby assigned, which title he warrants unto said Assignee, its successors and assigns;

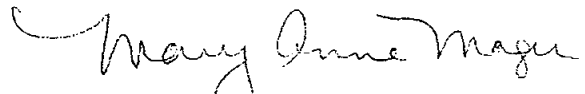
And for the consideration aforesaid, Assignor further covenants and agrees that he will, whenever requested, but without cost to him promptly communicate to said Assignee or its representatives any facts known to him relating to said inventions and discoveries, testify in any interference or legal proceedings involving said inventions and discoveries, and execute any additional papers that may be necessary to enable said Assignee or its representatives, successors, nominees, or assigns to secure full and complete protection for the said inventions and discoveries or that may be necessary to vest in said Assignee the complete title to the said inventions and discoveries and patents hereby conveyed and to enable it to record said title.

IN TESTIMONY WHEREOF, Assignor has hereunto set his hand and seal this 14 day of December, 2007.


_____(L.S.)
LEONARD G. ROSENFELD

STATE OF NJ)
COUNTY OF Somerset) ss.

BE IT REMEMBERED, That on this 14th day of December, 2007, before me, a Notary Public, personally appeared LEONARD G. ROSENFELD, who I am satisfied is the person named in and who executed the foregoing instrument in my presence, and I having first made known to him the contents thereof, he did acknowledge that he signed, sealed, and delivered the same as his voluntary act and deed for the uses and purposes therein expressed.


Notary Public

MARY ANNE MAGEE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires January 21, 2008

INFORME DE PROTOCOLO

Expediente 08-116816

Fecha: 25 noviembre de 2008

Se informa que:

Desde fecha 22 de febrero de 1996,
del folio 84497 al folio 84501 del
libro de Protocolo Nl 291, obra el poder
Nl 16465 conferido por McNEIL-PPC, INC.
domiciliado(a) en GRANDVIEW ROAD SKILLMAN,
NEW JERSEY 08558. E.U.A.
al doctor JIMENA ESCOBAR URIBE, IGNACIO
ESCOBAR URIBE, LUIS PATIÑO LEYVA, MAURICIO
PATIÑO BONNET.

Representante en Santafé de Bogotá D.C. Los
mismos.

Facultad para desistir SI.

Revisado 202088.

Clarke, Modet & Co

COLO

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00001-0000

Fecha: 2008-11-21 15:42:11 Dep: 2020 NUECREACION
Tra: 2 PATENTES Evt: 1 REGDEPOSITO
Act: 329 CTOINFORMACION Folios: 114

P-1716

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES**

E. S. D.

Ref.: Expediente No. 08-116.816
Solicitud de Patente a nombre de
McNeil-PPC, Inc.

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad **McNeil-PPC, Inc.**, domiciliada en Skillman, New Jersey, Estados Unidos de América, solicitante de la patente de la referencia, atentamente me permito presentar las copias certificadas de la solicitud de patente números 11/958,986 presentada en Estados Unidos de América el día 18 de diciembre de 2007 y 60/984,218 de 31 de octubre de 2007, con la debida traducción de lo pertinente.

Señor Superintendente,

JIMENA ESCOBAR URIBE

C.C.39.779.452 de Usaquén

T.P. 68228

Cód. 5376

ESTADOS UNIDOS DE AMÉRICA
A TODOS AQUELLOS A QUIENES EL PRESENTE LLEGUE:

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS
Oficina de Patentes y Marcas de los Estados Unidos

Noviembre 4, 2008

Por medio del presente se certifica que adjunto se encuentra una copia de los archivos de la Oficina de Patentes y Marcas de los Estados Unidos de aquellos papeles de la solicitud de patente abajo identificada, la cual cumplió con los requisitos para que se le otorgara una fecha de presentación bajo 35 USC 111.

Número de Solicitud: 11/958,986

Fecha de Presentación: Diciembre 18, 2007

El código del país y el número de su solicitud de prioridad para ser usado en presentación en el extranjero bajo la Convención de París, es US11/958,986

Por la autoridad del
Comisionado de Patentes y Marcas

(fdo) E. BORNETT

Oficial Certificador

Sello oficial de la Oficina de Patentes y Marcas de los
Estados Unidos de América.

REIVINDICACIONES

Reivindico:

5 1. Una toalla sanitaria adherible al cuerpo, que comprende

una capa de cubierta permeable a fluido;

una capa que retiene fluido; y

10

una capa de barrera que tiene un adhesivo conectable
dispuesto sobre por lo menos primeras porciones de ésta
en donde dicha toalla sanitaria satisface lo siguiente

15

$$G/tE > 0.1 \text{ N/m}; \text{ y } tGE < 2 \times 10^5 \text{ N}^2/\text{M}^2$$

2. La toalla sanitaria adherible al cuerpo de la
reivindicación 1, en donde dicha capa de barrera tiene

una primera porción y una segunda porción, dicha segunda

20

porción tiene un adhesivo adherible al cuerpo dispuesto

allí; y en donde dicho ensamble de retención de fluidos

está dispuesto en relación traslapante con dicha primera

porción de dicha capa de barrera definiendo por lo tanto

un área de yuxtaposición entre dicho ensamble de

25

retención de fluidos y dicha capa de barrera; y en donde

dicho ensamble de retención de fluido se asegura a dicha

capa de barrera a lo largo de una porción seleccionada

de dicha área de yuxtaposición.

3. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 20% a aproximada 80% del área de yuxtaposición.

4. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 30% a aproximada 70% del área de yuxtaposición.

5. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un región periférica de yuxtaposición, y en donde por lo menos aproximadamente 50% de la región periférica de yuxtaposición no se asegura a la capa de barrera.

6. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un segmentos de no adhesión y un segmento de adhesión, y donde la longitud del segmento de no adhesión 52 es

mayor de aproximadamente 15% de aquel de la longitud de los segmentos de adhesión.

5 7. La toalla sanitaria adherible al cuerpo de la reivindicación 2, que comprende adicionalmente una capa de barrera adicional posicionada intermedia a ensamble de retención de fluido y la capa de barrera extensible.

10 8. La toalla sanitaria adherible al cuerpo de la reivindicación 7, en donde la capa de barrera adicional no se extiende más allá del área de yuxtaposición.

15 9. La toalla sanitaria adherible al cuerpo de la reivindicación 7, en donde la capa de barrera adicional está libre de adhesivo para estar en contacto con el cuerpo.

20 10. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde dicha barrera extensible comprende adicionalmente una tercera porción que tiene una superficie para contacto con el cuerpo, en donde la tercera porción está libre de adhesivo para contacto con el cuerpo.

P-1716

PA 1726868

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

November 04, 2008

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 11/958,986

FILING DATE: December 18, 2007

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US11/958,986

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office



E. Bornett
E. BORNETT
Certifying Officer

6

UTILITY PATENT APPLICATION TRANSMITTAL		Attorney Docket No.	PPC-5287-USNP1
		First Inventor	LEONARD G. ROSENFELD
		Title	BODY-ATTACHABLE SANITARY NAPKIN

APPLICATION ELEMENTS <i>See MPEP Chapter 600 concerning utility patent application contents.</i>	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
--	---

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17) <i>(submit an original and a duplicate for fee processing)</i> 2. ☐ Applicant claims small entity status. 3. ☒ Specification [Total Pages 39] <i>(Preferred arrangement set forth below)</i> - Descriptive Title of the Invention - Cross Reference to Related Applications - Statement Regarding Fed sponsored R&D - Reference to sequence listing, a table, or a computer program listing appendix - Background of the Invention - Brief Summary of the Invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure 4. ☒ Drawing(s) (35 USC 113) [Total Sheets 5] 5. Oath or Declaration [Total Pages 3] a. ☒ Newly executed (original or copy) b. ☐ Copy from a prior application (37 CFR 1.63(d)) <i>(for continuation/divisional with Box 18 completed)</i> i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b). 6. ☐ Application Data Sheet. See 37 CFR 1.76	7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix) 8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ paper c. ☐ Statement verifying identity of above copies ACCOMPANYING APPLICATION PARTS 9. ☐ Assignment Papers (cover sheet & document(s)) 10. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney <i>(when there is an assignee)</i> 11. ☐ English Translation Document (if applicable) 12. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations 13. ☐ Preliminary Amendment 14. ☐ Return Receipt Postcard (MPEP 503) <i>(Should be specifically itemized)</i> 15. ☐ Certified Copy of Priority Document(s) <i>(if foreign priority is claimed)</i> 16. ☐ Request and Certifications under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent. 17. ☐ Other
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18. ☐ If a CONTINUING APPLICATION, check appropriate box and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-Part (CIP) of prior application No.: , filed

Prior application information: Examiner Group Art Unit:

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

☒ Customer Number or Bar Code Label 000027777 or ☐ Correspondence Address below

Name: Philip S. Johnson, Esq.
 Address: Johnson & Johnson
 One Johnson & Johnson Plaza
 New Brunswick, NJ 08933-7003 USA

20. TELEPHONE CONTACT

Please direct all telephone calls or telefaxes to Paul J. Higgins at:
 Telephone: (732) 524-1728 Fax: (732) 524-2808

21. SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

NAME	Paul J. Higgins		Reg. No. 44,152
SIGNATURE	/Paul J. Higgins/		
DATE	December 18, 2007		

FEE TRANSMITTAL	<i>Complete if Known</i>	
	Application Number	Unassigned
	Filing Date	December 18, 2007
	First Named Inventor	Leonard G. Rosenfeld
	Group Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	PPC-5287-USNP1

FEE CALCULATION

CLAIMS AS FILED

(1)	(2)	(3)	(4)	(5)
FOR:	NUMBER FILED	NUMBER EXTRA	RATE	BASIC FEE \$310.00
TOTAL CLAIMS	10 - 20 =	0	x 50.00	\$ 0.00
INDEPENDENT CLAIMS	1 - 3 =	0	x 210.00	\$ 0.00
SEARCH FEE	NA	NA	NA	\$ 510.00
EXAMINATION FEE	NA	NA	NA	\$ 210.00
APPLICATION SIZE FEE If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 25 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	0 - 100 =	/50	x 250.00 (If the specification and drawings exceed 100 sheets of paper, for each additional 50 sheets or fraction thereof)	\$
MULTIPLE DEPENDENT CLAIMS	☐	N/A	\$360.00	
			TOTAL FEES	\$1,030.00

METHOD OF PAYMENT

- ☒ Please charge our Deposit Account as indicated on the Fee Transmittal Sheet filed via EFS in the amount of \$1,030.00.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required in connection with the filing of this communication, or credit any overpayment, to our Deposit Account.

SUBMITTED BY:			<i>Complete (if applicable)</i>
Typed or Printed Name	Paul J. Higgins		Reg. No. 44,152
Signature	/Paul J. Higgins/	Date: December 18, 2007	Deposit Account No. 10-0750

Electronic Acknowledgement Receipt

EFS ID:	2608310
Application Number:	11958986
International Application Number:	
Confirmation Number:	1996
Title of Invention:	BODY-ATTACHABLE SANITARY NAPKIN
First Named Inventor/Applicant Name:	Leonard G. Rosenfeld
Customer Number:	27777
Filer:	Paul J. Higgins./Kristine Kingsbury
Filer Authorized By:	Paul J. Higgins.
Attorney Docket Number:	PPC-5287-USNP1
Receipt Date:	18-DEC-2007
Filing Date:	
Time Stamp:	16:29:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$1030
RAM confirmation Number	1838
Deposit Account	100750
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		PPC5287USNP1APPLICATI ON.pdf	399243 9cad26ea87c7c5cd9387282a9c408a70 ed029d5b	yes	39
Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Specification		1		35
	Claims		36		38
	Abstract		39		39
Warnings:					
Information:					
2	Transmittal of New Application	PPC5287USNP1APPLNTRA NSLTR.pdf	467589 d98b4a4471183dfb34c17c9342ddb849f fd29182	no	4
Warnings:					
Information:					
3	Drawings-only black and white line drawings	PPC5287USNP1DRAWING S1.pdf	128819 333481bb82a315cbc11711bhd6efbeffed 161b30	no	5
Warnings:					
Information:					
4	Oath or Declaration filed	PPC5287USNP1EXECUTE DDECLARATION.pdf	150338 2a5c211e0b5624619cfc99a609f2d194 0426121	no	3
Warnings:					
Information:					
5	Fee Worksheet (PTO-06)	fee-info.pdf	8368 9c49148d2e2d169541eda89187b66d6a b975f90	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1154357		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

BODY-ATTACHABLE SANITARY NAPKIN**CROSS REFERENCE TO RELATED APPLICATIONS**

This application claims priority to Application No. 60/984,218 filed on October
5 31, 2007, the entire contents of which are incorporated by reference herein.

FIELD OF THE INVENTION

The present invention generally relates to sanitary absorbent articles and in
particular to sanitary napkins that are directly attachable to the body.

10

BACKGROUND OF THE INVENTION

Externally worn, sanitary napkins are one of many kinds of feminine protection
devices currently available. In use, the typical sanitary napkin is positioned in the
perineal region to capture bodily discharge, e.g., menses. In order to prevent the sanitary
15 napkin from drifting into a position that would compromise the sanitary napkin's ability
to manage bodily discharges, the sanitary napkin is generally affixed to a user's
undergarment, most commonly with adhesive that is applied to a garment facing surface
of the sanitary napkin. The adhesive essentially joins the sanitary napkin to the user's
underwear.

20 An alternative sanitary napkin design, the so-called, "body-attachable" sanitary
napkin, includes a means for affixing the sanitary napkin directly to the user's body,
typically using a body-contactable adhesive. For example, U.S. patent No. 6,213,993
purports to disclose a self-adhering absorbent article including a liquid-permeable cover,

an absorbent core, a liquid impermeable baffle, and a bodyside adhesive arranged on the cover for securing the article to the body.

Unfortunately, it is difficult to design a body-attachable sanitary napkin that will remain attached to the user in a manner that is comfortable to the user and sufficient to prevent leakage. Applicants have recognized that conventional body-attachable sanitary napkins do not move sufficiently with the body during either resulting in leakage and/or detachment from the body. Applicants have further recognized that conventional body-attachable sanitary napkins do not remain securely attached to the body during use, move with the body during use, yet at the same time enable the user to selectively remove the napkin in a pain free manner. As such, a need exists to overcome one or more of the above-mentioned drawbacks.

SUMMARY OF THE INVENTION

According to a first aspect of the invention, the present invention provides a body-attachable sanitary napkin a body-attachable sanitary napkin, comprising:

- 5 a fluid-pervious cover layer; a fluid-retaining layer; and a barrier layer having a body-contactable adhesive disposed on at least first portions thereof, wherein said sanitary napkin satisfies the following:

$$G/tE > 0.1 \text{ and } tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$$

wherein G is Peel Energy, t is thickness of the sanitary napkin, and E is the effective

- 10 Young's modulus of the napkin, and wherein G/tE and tGE are determined using the PEEL FORCE TEST PROCEDURE and the PEAK FORCE-20% STRETCH TEST PROCEDURE, both of which are described herein.

BRIEF DESCRIPTION OF THE DRAWINGS

Examples of embodiments of the present invention will now be described with reference to the drawings, in which:

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FIG. 1 is a top plan view of a sanitary napkin in accordance with a first embodiment of the present invention;

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FIG. 2 is a sectional view of the sanitary napkin of FIG. 1, taken through the transverse centerline, line 2-2' thereof;

FIG. 3 is a top plan view of a sanitary napkin of FIG. 1, showing additional features thereof;

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FIG. 4 is a top plan view of a sanitary napkin of FIG. 1, showing yet additional features thereof;

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FIG. 5 is cross-sectional view of a sanitary napkin sanitary napkin in accordance with a second embodiment of the present invention;

FIG. 6 is a schematic side view of a test apparatus suitable for conducting test procedures described herein on body-attachable sanitary napkins; and

FIG. 7 is a graphical depiction of stay-in-place and removal pain for inventive sanitary napkins as well as comparative examples.

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a body-attachable sanitary napkin that is generally able to accommodate the demands of moving with the body, remaining attached thereto in use, while permitting the fluid-retaining assembly to remain positioned to receive and retain bodily fluid. As such, the sanitary napkin includes, in certain embodiments, a fluid-retaining assembly that is secured to a barrier layer only along selected portions of an area of juxtaposition between the fluid-retaining assembly and the barrier. By including a fluid-retaining assembly that has reduced securement to the barrier layer, the demands that would otherwise be placed on either the barrier layer or adhesive, or both, is greatly reduced.

Applicants have further determined that a body-attachable sanitary napkin can overcome the challenge of simultaneously providing both high stay in place as well as reduced removal pain by selecting the barrier layer, selecting the body-contactable adhesive and arranging the sanitary napkin, all in a certain manner. In particular, Applicants have provided herein a sanitary napkin construction that remains securely attached to the body during use, moves with the body during use, yet also enables the user to selectively remove the napkin in a pain free manner.

The peel force values described herein are affected by both the nature of the body-contactable adhesive as well as the selection of the barrier layer. The criticality of the results of Applicant's PEEL FORCE TEST PROCEDURE as well as the combination of this criticality combined with the criticality of the results of Applicant's PEAK

FORCE-20% STRETCH TEST PROCEDURE has not previously been identified as useful parameters in the design of body-attachable sanitary napkins.

By designing the body-contactable sanitary napkin to meet the requirements above, it is possible to include a wider range of barrier materials, a wider range of
5 adhesives, and/or a wider variety of designs than were suggested in the prior art.

Referring to **FIGS. 1-2**, there is shown a first embodiment of the present invention, a feminine sanitary napkin 10. **FIG. 1** depicts a top plan view of the sanitary napkin shown in **FIG. 1**. The sanitary napkin 10 a first transverse side 26 defining a front portion thereof and a second transverse side 28 defining a rear portion thereof. The
10 sanitary napkin 10 also has two longitudinal sides, namely a first longitudinal side 30 and a second longitudinal side 32.

The sanitary napkin 10 has a longitudinal centerline 14 that bisects the sanitary napkin 10 in two identical halves and an imaginary transverse centerline 16 arranged perpendicular to the longitudinal centerline 14. **FIG. 2** depicts a cross-sectional view of
15 the sanitary napkin shown in **FIG. 1**, taken through line 2-2'.

As shown in **FIGS. 1-2**, sanitary napkin 10 is of a laminate construction and comprises an extensible barrier layer 24. The extensible barrier layer 24 has a top face 33 that generally faces the body of the user and a bottom face 35 that generally faces the user's undergarment.

20 A fluid-retaining assembly 37 is arranged in overlapping relationship to a first portion 27 of the extensible barrier layer 24, thereby defining an area of juxtaposition 34 between the fluid-retaining assembly 37 and the extensible barrier layer 24. The first portion 27 of the extensible barrier layer 24, the fluid-retaining assembly 37, and the area

of juxtaposition 34 defined by the overlapping of these components are depicted in FIG. 1 as the "peanut-shaped," cross-hatched region. The first portion 27 of the extensible barrier layer 24, since it is overlapped by the fluid-retaining assembly, does not include a skin-contactable surface.

5 The extensible barrier layer 24 further includes a second portion 29 that extends outwardly beyond the first portion. The body-contactable adhesive 31 is formed upon the top face 33 of the second portion 29 of the extensible barrier layer 24.

 The extensible barrier layer 24 may also include a third portion 39. The third portion 39 is outside the area of juxtaposition 34. As such it is body-contactable.

10 However, the third portion 39 includes no body-contactable adhesive formed thereon.

 The shape of the extensible barrier layer 24 is variable and may be designed to facilitate skin contact with skin along the groin/inner thigh. Furthermore, the shape of the fluid-retaining assembly 37 is variable and may be selected to facilitate coverage of the perineal region of the user. As a percent of the total area of the extensible barrier layer 24 when laid flat (i.e., the "footprint" of the extensible barrier layer 24 – as shown in FIG. 1), the area of the fluid retaining portion 37 may be from about 10% to about 90%, preferably from about 40% to about 80%.

 The shape of the second portion 29 of the extensible barrier layer 24 is also variable and may be designed to facilitate contact with the user and may be further designed for ease of manufacture. As depicted in FIG. 1, the shape of second portion 29 may include or consist essentially of one or more longitudinally-oriented stripes on either side of longitudinal centerline 14. Other configurations, e.g., one or more squares, rectangles, circles, dotted stripes, strips, swirls, or waves are also contemplated.

The fluid-retaining assembly 37 is secured to the first portion 27 of the extensible barrier layer 24 along a selected portion 36 (the outline of which is shown as a rectangularly-shaped area in phantom in FIG. 1) of the area of juxtaposition 34. Along non-selected portions 38 (depicted in FIG. 1 as that portion of the "peanut-shaped" area of juxtaposition 34 that is outside the rectangular-shaped selected portion 36), the fluid-retaining assembly 37 is not secured to the first portion 27 of the extensible barrier layer 24. By "secured" it is meant that selected portion 36 the extensible barrier layer 24 and the fluid-retaining portion 37 are either directly or indirectly connected and are designed to remain connected in use.

The selected portion 36 as a fraction of the area of juxtaposition 34 is not so low as to allow the fluid-retaining assembly 37 to move too freely and/or risk detachment from the sanitary napkin 10, yet it is not so large that motion is unnecessarily restricted. In one embodiment of the invention, the selected portion is from about 5% to about 90% of the area of juxtaposition 34, preferably from about 20% to about 80%, more preferably from about 30% to about 70%.

FIG. 3 is top plan view of the sanitary napkin of **FIG. 1**, showing additional features thereof. As shown in **FIG. 3**, the overlapping of the fluid-retaining assembly 37 with the extensible barrier layer 24 further defines a perimeter 46 of juxtaposition, an imaginary shape that bounds the fluid-retaining portion 37. The perimeter 46 of juxtaposition defines a peripheral region of juxtaposition 44, that portion of the area of juxtaposition 34 along the perimeter 46 of juxtaposition and having a constant width 48, such that the peripheral region of juxtaposition 44 accounts for 10% of the total area of juxtaposition 34. In one embodiment of the invention, at least about 50% of the

peripheral region of juxtaposition is not secured to the extensible barrier layer 24. In a preferred embodiment, greater 75% of the peripheral region of juxtaposition is not so secured.

FIG. 4 is top plan view of the sanitary napkin of **FIG. 1**, showing yet additional features thereof. As shown in **FIG. 3**, the overlapping of the fluid-retaining assembly 37 with the extensible barrier layer 24 further defines one or more segments of attachment 50, e.g., segments of the transverse centerline 16 within the area of juxtaposition 34 that are secured to the extensible barrier layer 24 (shown in phantom in **FIG. 4**) and one or more segments of unattachment 52; e.g., a segment of the transverse centerline 16 within the area of juxtaposition 34 that are not secured to the extensible barrier layer 24 (shown as a solid line in **FIG. 4**). In one embodiment, the total length of the segments of unattachment 52 are greater than about 15% of that of the total length of the segments of attachment 50. In a preferred embodiment, the length of the segment of unattachment 52 is greater than about 30% of that of the length of the segments of attachment 50. While in **FIG. 4**, the line from which the segments of attachment 50 and segments of unattachment 52 is the transverse centerline 16, the longitudinal centerline 14 or a line at any angle in between the transverse centerline 16 and the longitudinal centerline could be used to determine suitable segments of attachment of unattachment.

While **FIGs. 1, 3 and 4** depict the shape of the selected portion 36 of the area of juxtaposition 34 to be a single continuous rectangular area, other shapes for the selected portion 36 are contemplated. For example, the selected portion 36 may include one or more areas of squares, rectangles, circles, dotted stripes, strips, swirls, or waves etc. and

may include or not include the center (intersection of the longitudinal centerline 14 and transverse center line 16).

FIG. 5 depicts an alternative embodiment of the invention of a sanitary napkin 20. Sanitary napkin 20 is identical to the sanitary napkin 10 of FIGs 1-2, except that sanitary napkin 20 includes an additional fluid-impervious barrier layer 42, distinct from the extensible barrier layer 24. Additional barrier layer 42 is positioned intermediate (e.g., between) the fluid-retaining assembly 37 and the extensible barrier layer 24. As such, the additional barrier layer 42 provides additional ability to trap bodily fluids and prevent leakage of fluid outside the sanitary napkin 20. In one embodiment, the additional barrier layer 42 is sized to just accommodate the fluid-retaining assembly 37 and, as such, the additional barrier layer 42 does not extend beyond the area of juxtaposition 34 and is free of the body-contactable adhesive 31.

Barrier Layer

The extensible barrier layer 24 is generally liquid impervious. By "liquid impervious" it is meant that liquids such as menses and urine, under in-use conditions are unable to pass through. By "extensible", it is meant that when placed under tension in the plane of the layer, the extensible barrier layer 24 can stretch (elastically) 10% or more, preferably 20% or more and essentially recover its original length. The extensible barrier layer 24 may include, for example, polymeric film such as polyethylene or polypropylene; liquid impervious (e.g., repellent-treated) non-wovens (e.g., spunbond, meltblown, or thermobonded polyolefin or polyurethane fibers that have been treated to prevent the penetration of bodily fluids therethrough; or combinations or laminates thereof. The extensible barrier layer 24 may have a basis weight from about 5 gsm to

about 20 gsm. Notable liquid pervious extensible barrier films include spunbond liquid-impervious nonwovens of polyurethane and/or polypropylene; with or without layers of meltblown fibers arranged in between.

The extensible barrier layer 24 may be breathable, i.e., permits vapor to transpire.

5 Known materials for this purpose include nonwoven materials and microporous films in which microporosity is created by, inter alia, placing the extensible barrier layer 24 in tension. Single or multiple layers of permeable films, fabrics, melt-blown materials, and combinations thereof that provide a tortuous path, and/or whose surface characteristics provide a liquid surface repellent to the penetration of liquids may also be used to provide
10 a breathable barrier layer.

Optional additional barrier layer 42, as shown in FIG. 4 may be of similar composition and generally has similar liquid-imperviousness as described above for the extensible barrier layer 24.

15 **Body-Contactable Adhesive**

The body-contactable adhesive 31 is formed on a body-faceable side of the extensible barrier layer 24 for securing the sanitary napkin 10 to the body of a user, during use. The body-contactable adhesive 31 may be covered with removable release paper so that the body-contactable adhesive 31 is covered by the removable release paper
20 prior to use.

The body-contactable adhesive 31 may include pressure sensitive adhesive and may be applied in various suitable configurations as previously described. As used herein, the term pressure-sensitive adhesive refers to any releasable adhesive or releasable tenacious means.

The composition of the body-contactable adhesive 31 is variable, as long as the adhesive is selected such that when the sanitary napkin is tested according to the test methods described herein, *both* (1) a suitable force to effect peeling of the adhesive *and* (2) a low enough force to effect a particular 20% stretch when subject to tension across the sanitary napkin.

The body-contactable adhesive 31 used in sanitary napkin may be an adhesive based upon block copolymers such as those which may include linear or radial copolymer structures having the formula $(A-B)_x$ wherein block A is a polyvinylarene block, block B is a poly(monoalkenyl) block, x denotes the number of polymeric arms, and wherein x is an integer greater than or equal to one. Suitable block A polyvinylarenes include, but are not limited to polystyrene, polyalpha-methylstyrene, polyvinyltoluene, and combinations thereof. Suitable Block B poly(monoalkenyl) blocks include, but are not limited to conjugated diene elastomers such as for example polybutadiene or polyisoprene or most preferably hydrogenated elastomers such as ethylene-butylene or ethylene-propylene or polyisobutylene, or combinations thereof, specifically, adhesives consisting of styrene-ethylene-butylene-styrene (SEBS) block copolymer and mineral oils, paraffinic or naphthenic process oils, and optionally a suitable tackifying resins include natural and modified resins; glycerol and pentaerythritol esters of natural and modified resins; polyterpene resins; copolymers and terpolymers of natural terpenes; phenolic modified terpene resins and the hydrogenated derivatives thereof; aliphatic petroleum resins and the hydrogenated derivatives thereof; aromatic petroleum resin and the hydrogenated derivatives thereof; and aliphatic/aromatic petroleum resins and the hydrogenated derivatives thereof, and combinations thereof.

The body-contactable adhesive 31 employed in the article according to the present invention may have more than about 50% by weight of a liquid plasticizer, such as more than about 65% by weight of a liquid plasticizer. Suitable liquid plasticizers may include white oils, mineral oils, paraffinic process oils, polyethylene glycol, glycerin,
5 polypropylene glycol, naphthenic oils, and liquid polyterpenes. The liquid plasticizer preferably has a molecular weight of less than 1000 g/mole, more preferably less than 750 g/mole and most preferably less than 500 g/mole.

The body-contactable adhesive 31 may be of the type described in 6191189USB
US Patent No. 6,191,189 to Cinelli et al. In particular, the adhesive may comprise:

- 10 • from 0.5 to 20%, preferably 5% to 15%, by weight of a macromolecular polymeric substance or a mixture of such substances soluble or swellable in the below mentioned plasticiser(s). As not limiting examples such macromolecular or polymeric substances can be natural and/or synthetic such as natural gums or derivatives such as natural gums and gelatins, their derivatives and alginates;
15 polyacrylics; polyvinyl alcohol; polyethylene oxide; polyvinylpyrrolidone (PVP) or polyvinylethers, their copolymers and derivatives; cellulose derivatives; Block Copolymer Thermoplastic Elastomers and preferably Styrenic Block Copolymers and more preferably the hydrogenated grades Styrol/Ethylene-Butylene/Styrol (SEBS), Styrene/Isoprene/Styrene (SIS), and
20 Styrol/Ethylene-Propylene/Styrol (SEPS);
- from 45 to 99.5% by weight, preferably from 51 to 99.5% by weight, of a plasticising substance or a mixture of plasticising substances, which are liquid at room temperature. As non-limiting examples the plasticiser can be water,

various alcohols (like in particular glycerol), glycols and their ethers, polyglycols, liquid polybutenes, esters such phthalates, adipates, stearates, palmitates, sebacates, or myristates, natural or synthetic oils such as vegetable oils, mineral oils, or combinations thereof;

- 5 • from 0% to 50% by weight of the composition, preferably from 0 to 600% by weight of the macromolecular polymeric substance of a tackifying resin whose main scope is to tailor the Tg especially in systems based on synthetic polymers;
- 10 • from 0 to 10% and more preferably from 0 to 5% by weight of substances for facilitating and stabilising the gel and the gel forming process both of hydrophilic or hydrophobic liquid plasticisers. These may be for oily systems, e.g. the fatty acids of C₈ to C₂₂, their metallic salts and their polyoxo-derivatives; lanolin derivatives; silica; bentonite, montmorillonite and their derivatives; polyamides, waxes or mixtures thereof.

15 The adhesive may also be of the type described in 6213993USB US Patent No. 6,213,993 to Zacharias et al. In particular the adhesive may comprise:

- 20 • a rubber-based adhesive such as styrenebutadiene, polyisobutylene, polybutadiene and polyisoprene; a water soluble adhesive such as polyvinyl alcohol, polyvinyl acetate, and methyl cellulose; a hot melt adhesive such as block copolymers of styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-ethylenepropylene-styrene, styrene-ethylenebutylene-styrene and tetrablock copolymers such as styrene-ethylenepropylene-styrene-

ethylenepropylene. Incorporated with the adhesives can be suitable tackifying resins and, if appropriate, oils.

Other adhesive types here include anhydrous gels consisting of 2-hydroxyethyl methacrylate polymer, polyethylene glycol and optionally water as taught in 4303066USA U.S. Patent No. 4,303,066 and polyurethane gels, as disclosed in 4661099USA U.S. Patent No. 4,661, 099 , or silicone gels including commercial products such as Silgel 612 from Wacker Silicones (Adrian, MI) or SSA-9700 Soft Skin Adhesives Dow-Corning (Midland, MI).

Other suitable adhesive compositions, include, for example, water-based pressure-sensitive adhesives such as acrylate adhesives. Alternatively, the adhesive composition may include adhesives based on the following: emulsion or solvent-borne adhesives of natural or synthetic polyisoprene, styrene-butadiene, or polyacrylate, vinyl acetate copolymer or combinations thereof; hot melt adhesives based on suitable block copolymers - suitable block copolymers for use in the invention include linear or radial co-polymer structures having the formula (A-B)_x wherein block A is a polyvinylarene block, block B is a poly(monoalkenyl) block, x denotes the number of polymeric arms, and wherein x is an integer greater than or equal to one. Suitable block A polyvinylarenes include, but are not limited to Polystyrene, Polyalpha-methylstyrene, Polyvinyltoluene, and combinations thereof. Suitable Block B poly(monoalkenyl) blocks include, but are not limited to conjugated diene elastomers such as for example polybutadiene or polyisoprene or hydrogenated elastomers such as ethylene butylene or ethylene propylene or polyisobutylene, or combinations thereof. Commercial examples

of these types of block copolymers include KRATON elastomers from Shell Chemical Company, VECTOR elastomers from Dexco, SolpreneTM from Enichem Elastomers and STEREON from Firestone Tire & Rubber Co.; hot melt adhesive based on olefin polymers and copolymers where in the olefin polymer is a terpolymer of ethylene and a
5 co-monomers, such as vinyl acetate, acrylic acid, methacrylic acid, ethyl acrylate, methyl acrylate, n-butyl acrylate vinyl silane or maleic anhydride. Commercial examples of these types of polymers include Ateva (polymers from AT plastics), Nucrel (polymers from DuPont), Escor (from Exxon Chemical).

10 **Fluid-Retaining Assembly**

Sanitary napkins of the present invention include fluid retaining assembly 37. As used herein, the term "fluid-retaining assembly" refers to any material or multiple material layers whose primary function is to absorb, store or distribute fluid especially
15 menses that is discharged by the wearer and prevent the back flow of stored fluid towards the cover and contacting the wearer.

The fluid retaining assembly 37 may include a single layer of material or may include multiple layers (e.g., an absorbent core overlayed by a so-called "transfer," "distribution" or "acquisition" layer). In one embodiment, fluid-retaining assembly 37 is a blend or mixture of cellulosic fibers and superabsorbent disposed in and amongst fibers
20 of that pulp.

It is possible that the fluid-retaining assembly 37 could be integrated with the cover and/or barrier such that there is essentially only a single layer structure or a two layer structure including the function of the multiple layers described herein.

Cellulosic fibers that can be used in the fluid-retaining assembly 37 are well known in the art and include wood pulp, cotton, flax and peat moss. Wood pulp is preferred. Pulps can be obtained from mechanical or chemi-mechanical, sulfite, kraft, pulping reject materials, organic solvent pulps, etc. Both softwood and hardwood species are useful. Softwood pulps are preferred. It is not necessary to treat cellulosic fibers with chemical debonding agents, cross-linking agents and the like for use in the present material. Some portion of the pulp may be chemically treated as discussed in US 5,916,670 to improved flexibility of the product. Flexibility of the material may also be improved by mechanically working the material or tenderizing the material. The fluid-retaining assembly 37 can contain any superabsorbent polymer (SAP), which SAPs are well known in the art. For the purposes of the present invention, the term "superabsorbent polymer" (or "SAP") refers to materials which are capable of absorbing and retaining at least about 10 times their weight in body fluids under a 0.5 psi pressure. The superabsorbent polymer particles of the invention may be inorganic or organic crosslinked hydrophilic polymers, such as polyvinyl alcohols, polyethylene oxides, crosslinked starches, guar gum, xanthan gum, and the like. The particles may be in the form of a powder, grains, granules, or fibers. Preferred superabsorbent polymer particles for use in the present invention are crosslinked polyacrylates, such as the product offered by Sumitomo Seika Chemicals Co., Ltd. Of Osaka, Japan, under the designation of SA70N and products offered by Stockhausen Inc.

The fluid-retaining assembly 37 may comprise a material manufactured by using air-laying means well known in the art. In a specific example, the fluid-retaining assembly 37 is an air laid material made from cellulosic fibers, bonding materials and

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components that cannot form a bond (nonbonding materials) with the other component materials.

In one specific embodiment of the invention, the absorbent system is composed of fluff pulp.

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Attachment of Fluid-Retaining Assembly to Barrier Layer

In certain embodiments of the invention, the fluid retaining assembly 37 is secured to the extensible barrier layer 24 along a selected portion 36 of the area of juxtaposition 34. The securement may be made by means of construction adhesives, heat-bonding, ultrasonic bonding, radio frequency sealing, mechanical crimping, or similar techniques known to the art of joining fibrous and/or film materials for use in absorbent articles.

10

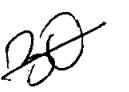
In one embodiment, the selected portion 36 is secured using a construction adhesive. Suitable construction adhesives include, for example, hot melt adhesives, such are those that are sufficiently pressure sensitive at elevated (application) temperatures and have sufficient cohesive and peel strength at ambient temperatures to maintain a firm bond the selected portion 36 of the barrier layer to the fluid-retaining portion 37 while the sanitary napkin is in use. The construction adhesive may include block copolymers, plasticizers and/or reinforcing or tackifying resins.

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Cover Layer

The sanitary napkin 10 may include cover layer 22. Cover layer 22 may include non-woven web material, an apertured thermoplastic film (such as those described in U.S. Pat. No. 4,690,679), or combinations thereof. The cover layer 22 may be composed


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of only one type of fiber, such as polyester or polypropylene or it may include a mixture of more than one fiber. The cover layer 22 may be composed of bi-component or conjugate fibers having a low melting point component and a high melting point component. The fibers may be selected from a variety of natural and synthetic materials
5 such as nylon, polyester, rayon (in combination with other fibers), cotton, acrylic fiber and the like and combinations thereof. Preferably, the cover layer 22 has a basis weight in the range of about 10 gsm to about 75 gsm.

Bi-component fibers suitable for use in cover layer 22 may be made up of a polyester layer and a polyethylene sheath. The use of appropriate bi-component materials
10 results in a fusible non-woven fabric. Examples of such fusible fabrics are described in U.S. Pat. No. 4,555,430 issued Nov. 26, 1985 to Chicopee. Using a fusible fabric increases the ease with which the cover layer 22 may be mounted to the absorbent layer and/or to the barrier layer.

The cover material should preferably contain a significant amount of relatively
15 large pores or apertures. This is because the cover layer 22 is intended to take-up body fluid rapidly and transport it away from the body and the point of deposition. Therefore, the cover layer 22 contributes little to the time taken for the napkin to absorb a given quantity of liquid (penetration time).

Advantageously, the fibers which make up the layer 22 should not lose their
20 physical properties when they are wetted, in other words they should not collapse or lose their resiliency when subjected to water or body fluid. The cover layer 22 may be treated to allow fluid to pass through it readily. The cover layer 22 also functions to transfer the fluid quickly to the other layers of the absorbent system 44. Thus, the cover layer 22 is

advantageously wettable, hydrophilic and porous. When composed of synthetic hydrophobic fibers such as polyester or bi-component fibers, the cover layer 22 may be treated with a surfactant to impart the desired degree of wettability.

The fibers of the nonwoven cover may be bonded by any of various means such as spunlacing (hydroentanglement), thermobonding, latex bonding, and the like.

The cover layer 22 may be embossed to the fluid-retaining assembly 37 in order to aid in promoting hydrophilicity by fusing the cover layer 22 to the next layer. Such fusion may be effected locally, at a plurality of sites or over the entire contact surface of cover layer 22 and absorbent system 44. Alternatively, the cover layer 22 may be attached to the fluid-retaining assembly 37 by other means such as by adhesion.

Other Structures and Attributes

Sanitary napkins according to the present invention are preferably thin, preferably having a thickness of less than 4.0 mm, more preferably less than 3.0 mm, and most preferably less than 2.5 mm.

Any or all of the cover, absorbent layer, transfer layer, backsheet layer, and adhesive layers may be colored. Such coloring includes, but is not limited to, white, black, red, yellow, blue, orange, green, violet, and mixtures thereof. Color may be imparted according to the present invention through dying, pigmentation, and printing. Colorants used according the present invention include dyes and inorganic and organic pigments. The dyes include, but are not limited to, anthraquinone dyes (Solvent Red 111, Disperse Violet 1, Solvent Blue 56, and Solvent Green 3), Xanthene dyes (Solvent Green 4, Acid Red 52, Basic Red 1, and Solvent Orange 63), azine dyes (Jet black), and the like. Inorganic pigments include, but are not limited to, titanium dioxide (white), carbon black

(black), iron oxides (red, yellow, and brown), chromium oxide (green), ferric ammonium ferrocyanide (blue), and the like.

Organic pigments include, but are not limited to diarylide yellow AAOA (Pigment Yellow 12), diarylide yellow AAOT (Pigment Yellow 14), phthalocyanine blue (Pigment Blue 15), lithol red (Pigment Red 49:1), Red Lake C (Pigment Red), and the like.

The absorbent article may include other known materials, layers, and additives, such as, foam, net-like material, perfumes, medicaments or pharmaceutical agents, moisturizers, odor control agents, and the like. The absorbent article can optionally be embossed with decorative designs.

The absorbent article may be packaged as unwrapped absorbent articles within a carton, box or bag. The consumer withdraws the ready-to-use article as needed. The absorbent article may also be individually packaged (each absorbent article encased within an overwrap).

While overall shape of the sanitary napkin may be symmetrical as shown in the Figures, it is also contemplated herein include asymmetrical and symmetrical absorbent articles having parallel longitudinal edges, dog bone- or peanut-shaped, as well as articles having a tapered construction for use with thong-style undergarments.

The sanitary napkin of the present invention may be applied to the crotch by placing the body-contactable adhesive against the inner thigh region of the user, thereby securing the absorbent assembly against the perineal region.

Test Procedures For Sanitary Articles: Procedures for Measuring (1) Peel Force and (2) Peak Force for 20% Stretch of the Body-Attachable Sanitary Napkin

According to certain one aspect of the invention, in order to provide both reduced
 5 pain as well as improved stay in place, the body-attachable sanitary napkin has a Peel
 Energy, G_c and a Young's modulus, E that satisfy the following relationship:

$$G/tE > 0.1 \text{ N/m; and}$$

$$tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$$

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G/tE is a measure of the body-faceable sanitary napkin's ability to stay in place.
 It is calculated using "Peel Force," P , which is in turn determined using the PEEL
 FORCE TEST PROCEDURE. tGE is a measure of the sanitary napkin's ability to be
 peeled from the body with reduced pain. It is calculated using results from the PEEL
 15 FORCE TEST PROCEDURE as well as the "Peak Force at 20% Stretch," F , the latter of
 which is determined using the PEAK FORCE-20% STRETCH TEST PROCEDURE.
 The PEEL FORCE TEST PROCEDURE and the PEAK FORCE-20% STRETCH TEST
 PROCEDURE are each set forth in detail below.

"Peel Force" is determined by a test performed as follows. The PEEL FORCE
 20 TEST PROCEDURE is a measure of the force required to peel an adhesive from a
 standard sheet of plastic film. The apparatus necessary for the PEEL FORCE TEST
 PROCEDURE includes the following parts:

(1) A force-measurement gauge and more specifically an Instron inverted tension
 25 load cell. Instron Universal testing machine with load cell capable of measuring tensile

forces from 10 to 200 grams (2000 gram capacity preferred), such as an Instron machine, e.g., Instron 1122 or 1125, commercially available from Instron Engineering Corporation, Canton, Mass.

- 5 (2) 90 degree peel fixture such as Instron 2820-035 or 2820-036.
- (3) a grip attachable to force measurement gauge and suitable for pulling 1 cm peel strip without slip or tearing (e.g., 1 ½" x 1" rubber face jaw plates)
- 10 (4) 2.5" by 7" pieces of double stick tape, e.g., PERMACEL available from Permacel, A Nitto Denko Company of East Brunswick, NJ
- (5) Rigid plastic or metal plate for clamping in peel fixture and attaching double stick tape and napkin sections. Approximately 3" by 7".
- 15 (6) 1 cm wide by 12" long sections of polyolefin film (hereinafter, "film adherent"), e.g., Pliant #3471 0.7 mil white polypropylene film.

FIG. 6 depicts a schematic side view of an apparatus 60 suitable for the PEEL

20 **FORCE TEST PROCEDURE.** Body adhesive should be protected from the environment until shortly before testing by a release liner or similar cover. A sample of the body adhesive section of the napkin is cut out to form test sample 62. Test sample 62 should be at least 1 cm wide and preferably 6" in length. If no such continuous region of

35

body-faceable adhesive exists, then one should choose a 1 cm wide and 6" long portion that encompasses the greatest amount of body-contactable adhesive as possible. The layer of material in touch with the body adhesive is left intact but lower layers are removed so that the test sample is as flat as possible. The remaining test sample thus includes a substrate 64 and body-contactable adhesive 66. The double stick tape 68 is adhered to rigid plate 70 such that the body-faceable adhesive 66 is facing up. Any release liner is removed and the film adherent 72 is placed over the sample of body adhesive with the long end toward the screw clamp 5. A 1" square piece of release paper (if no release paper was provided with the test sample, any suitable release strip may be used) is placed at the point where the 1 cm sample turns up 90°, this will be the starting point of the test. The adherent film 72 is covered with release paper and rolled once with a 5 Lb. weight. The release film is then removed. The rigid plate 70 is firmly attached to the stage 74. The instron grip 76 is attached to the end of the film adherent 72 with the square piece of release paper, which is in turn rigidly attached to moveable crosshead 80 of the Instron.

Tension cell 78 is allowed to warm-up 20 minutes before starting the calibration procedure. The load cell is calibrated once before any tests are done on a given day. Calibration is performed as per the manufacturers instructions, by attaching a standard 100 gram mass directly to the load cell.

The stage 74 is such that it is capable of sliding with little friction in a direction normal with respect to the crosshead 80, thus allowing the film to be peeled from the adhesive at a continuous 90 degree angle. As such it may include roller 80 in order to reduce friction. The crosshead speed is set to 10.00 In/Min.

The force measurement apparatus records the force as the film adherent 72 is peeled (pulled up) from the rigid plate to which the body adhesive is attached. The measured peel force is recorded as the time averaged force from a section of the xy recording where stable peeling occurs. As readily determined by one skilled in the art, by

5 "stable peeling" it is meant that time period of the force measurement can clearly be delineated as the onset and completion of peeling.

This average peel force, P is then be utilized to calculate Peel Energy, G_c of the body adhesive, as set forth using the calculation below:

$$10 \quad G_c = \{P^2 / (2 A E w)\} + \{P / (1 - \cos \theta) w\}$$

θ = angle relative to plane of stage along which the film is pulled = 90 degrees,

$$\text{implying } 1 - \cos \theta_{\text{peel}} = 1 - \cos 90^\circ = 1$$

P = peel force measured from the PEEL FORCE TEST PROCEDURE

15 w = width of the film adherent

E_f = elastic modulus of film adherent

A = cross sectional area of the film adherent

Peel Energy, G_c of the body adhesive is then used to calculate G_c/tE , where

20 t = thickness of the film adherent, and again, E = elastic modulus of the film adherent. It is also used to calculate tGE , described below.

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"Peak Force at 20% Stretch" is determined by a test performed as follows. The PEAK FORCE-20% STRETCH TEST PROCEDURE is a measure of the force required to induced 20% strain in the sanitary napkin.

The apparatus necessary for the PEAK FORCE-20% STRETCH TEST
5 PROCEDURE includes the following parts:

1. Instron Universal testing machine with load cell capable of measuring tensile forces up to 50 pounds.
2. Two inch wide upper and lower grips capable of gripping a typical napkin
10 structure without slipping or tearing.

The PEAK FORCE-20% STRETCH TEST PROCEDURE may be performed using an apparatus similar to apparatus 60 described above with respect to the PEEL FORCE TEST PROCEDURE and FIG. 6. Release paper is removed from the body
15 adhesive strips. Talcum powder is applied on the tacky portion to eliminate tack. Two points on opposite sides of the longitudinal centerline of the napkin that are covered with body adhesive are chosen as the test points. These points may be directly opposite the longitudinal centerline from each other or one may be further to the front or back than the other ("front-to-back positioning" is at the discretion of the tester). The points, however
20 must be chosen so that each point can be centered across the width of its particular grip. The entire width of the grip will be contacting the sanitary napkin. Distance between the two points is measured and the gage length on the test machine is set to this value. Crosshead speed is set to 5.00 in/min and load limit is set to 45lb for 50 lb load cell.

20

The sanitary napkin is stretched to a strain of 20% (i.e., the change in length between test points as a result of stretching via the test apparatus is 20% of the original length between test points. The Peak Force at 20% Stretch in grams is then read from the test apparatus. Five Replicates are tested to determine an average Peak Force at 20%

- 5 Stretch for the sanitary napkin The product, $E_{nap}t$, is calculated using the formula below:

$$E_{nap}t = F/W\varepsilon$$

E_{nap} = Effective elastic modulus of napkin

- 10 t = thickness of the sanitary napkin

F = Peak Force at 20% Stretch, measured by the PEAK FORCE-20% STRETCH TEST

W = width of the grip over which the specimen is held

- 15 ε = strain induced by test procedure = 0.2

$E_{nap}t$ is multiplied by G_c , as calculated previously (from Peel Force, P that was measured previously in the PEEL FORCE TEST PROCEDURE) to determine tG_cE_{nap} , a measure of the sanitary napkin's ability to be peeled from the body with reduced pain.

20

Examples of Inventive Sanitary Napkins

Specific examples of inventive sanitary napkins are described below.

Comparative examples are also provided.

All samples, except where noted used a 30gsm multidenier nonwoven cover, unless where noted.

Inventive Sanitary Napkin, Ex. 1

5 A body-attachable sanitary napkin was made according to embodiments of the invention, in which the fluid-retaining portion was attached to the extensible barrier layer in a centrally disposed portion of a region of juxtaposition and unattached to said extensible barrier layer in other portions of the region of juxtaposition – similar to the sanitary napkin constructions shown in **FIG. 5** The area of attachment measured 25mm
10 wide by 100mm in length. The extensible barrier layer was highly extensible, ADC # 9540002, and 80 gsm spunbond polyurethane/polyethylene nonwoven, commercially available from BBA Nonwovens of Peine, Germany. The body-contactable adhesive was selected for strong ability to stay in place, NS 548B, commercially available from National Starch Corporation of Bridgewater, NJ. The body-contactable adhesive was
15 present in a basis weight of 76gsm.

Inventive Sanitary Napkin, Ex. 2

20 A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1. The extensible barrier layer was moderately extensible, a 30gsm thermobonded polypropylene commercially available from PGI, Inc of Dayton, NJ. The NS 548B body-contactable adhesive was present in a basis weight of 82 gsm.

Inventive Sanitary Napkin, Ex. 3

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1. The extensible barrier layer was the
5 highly extensible extensible ADC # 9540002. The body-contactable adhesive was selected for weaker ability to stay in place, Fuller 1407, commercially available from HB HB Fuller Co., of St. Paul, Minnesota. The body-contactable adhesive was present in a basis weight of 83 gsm.

10 Inventive Sanitary Napkin, Ex. 4

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1, except that the fluid-retaining portion did not include portions that were unattached to the extensible barrier layer. The extensible
barrier layer was the highly extensible ADC # 9540002. The body-contactable adhesive
15 was the "stronger" NS 548B adhesive. The body-contactable adhesive was present in a basis weight of 83 gsm.

Inventive Sanitary Napkin, Ex. 5

A body-attachable sanitary napkin was made according to embodiments of the
20 invention, with a construction similar to Ex. 4. The extensible barrier layer was the highly extensible ADC # 9540002. The body-contactable adhesive was the "weaker" Fuller 1407 adhesive. The body-contactable adhesive was present in a basis weight of 86 gsm.

21

Comparative Example, Sanitary Napkin, Comp. Ex. 1

A body-attachable sanitary napkin was made with a construction similar to Ex. 4. The extensible barrier layer was chosen to have poor extensibility, a 25gsm SMMS composite commercially available from BBA Nonwovens. The body-contactable adhesive was the "stronger" NS 548B adhesive.

Comparative Example, Sanitary Napkin, Comp. Ex. 2

A body-attachable sanitary napkin was made with a construction having a cover layer and barrier layer that extend beyond the fluid retaining layer, and the body-contactable adhesive present on the cover. Thus the sanitary napkin was similar to a conventional garment-attached sanitary napkin, but with body-contactable adhesive applied on the top side of the cover layer. The cover layer was an 80 gsm spunbond polyurethane/polyethylene nonwoven. The extensible barrier layer was the highly extensible ADC # 9540002. The body-contactable adhesive was the "stronger" NS 548B adhesive.

Comparative Example, Sanitary Napkin, Comp. Ex. 3

A body-attachable sanitary napkin was made with a construction similar to Comp. Ex. 8. The extensible barrier layer was the moderately extensible 30gsm thermobonded polypropylene. The body-contactable adhesive was the "stronger" NS 548B adhesive. The body-contactable adhesive was present in a basis weight of 83 gsm.

Comparative Example, Sanitary Napkin, Comp. Ex. 4

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 4. The extensible barrier layer was the poorly extensible SMMS. The body-contactable adhesive was the "weaker" Fuller 1407 adhesive. The body-contactable adhesive was present in a basis weight of 58 gsm.

The sanitary napkins suitable for use in the present invention and comparative samples were tested according to the test methods described in the "Test Procedures for Sanitary Articles" section above,

The peel force, P in grams was measured using the PEEL FORCE TEST PROCEDURE. Pliant #3471 0.7 mil white polypropylene film was used as the film adherent for the test. Peel Energy, G_c was calculated using the formula described previously. The peel force in grams from the PEEL FORCE TEST PROCEDURE was converted to units of Newtons by multiplying by a geometric conversion factor of 0.0098 N/g. For this particular film adherent, the cross sectional area of the film adherent, A was 0.000018 m (width, w , was 0.01m and thickness, t was 0.000018 m) and the elastic modulus of film adherent, E_f was $383 \times 10^6 \text{ N/m}^2$. G_c , thus calculated, had units of J/m^2 . G_c/tE , the measure of stay in place, was then calculated using the thickness of the film adherent, t and Elastic Modulus, E_f of the film adherent.

Peak Force at 20% Stretch measured using the PEAK FORCE-20% STRETCH TEST PROCEDURE. The Peak Force at 20% Stretch was converted to units of Newtons by multiplying by a geometric conversion factor of 0.0098 N/g. The width, W of the grip was 2 inches = 5.08cm. tGE , a measure of the sanitary napkin's ability to be peeled from the body with reduced pain, thus calculated, had units of N^2/m^2 .

The results of which are set forth in Table 1 provided below.

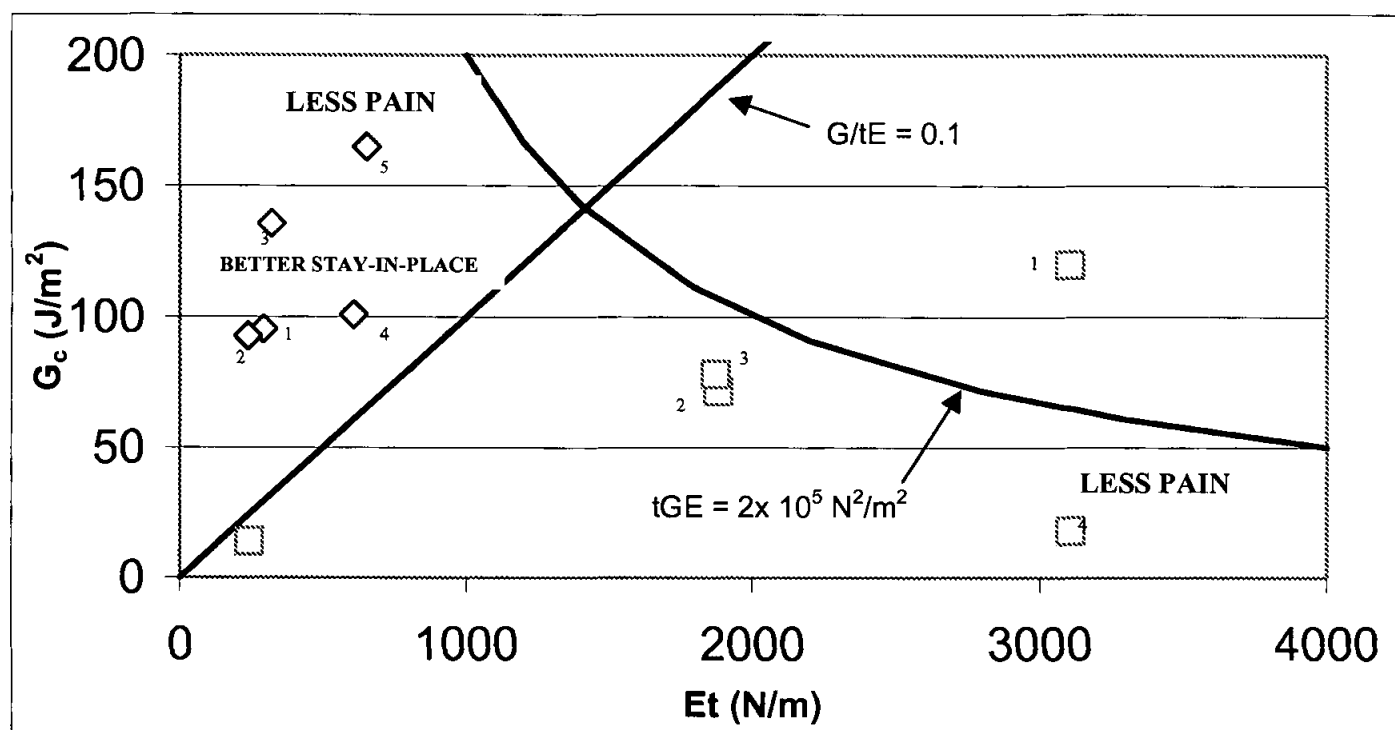
Table 1

Sample	Peel Force, F (g)	Peel energy, G (J/m ²)	Peak Force @ 20% Stretch, F (g) CENTER	Peak Force @ 20% Stretch, F (g) END	Et (N/m) CENTER	Et (N/m) END	tGE (N ² /m ²)	G/Et
Ex. 1	96.6	94.7	471	302	454.3	291.3	2.8E+04	0.3252111
Ex. 2	93.92	92.1	519	246	500.6	237.3	2.2E+04	0.3881591
Ex. 3	137.18	134.6	544	333	524.7	321.2	4.3E+04	0.4189559
Ex. 4	102.11	100.1	941	629	907.7	606.7	6.1E+04	0.1650555
Ex. 5	166.43	163.3	1004	678	968.4	654.0	1.1E+05	0.2496979
Comp Ex. 1	121.38	119.1	4369	3219	4214.2	3104.9	3.7E+05	0.0383441
Comp Ex. 2	72.27	70.9	2641	1950	2547.4	1880.9	1.3E+05	0.0376741
Comp Ex. 3	79.19	77.7	2698	1940	2602.4	1871.3	1.5E+05	0.0414963
Comp Ex. 4	18.32	18.0	4632	3221	4467.9	3106.9	5.6E+04	0.0057794

5

The results are shown graphically in **FIG. 7**. The particular example is matched with the data point in the Figure. Points above the line, $G/tE = 0.1$ indicate high stay-in-place. Points below the curve, $tGE = 2 \times 10^5 \text{ N}^2/\text{m}^2$ indicate lower removal pain. The points in the upper left quadrant (where Examples 1-5 fall) combine both high stay-in-place as well as lower removal pain.

FIG. 7



AS

In view of the above absorbent articles and results of test procedures provided herein, it can be seen that by sanitary napkins of the present invention remain securely attached to the body during use, move with the body during use, yet at the same time enable the user to selectively remove the napkin in a pain free manner.

5 Applications of the sanitary napkin according to the present invention for sanitary and other health care uses can be accomplished by any sanitary protection, incontinence, medical and absorbent methods and techniques as are presently or prospectively known to those skilled in the art. Thus, it is intended that the present application cover the modifications and variations of this invention provided that they come within the scope
10 of the appended claims and their equivalents.

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CLAIMS

I Claim:

- 5 1. A body-attachable sanitary napkin, comprising:
- a fluid-pervious cover layer;
- a fluid-retaining assembly; and
- a barrier layer having a body-contactable adhesive disposed on at least
- first portions thereof, wherein said sanitary napkin satisfies the following:
- 10 $G/tE > 0.1$ and $tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$
2. The body-attachable sanitary napkin of claim 1, wherein said barrier layer has a
- first portion and a second portion, said second portion having a body-attachable adhesive
- arranged thereon; and wherein said fluid-retaining assembly is arranged in overlapping
- 15 relationship to said first portion of said barrier layer thereby defining an area of
- juxtaposition between said fluid-retaining assembly and said barrier layer, and wherein
- said fluid-retaining assembly is secured to said barrier layer along a selected portion of
- said area of juxtaposition.
- 20 3. The body-attachable sanitary napkin of claim 2, wherein the selected portion of the
- area of juxtaposition has an area fraction that is from about 20% to about 80% of the area
- of juxtaposition.

4. The body-attachable sanitary napkin of claim 2, wherein the selected portion of the area of juxtaposition has an area fraction that is from about 30% to about 70% of the area of juxtaposition.

5 5. The body-attachable sanitary napkin of claim 2, wherein the overlapping relationship between said first portion of said barrier layer and said fluid-retaining portion further defines a peripheral region of juxtaposition, and wherein at least about 50% of the peripheral region of juxtaposition is not secured to the barrier layer.

10 6. The body-attachable sanitary napkin of claim 2, wherein the overlapping relationship between said first portion of said barrier layer and said fluid-retaining portion further defines a segment of unattachment and a segment of attachment, and wherein the length of the segment of unattachment 52 is greater than about 15% of that of the length of the segments of attachment.

15

7. The body-attachable sanitary napkin of claim 2, further comprising an additional barrier layer positioned intermediate the fluid-retaining assembly and the extensible barrier layer.

20 8. The body-attachable sanitary napkin of claim 7, wherein the additional barrier layer does not extend beyond the area of juxtaposition.

- 9 The body-attachable sanitary napkin of claim 7, wherein the additional barrier layer is free of body-contactable adhesive.
10. The body-attachable sanitary napkin of claim 2, wherein said extensible barrier
- 5 further comprises a third portion having a body-contactable surface, wherein the third portion is free of body-contactable adhesive.

ABSTRACT

A body-attachable sanitary napkin including a fluid-pervious cover layer, a fluid-retaining assembly; and a barrier layer having a body-contactable adhesive disposed on at least first portions thereof. The sanitary napkin according to the invention remains
5 securely attached to the body during use, moves with the body during use, yet at the same time enables the user to selectively remove the napkin in a pain free manner.

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PTO/SB/01 (10-00)

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DECLARATION AND POWER OF ATTORNEY FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)		Attorney Docket Number	PPC-5287-USNP1	
☒ Declaration Submitted with Initial Filing ☐ Declaration Submitted after Initial Filing (Surcharge (37 CFR 1.16(e)) required) OR		First Named Inventor	Leonard G. Rosenfeld	
		COMPLETE IF KNOWN		
		Application Number	Unassigned	
		Filing Date	Herewith	
		Group Art Unit	Unassigned	
		Examiner Name	Unassigned	
As a below named inventor, I hereby declare that: My residence, mailing address, and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: BODY-ATTACHABLE SANITARY NAPKIN <i>(Title of the Invention)</i> the specification of which ☒ is attached hereto OR ☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International Application Number ☐ and was amended on (MM/DD/YYYY) I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed.				
Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES NO
			☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
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DECLARATION - Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	
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NAME OF SOLE OR FIRST INVENTOR:

☐ A petition has been filed for this unsigned inventor

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NAME OF SECOND INVENTOR:

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	Application Number	Unassigned
	Filing Date	December 18, 2007
	First Named Inventor	Leonard G. Rosenfeld
	Attorney Docket Number	PPC-5287-USNP1
	Title (Required)	BODY-ATTACHABLE SANITARY NAPKIN

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Printed or Typed Name	Telephone Number
<u>Attorney for Applicants</u>	<u>44,152</u>
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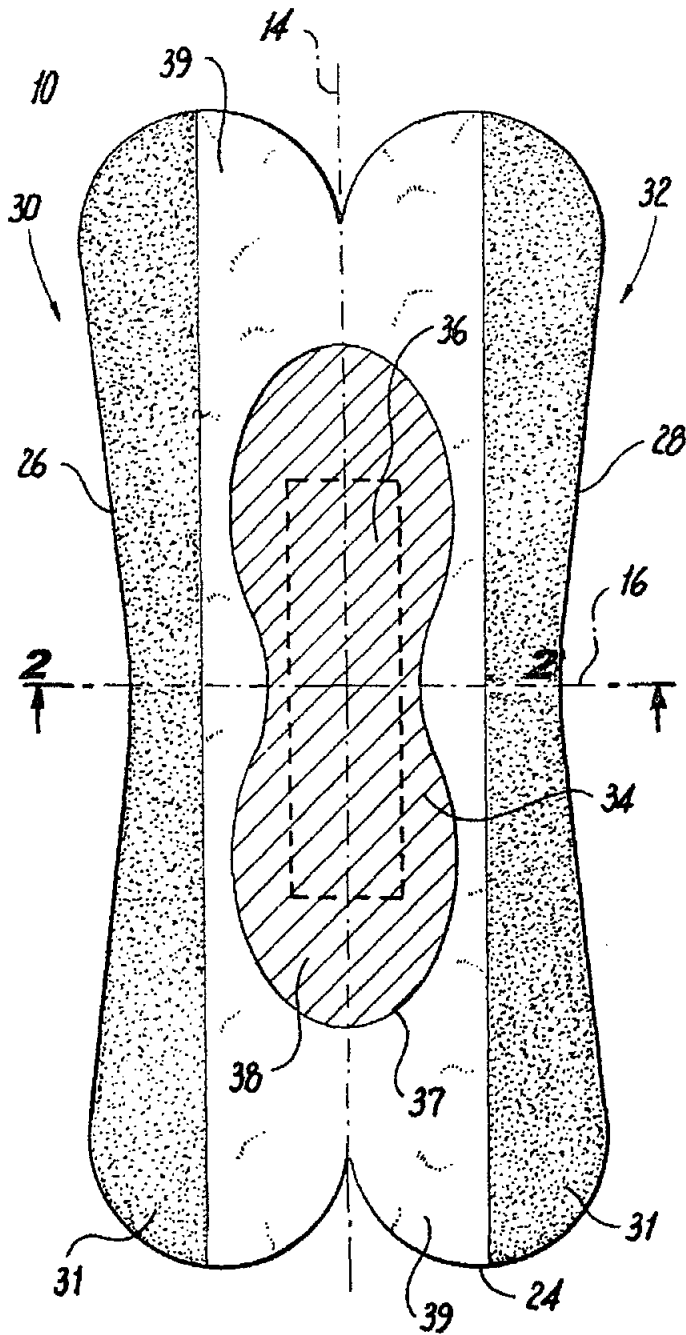


Fig. 1

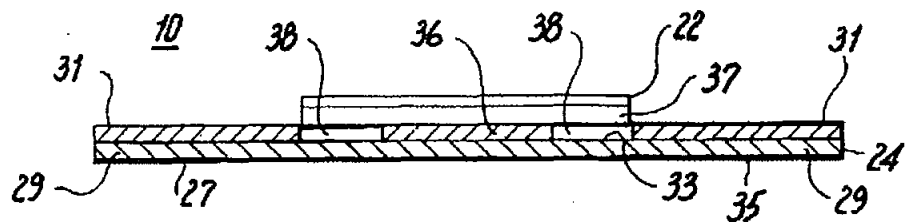


Fig. 2

50

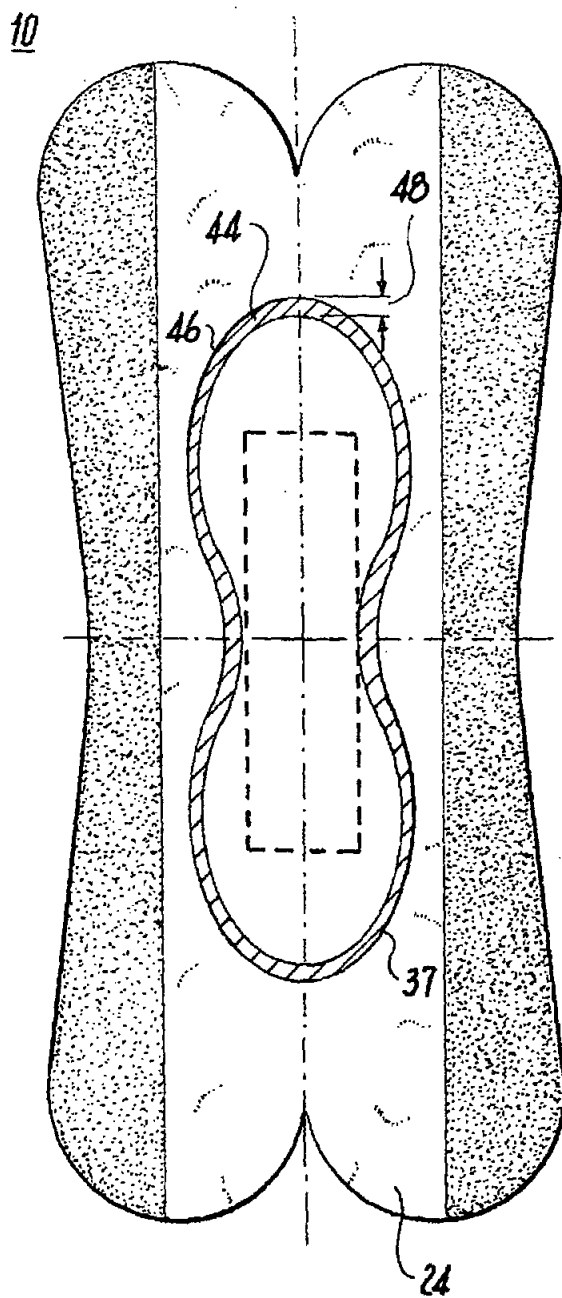


Fig. 3

57

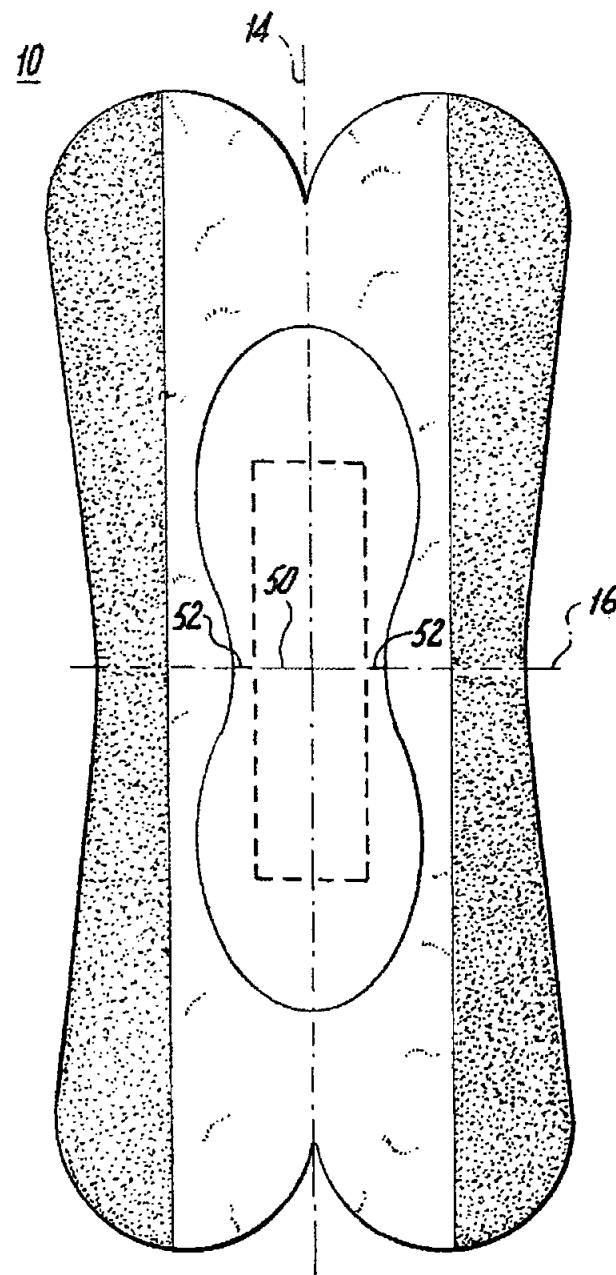


Fig. 4

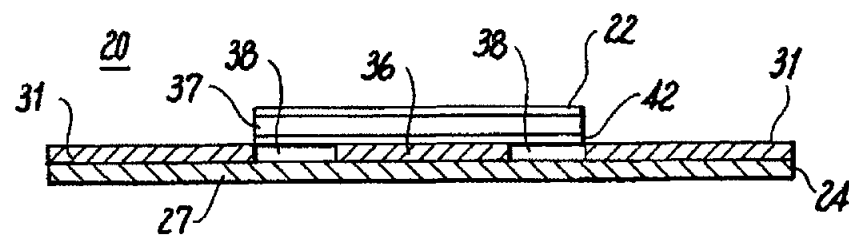


Fig. 5

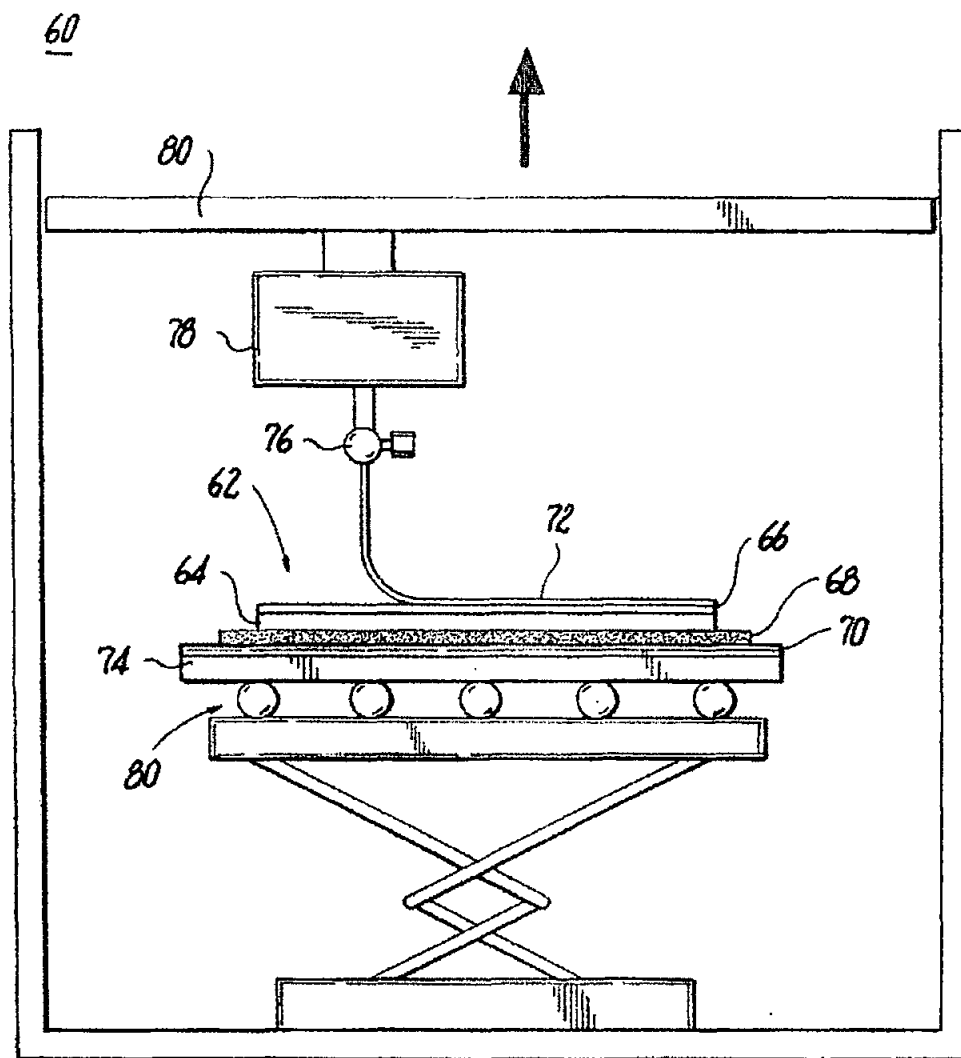


Fig. 6

59

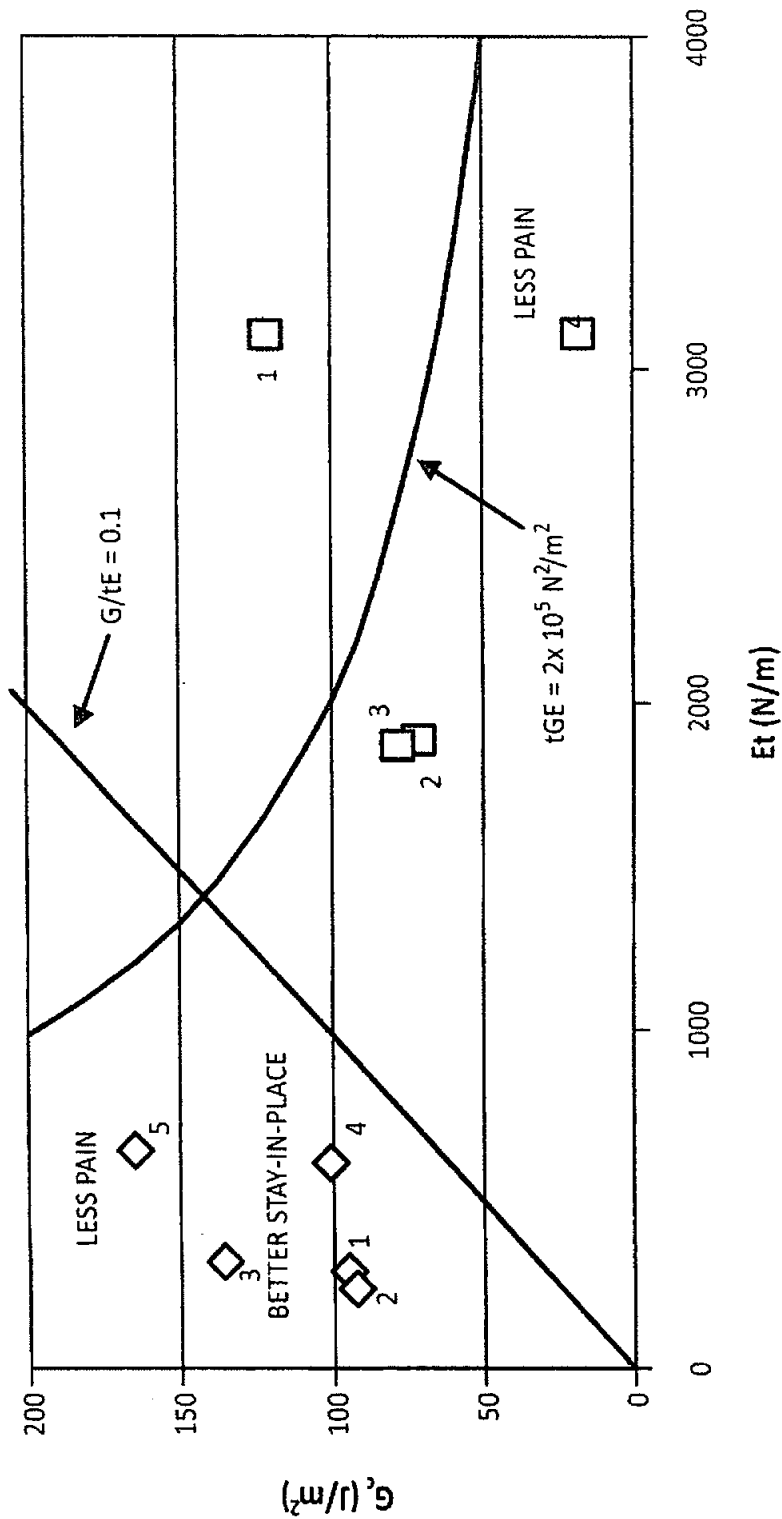


Fig. 7

ESTADOS UNIDOS DE AMÉRICA
A TODOS AQUELLOS A QUIENES EL PRESENTE LLEGUE:

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS
Oficina de Patentes y Marcas de los Estados Unidos

Noviembre 3, 2008

Por medio del presente se certifica que adjunto se encuentra una copia de los archivos de la Oficina de Patentes y Marcas de los Estados Unidos de aquellos papeles de la solicitud de patente abajo identificada, la cual cumplió con los requisitos para que se le otorgara una fecha de presentación bajo 35 USC 111.

Número de Solicitud: 60/984,218
Fecha de Presentación: Octubre 31, 2007

El código del país y el número de su solicitud de prioridad para ser usado en presentación en el extranjero bajo la Convención de Paris, es US60/984,218

Por la autoridad del
Comisionado de Patentes y Marcas

(fdo) P. SWAIN
Oficial Certificador
Sello oficial de la Oficina de Patentes y Marcas de los
Estados Unidos de América.

Cec

REIVINDICACIONES

Reivindico:

5 1. Una toalla sanitaria adherible al cuerpo, que comprende

una capa de cubierta permeable a fluido;

una capa que retiene fluido; y

10

una capa de barrera que tiene un adhesivo conectable
dispuesto sobre por lo menos primeras porciones de ésta
en donde dicha toalla sanitaria satisface lo siguiente

15

$$G/tE > 0.1 \text{ N/m}; \text{ y } tGE < 2 \times 10^5 \text{ N}^2/\text{M}^2$$

2. La toalla sanitaria adherible al cuerpo de la
reivindicación 1, en donde dicha capa de barrera tiene
una primera porción y una segunda porción, dicha segunda

20

porción tiene un adhesivo adherible al cuerpo dispuesto
allí; y en donde dicho ensamble de retención de fluidos
está dispuesto en relación traslapante con dicha primera
porción de dicha capa de barrera definiendo por lo tanto

25

un área de yuxtaposición entre dicho ensamble de
retención de fluidos y dicha capa de barrera; y en donde
dicho ensamble de retención de fluido se asegura a dicha
capa de barrera a lo largo de una porción seleccionada
de dicha área de yuxtaposición.

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3. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 20% a aproximada 80% del área de yuxtaposición.

4. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la porción seleccionada del área de yuxtaposición tiene una fracción de área que es de aproximadamente 30% a aproximada 70% del área de yuxtaposición.

5. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un región periférica de yuxtaposición, y en donde por lo menos aproximadamente 50% de la región periférica de yuxtaposición no se asegura a la capa de barrera.

6. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde la relación traslapante entre dicha primera porción de dicha capa de barrera y dicha porción de retención de fluidos define adicionalmente un segmentos de no adhesión y un segmento de adhesión, y donde la longitud del segmento de no adhesión 52 es

mayor de aproximadamente 15% de aquel de la longitud de los segmentos de adhesión.

5 7. La toalla sanitaria adherible al cuerpo de la reivindicación 2, que comprende adicionalmente una capa de barrera adicional posicionada intermedia a ensamble de retención de fluido y la capa de barrera extensible.

10 8. La toalla sanitaria adherible al cuerpo de la reivindicación 7, en donde la capa de barrera adicional no se extiende más allá del área de yuxtaposición.

15 9. La toalla sanitaria adherible al cuerpo de la reivindicación 7, en donde la capa de barrera adicional está libre de adhesivo para estar en contacto con el cuerpo.

20 10. La toalla sanitaria adherible al cuerpo de la reivindicación 2, en donde dicha barrera extensible comprende adicionalmente una tercera porción que tiene una superficie para contacto con el cuerpo, en donde la tercera porción está libre de adhesivo para contacto con el cuerpo.

P-1714

PA 1726859

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

November 03, 2008

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/984,218

FILING DATE: October 31, 2007

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US60/984,218

By Authority of the
Under Secretary of Commerce for Intellectual Property
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P. SWANN
Certifying Officer

65

Electronic Acknowledgement Receipt

EFS ID:	2406712
Application Number:	60984218
International Application Number:	
Confirmation Number:	1745
Title of Invention:	BODY-ATTACHABLE SANITARY NAPKIN
First Named Inventor/Applicant Name:	LEONARD G. ROSENFELD
Customer Number:	27777
Filer:	Paul J. Higgins./CARMEN CAFRO
Filer Authorized By:	Paul J. Higgins.
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Receipt Date:	31-OCT-2007
Filing Date:	
Time Stamp:	16:58:18
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$210
RAM confirmation Number	2892
Deposit Account	100750

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Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Provisional Cover Sheet (SB16)	PPC5287USPSP1_PROVISIONAL_COVER_SHEET.pdf	301687	no	3
			73424785645948109bc3959d0842ebc6bb7af556		
Warnings:					
Information:					
2	Drawings-only black and white line drawings	5287dra1.pdf	73723	no	6
			c6b0f5816d7a2a81c24b2065123b5b9379108fb		
Warnings:					
Information:					
3		5287spe1.pdf	1055654	yes	40
			5a0127c04e5f99c16dc8d017185995e89c1d4841		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	36	
	Claims		37	39	
	Abstract		40	40	
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	8129	no	2
			49b38ea855ddc9aa126c107d9c15e403c291c993c		
Warnings:					
Information:					
Total Files Size (in bytes):			1439193		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

60

5 **BODY-ATTACHABLE SANITARY NAPKIN**

FIELD OF THE INVENTION

 The present invention generally relates to sanitary absorbent articles and in particular to sanitary napkins that are directly attachable to the body.

10 **BACKGROUND OF THE INVENTION**

 Externally worn, sanitary napkins are one of many kinds of feminine protection devices currently available. In use, the typical sanitary napkin is positioned in the perineal region to capture bodily discharge, e.g., menses. In order to prevent the sanitary
15 napkin from drifting into a position that would compromise the sanitary napkin's ability to manage bodily discharges, the sanitary napkin is generally affixed to a user's undergarment, most commonly with adhesive that is applied to a garment facing surface of the sanitary napkin. The adhesive essentially joins the sanitary napkin to the user's underwear.

20 An alternative sanitary napkin design, the so-called, "body-attachable" sanitary napkin, includes a means for affixing the sanitary napkin directly to the user's body, typically using a body-contactable adhesive. For example, U.S. patent No. 6,213,993 purports to disclose a self-adhering absorbent article including a liquid-permeable cover, an absorbent core, a liquid impermeable baffle, and a bodyside adhesive arranged on the
25 cover for securing the article to the body.

 Unfortunately, it is difficult to design a body-attachable sanitary napkin that will remain attached to the user in a manner that is comfortable to the user and sufficient to

5 prevent leakage. Applicants have recognized that conventional body-attachable sanitary napkins do not move sufficiently with the body during either resulting in leakage and/or detachment from the body. Applicants have further recognized that conventional body-attachable sanitary napkins do not remain securely attached to the body during use, move with the body during use, yet at the same time enable the user to selectively remove the
10 napkin in a pain free manner. As such, a need exists to overcome one or more of the above-mentioned drawbacks.

70

SUMMARY OF THE INVENTION

According to a first aspect of the invention, the present invention provides a body-attachable sanitary napkin a body-attachable sanitary napkin, comprising:

a fluid-pervious cover layer; a fluid-retaining layer; and a barrier layer having a body-

10 contactable adhesive disposed on at least first portions thereof, wherein said sanitary napkin satisfies the following:

$$G/tE > 0.1 \text{ and } tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$$

wherein G is Peel Energy, t is thickness of the sanitary napkin, and E is the effective

Young's modulus of the napkin, and wherein G/tE and tGE are determined using the

15 PEEL FORCE TEST PROCEDURE and the PEAK FORCE-20% STRETCH TEST PROCEDURE, both of which are described herein.

5

BRIEF DESCRIPTION OF THE DRAWINGS

Examples of embodiments of the present invention will now be described with reference to the drawings, in which:

10 **FIG. 1** is a top plan view of a sanitary napkin in accordance with a first embodiment of the present invention;

FIG. 2 is a sectional view of the sanitary napkin of FIG. 1, taken through the transverse centerline, line 2-2' thereof;

15 **FIG. 3** is a top plan view of a sanitary napkin of FIG. 1, showing additional features thereof;

FIG. 4 is a top plan view of a sanitary napkin of FIG. 1, showing yet additional
20 features thereof;

FIG. 5 is cross-sectional view of a sanitary napkin sanitary napkin in accordance with a second embodiment of the present invention;

25 **FIG. 6** is a schematic side view of a test apparatus suitable for conducting test procedures described herein on body-attachable sanitary napkins; and

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5 **FIG. 7** is a graphical depiction of stay-in-place and removal pain for inventive sanitary napkins as well as comparative examples.

5

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a body-attachable sanitary napkin that is generally able to accommodate the demands of moving with the body, remaining attached thereto in use, while permitting the fluid-retaining assembly to remain positioned to receive and
10 retain bodily fluid. As such, the sanitary napkin includes, in certain embodiments, a fluid-retaining assembly that is secured to a barrier layer only along selected portions of an area of juxtaposition between the fluid-retaining assembly and the barrier. By including a fluid-retaining assembly that has reduced securement to the barrier layer, the demands that would otherwise be placed on either the barrier layer or adhesive, or both,
15 is greatly reduced.

Applicants have further determined that a body-attachable sanitary napkin can overcome the challenge of simultaneously providing both high stay in place as well as reduced removal pain by selecting the barrier layer, selecting the body-contactable adhesive and arranging the sanitary napkin, all in a certain manner. In particular,
20 Applicants have provided herein a sanitary napkin construction that remains securely attached to the body during use, moves with the body during use, yet also enables the user to selectively remove the napkin in a pain free manner.

The peel force values described herein are affected by both the nature of the body-contactable adhesive as well as the selection of the barrier layer. The criticality of
25 the results of Applicant's PEEL FORCE TEST PROCEDURE as well as the combination of this criticality combined with the criticality of the results of Applicant's PEAK

5 FORCE-20% STRETCH TEST PROCEDURE has not previously been identified as
useful parameters in the design of body-attachable sanitary napkins.

By designing the body-contactable sanitary napkin to meet the requirements
above, it is possible to include a wider range of barrier materials, a wider range of
adhesives, and/or a wider variety of designs than were suggested in the prior art.

10 Referring to **FIGS. 1-2**, there is shown a first embodiment of the present
invention, a feminine sanitary napkin 10. **FIG. 1** depicts a top plan view of the sanitary
napkin shown in **FIG. 1**. The sanitary napkin 10 a first transverse side 26 defining a
front portion thereof and a second transverse side 28 defining a rear portion thereof. The
sanitary napkin 10 also has two longitudinal sides, namely a first longitudinal side 30 and
15 a second longitudinal side 32.

The sanitary napkin 10 has a longitudinal centerline 14 that bisects the sanitary
napkin 10 in two identical halves and an imaginary transverse centerline 16 arranged
perpendicular to the longitudinal centerline 14. **FIG. 2** depicts a cross-sectional view of
the sanitary napkin shown in **FIG. 1**, taken through line 2-2'.

20 As shown in **FIGS. 1-2**, sanitary napkin 10 is of a laminate construction and
comprises an extensible barrier layer 24. The extensible barrier layer 24 has a top face 33
that generally faces the body of the user and a bottom face 35 that generally faces the
user's undergarment.

A fluid-retaining assembly 37 is arranged in overlapping relationship to a first
25 portion 27 of the extensible barrier layer 24, thereby defining an area of juxtaposition 34
between the fluid-retaining assembly 37 and the extensible barrier layer 24. The first
portion 27 of the extensible barrier layer 24, the fluid-retaining assembly 37, and the area

5 of juxtaposition 34 defined by the overlapping of these components are depicted in FIG.
1 as the "peanut-shaped," cross-hatched region. The first portion 27 of the extensible
barrier layer 24, since it is overlapped by the fluid-retaining assembly, does not include a
skin-contactable surface.

The extensible barrier layer 24 further includes a second portion 29 that extends
10 outwardly beyond the first portion. The body-contactable adhesive 31 is formed upon the
top face 33 of the second portion 29 of the extensible barrier layer 24.

The extensible barrier layer 24 may also include a third portion 39. The third
portion 39 is outside the area of juxtaposition 34. As such it is body-contactable.
However, the third portion 39 includes no body-contactable adhesive formed thereon.

15 The shape of the extensible barrier layer 24 is variable and may be designed to
facilitate skin contact with skin along the groin/inner thigh. Furthermore, the shape of the
fluid-retaining assembly 37 is variable and may be selected to facilitate coverage of the
perineal region of the user. As a percent of the total area of the extensible barrier layer
24 when laid flat (i.e., the "footprint" of the extensible barrier layer 24 – as shown in
20 FIG. 1), the area of the fluid retaining portion 37 may be from about 10% to about 90%,
preferably from about 40% to about 80%.

The shape of the second portion 29 of the extensible barrier layer 24 is also
variable and may be designed to facilitate contact with the user and may be further
designed for ease of manufacture. As depicted in FIG. 1, the shape of second portion 29
25 may include or consist essentially of one or more longitudinally-oriented stripes on either
side of longitudinal centerline 14. Other configurations, e.g., one or more squares,
rectangles, circles, dotted stripes, strips, swirls, or waves are also contemplated.

X6

5 The fluid-retaining assembly 37 is secured to the first portion 27 of the extensible barrier layer 24 along a selected portion 36 (the outline of which is shown as a rectangularly-shaped area in phantom in FIG. 1) of the area of juxtaposition 34. Along non-selected portions 38 (depicted in FIG. 1 as that portion of the "peanut-shaped" area of juxtaposition 34 that is outside the rectangular-shaped selected portion 36), the fluid-
10 retaining assembly 37 is not secured to the first portion 27 of the extensible barrier layer 24. By "secured" it is meant that selected portion 36 the extensible barrier layer 24 and the fluid-retaining portion 37 are either directly or indirectly connected and are designed to remain connected in use.

 The selected portion 36 as a fraction of the area of juxtaposition 34 is not so low
15 as to allow the fluid-retaining assembly 37 to move too freely and/or risk detachment from the sanitary napkin 10, yet it is not so large that motion is unnecessarily restricted. In one embodiment of the invention, the selected portion is from about 5% to about 90% of the area of juxtaposition 34, preferably from about 20% to about 80%, more preferably from about 30% to about 70%.

20 **FIG. 3** is top plan view of the sanitary napkin of **FIG. 1**, showing additional features thereof. As shown in **FIG. 3**, the overlapping of the fluid-retaining assembly 37 with the extensible barrier layer 24 further defines a perimeter 46 of juxtaposition, an imaginary shape that bounds the fluid-retaining portion 37. The perimeter 46 of juxtaposition defines a peripheral region of juxtaposition 44, that portion of the area of
25 juxtaposition 34 along the perimeter 46 of juxtaposition and having a constant width 48, such that the peripheral region of juxtaposition 44 accounts for 10% of the total area of juxtaposition 34. In one embodiment of the invention, at least about 50% of the

5 peripheral region of juxtaposition is not secured to the extensible barrier layer 24. In a preferred embodiment, greater 75% of the peripheral region of juxtaposition is not so secured.

FIG. 4 is top plan view of the sanitary napkin of **FIG. 1**, showing yet additional features thereof. As shown in **FIG. 3**, the overlapping of the fluid-retaining assembly 37
10 with the extensible barrier layer 24 further defines one or more segments of attachment 50, e.g., segments of the transverse centerline 16 within the area of juxtaposition 34 that are secured to the extensible barrier layer 24 (shown in phantom in **FIG. 4**) and one or more segments of unattachment 52; e.g., a segment of the transverse centerline 16 within the area of juxtaposition 34 that are not secured to the extensible barrier layer 24 (shown
15 as a solid line in **FIG. 4**. In one embodiment, the total length of the segments of unattachment 52 are greater than about 15% of that of the total length of the segments of attachment 50. In a preferred embodiment, the length of the segment of unattachment 52 is greater than about 30% of that of the length of the segments of attachment 50. While in **FIG. 4**, the line from which the segments of attachment 50 and segments of
20 unattachment 52 is the transverse centerline 16, the longitudinal centerline 14 or a line at any angle in between the transverse centerline 16 and the longitudinal centerline could be used to determine suitable segments of attachment of unattachment.

While **FIGs. 1, 3 and 4** depict the shape of the selected portion 36 of the area of juxtaposition 34 to be a single continuous rectangular area, other shapes for the selected
25 portion 36 are contemplated. For example the selected portion 36 may include one or more areas of squares, rectangles, circles, dotted stripes, strips, swirls, or waves etc. and

5 may include or not include the center (intersection of the longitudinal centerline 14 and transverse center line 16).

FIG. 5 depicts an alternative embodiment of the invention of a sanitary napkin 20. Sanitary napkin 20 is identical to the sanitary napkin 10 of FIGs 1-2, except that sanitary napkin 20 includes an additional fluid-impervious barrier layer 42, distinct from the extensible barrier layer 24. Additional barrier layer 42 is positioned intermediate (e.g., between) the fluid-retaining assembly 37 and the extensible barrier layer 24. As such, the additional barrier layer 42 provides additional ability to trap bodily fluids and prevent leakage of fluid outside the sanitary napkin 20. In one embodiment, the additional barrier layer 42 is sized to just accommodate the fluid-retaining assembly 37 and, as such, the additional barrier layer 42 does not extend beyond the area of juxtaposition 34 and is free of the body-contactable adhesive 31.

Barrier Layer

20 The extensible barrier layer 24 is generally liquid impervious. By "liquid impervious" it is meant that liquids such as menses and urine, under in-use conditions are unable to pass through. By "extensible", it is meant that when placed under tension in the plane of the layer, the extensible barrier layer 24 can stretch (elastically) 10% or more, preferably 20% or more and essentially recover its original length. The extensible barrier layer 24 may include, for example, polymeric film such as polyethylene or polypropylene; liquid impervious (e.g., repellent-treated) non-wovens (e.g., spunbond, meltblown, or thermobonded polyolefin or polyurethane fibers that have been treated to prevent the penetration of bodily fluids therethrough; or combinations or laminates thereof. The extensible barrier layer 24 may have a basis weight from about 5 gsm to

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5 about 20 gsm. Notable liquid pervious extensible barrier films include spunbond liquid-impervious nonwovens of polyurethane and/or polypropylene; with or without layers of meltblown fibers arranged in between.

The extensible barrier layer 24 may be breathable, i.e., permits vapor to transpire. Known materials for this purpose include nonwoven materials and microporous films in
10 which microporosity is created by, inter alia, placing the extensible barrier layer 24 in tension. Single or multiple layers of permeable films, fabrics, melt-blown materials, and combinations thereof that provide a tortuous path, and/or whose surface characteristics provide a liquid surface repellent to the penetration of liquids may also be used to provide a breathable barrier layer.

15 Optional additional barrier layer 42, as shown in **FIG. 4** may be of similar composition and generally has similar liquid-imperviousness as described above for the extensible barrier layer 24.

Body-Contactable Adhesive

20

The body-contactable adhesive 31 is formed on a body-faceable side of the extensible barrier layer 24 for securing the sanitary napkin 10 to the body of a user, during use. The body-contactable adhesive 31 may be covered with removable release paper so that the body-contactable adhesive 31 is covered by the removable release paper
25 prior to use.

The body-contactable adhesive 31 may include pressure sensitive adhesive and may be applied in various suitable configurations as previously described. As used

5 herein, the term pressure-sensitive adhesive refers to any releasable adhesive or releasable tenacious means.

The composition of the body-contactable adhesive 31 is variable, as long as the adhesive is selected such that when the sanitary napkin is tested according to the test methods described herein, *both* (1) a suitable force to effect peeling of the adhesive *and*
0 (2) a low enough force to effect a particular 20% stretch when subject to tension across the sanitary napkin.

The body-contactable adhesive 31 used in sanitary napkin may be an adhesive based upon block copolymers such as those which may include linear or radial copolymer structures having the formula $(A-B)_x$ wherein block A is a polyvinylarene block,
5 block B is a poly(monoalkenyl) block, x denotes the number of polymeric arms, and wherein x is an integer greater than or equal to one. Suitable block A polyvinylarenes include, but are not limited to polystyrene, polyalpha-methylstyrene, polyvinyltoluene, and combinations thereof. Suitable Block B poly(monoalkenyl) blocks include, but are not limited to conjugated diene elastomers such as for example polybutadiene or
20 polyisoprene or most preferably hydrogenated elastomers such as ethylene-butylene or ethylene-propylene or polyisobutylene, or combinations thereof, specifically, adhesives consisting of styrene-ethylene-butylene-styrene (SEBS) block copolymer and mineral oils, paraffinic or naphthenic process oils, and optionally a suitable tackifying resins include natural and modified resins; glycerol and pentaerythritol esters of natural and
25 modified resins; polyterpene resins; copolymers and terpolymers of natural terpenes; phenolic modified terpene resins and the hydrogenated derivatives thereof; aliphatic petroleum resins and the hydrogenated derivatives thereof; aromatic petroleum resin and

5 the hydrogenated derivatives thereof; and aliphatic/aromatic petroleum resins and the hydrogenated derivatives thereof, and combinations thereof.

The body-contactable adhesive 31 employed in the article according to the present invention may have more than about 50% by weight of a liquid plasticizer, such as more than about 65% by weight of a liquid plasticizer. Suitable liquid plasticizers may include
10 white oils, mineral oils, paraffinic process oils, polyethylene glycol, glycerin, polypropylene glycol, naphthenic oils, and liquid polyterpenes. The liquid plasticizer preferably has a molecular weight of less than 1000 g/mole, more preferably less than 750 g/mole and most preferably less than 500 g/mole.

The body-contactable adhesive 31 may be of the type described in 6191189USB
15 US Patent No. 6,191,189 to Cinelli et al. In particular, the adhesive may comprise:

- from 0.5 to 20%, preferably 5% to 15%, by weight of a macromolecular polymeric substance or a mixture of such substances soluble or swellable in the below mentioned plasticiser(s). As not limiting examples such macromolecular or polymeric substances can be natural and/or synthetic such as natural gums or
20 derivatives such as natural gums and gelatins, their derivatives and alginates; polyacrylics; polyvinyl alcohol; polyethylene oxide; polyvinylpyrrolidone (PVP) or polyvinylethers, their copolymers and derivatives; cellulose derivatives; Block Copolymer Thermoplastic Elastomers and preferably Styrenic Block Copolymers and more preferably the hydrogenated grades
25 Styrol/Ethylene-Butylene/Styrol (SEBS), Styrene/Isoprene/Styrene (SIS), and Styrol/Ethylene-Propylene/Styrol (SEPS);

- 5 • from 45 to 99.5% by weight, preferably from 51 to 99.5% by weight, of a plasticising substance or a mixture of plasticising substances, which are liquid at room temperature. As non-limiting examples the plasticiser can be water, various alcohols (like in particular glycerol), glycols and their ethers, polyglycols, liquid polybutenes, esters such phthalates, adipates, stearates,
- 0 palmitates, sebacates, or myristates, natural or synthetic oils such as vegetable oils, mineral oils, or combinations thereof;
- from 0% to 50% by weight of the composition, preferably from 0 to 600% by weight of the macromolecular polymeric substance of a tackifying resin whose main scope is to tailor the Tg especially in systems based on synthetic
- 15 polymers;
- from 0 to 10% and more preferably from 0 to 5% by weight of substances for facilitating and stabilising the gel and the gel forming process both of hydrophilic or hydrophobic liquid plasticisers. These may be for oily systems, e.g. the fatty acids of C₈ to C₂₂, their metallic salts and their polyoxo-
- 20 derivatives; lanolin derivatives; silica; bentonite, montmorillonite and their derivatives; polyamides, waxes or mixtures thereof.

The adhesive may also be of the type described in 6213993USB US Patent No.

6,213,993 to Zacharias et al. In particular the adhesive may comprise:

- 25 • a rubber-based adhesive such as styrenebutadiene, polyisobutylene, polybutadiene and polyisoprene; a water soluble adhesive such as polyvinyl alcohol, polyvinyl acetate, and methyl cellulose; a hot melt adhesive such as

5 block copolymers of styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-ethylenepropylene-styrene, styrene-ethylenebutylene-styrene and tetrablock copolymers such as styrene-ethylenepropylene-styrene-ethylenepropylene. Incorporated with the adhesives can be suitable tackifying resins and, if appropriate, oils.

10 Other adhesive types here include anhydrous gels consisting of 2-hydroxyethyl methacrylate polymer, polyethylene glycol and optionally water as taught in 4303066USA U.S. Patent No. 4,303,066 and polyurethane gels, as disclosed in 4661099USA U.S. Patent No. 4,661, 099 , or silicone gels including commercial products such as Silgel 612 from Wacker Silicones (Adrian, MI) or SSA-9700 Soft
15 Skin Adhesives Dow-Corning (Midland, MI).

Other suitable adhesive compositions, include, for example, water-based pressure-sensitive adhesives such as acrylate adhesives. Alternatively, the adhesive composition may include adhesives based on the following: emulsion or solvent-borne adhesives of
20 natural or synthetic polyisoprene, styrene-butadiene, or polyacrylate, vinyl acetate copolymer or combinations thereof; hot melt adhesives based on suitable block copolymers - suitable block copolymers for use in the invention include linear or radial co-polymer structures having the formula $(A-B)_x$ wherein block A is a polyvinylarene block, block B is a poly(monoalkenyl) block, x denotes the number of polymeric arms,
25 and wherein x is an integer greater than or equal to one. Suitable block A polyvinylarenes include, but are not limited to Polystyrene, Polyalpha-methylstyrene, Polyvinyltoluene, and combinations thereof. Suitable Block B poly(monoalkenyl) blocks

5 include, but are not limited to conjugated diene elastomers such as for example polybutadiene or polyisoprene or hydrogenated elastomers such as ethylene butylene or ethylene propylene or polyisobutylene, or combinations thereof. Commercial examples of these types of block copolymers include KRATON elastomers from Shell Chemical Company, VECTOR elastomers from Dexco, SolpreneTM from Enichem Elastomers
10 and STEREON from Firestone Tire & Rubber Co.; hot melt adhesive based on olefin polymers and copolymers where in the olefin polymer is a terpolymer of ethylene and a co-monomers, such as vinyl acetate, acrylic acid, methacrylic acid, ethyl acrylate, methyl acrylate, n-butyl acrylate vinyl silane or maleic anhydride. Commercial examples of these types of polymers include Ateva (polymers from AT plastics), Nucrel (polymers
15 from DuPont), Escor (from Exxon Chemical).

Fluid-Retaining Assembly

Sanitary napkins of the present invention include fluid retaining assembly 37. As used herein the term "fluid-retaining assembly" refers to any material or multiple material
20 layers whose primary function is to absorb, store or distribute fluid especially menses that is discharged by the wearer and prevent the back flow of stored fluid towards the cover and contacting the wearer.

3 The fluid retaining assembly 37 may include a single layer of material or may include multiple layers (e.g., an absorbent core overlayed by a so-called "transfer,"
25 "distribution" or "acquisition" layer). In one embodiment, fluid-retaining assembly 37 is a blend or mixture of cellulosic fibers and superabsorbent disposed in and amongst fibers of that pulp.

5 It is possible that the fluid-retaining assembly 37 could be integrated with the cover and/or barrier such that there is essentially only a single layer structure or a two layer structure including the function of the multiple layers described herein.

 Cellulosic fibers that can be used in the fluid-retaining assembly 37 are well known in the art and include wood pulp, cotton, flax and peat moss. Wood pulp is preferred. Pulps can be obtained from mechanical or chemi-mechanical, sulfite, kraft, 10 pulping reject materials, organic solvent pulps, etc. Both softwood and hardwood species are useful. Softwood pulps are preferred. It is not necessary to treat cellulosic fibers with chemical debonding agents, cross-linking agents and the like for use in the present material. Some portion of the pulp may be chemically treated as discussed in US 15 5,916,670 to improved flexibility of the product. Flexibility of the material may also be improved by mechanically working the material or tenderizing the material. The fluid-retaining assembly 37 can contain any superabsorbent polymer (SAP), which SAPs are well known in the art. For the purposes of the present invention, the term "superabsorbent polymer" (or "SAP") refers to materials which are capable of absorbing and retaining at 20 least about 10 times their weight in body fluids under a 0.5 psi pressure. The superabsorbent polymer particles of the invention may be inorganic or organic crosslinked hydrophilic polymers, such as polyvinyl alcohols, polyethylene oxides, crosslinked starches, guar gum, xanthan gum, and the like. The particles may be in the form of a powder, grains, granules, or fibers. Preferred superabsorbent polymer particles 25 for use in the present invention are crosslinked polyacrylates, such as the product offered by Sumitomo Seika Chemicals Co., Ltd. Of Osaka, Japan, under the designation of SA70N and products offered by Stockhausen Inc.

5 The fluid-retaining assembly 37 may comprise a material manufactured by using air-laying means well known in the art. In a specific example, the fluid-retaining assembly 37 is an air laid material made from cellulosic fibers, bonding materials and components that cannot form a bond (nonbonding materials) with the other component materials.

10 In one specific embodiment of the invention, the absorbent system is composed of fluff pulp.

Attachment of Fluid-Retaining Assembly to Barrier Layer

 In certain embodiments of the invention, the fluid retaining assembly 37 is
15 secured to the extensible barrier layer 24 along a selected portion 36 of the area of juxtaposition 34. The securement may be made by means of construction adhesives, heat-bonding, ultrasonic bonding, radio frequency sealing, mechanical crimping, or similar techniques known to the art of joining fibrous and/or film materials for use in absorbent articles.

20 In one embodiment, the selected portion 36 is secured using a construction adhesive. Suitable construction adhesives include, for example, hot melt adhesives, such are those that are sufficiently pressure sensitive at elevated (application) temperatures and have sufficient cohesive and peel strength at ambient temperatures to maintain a firm bond the selected portion 36 of the barrier layer to the fluid-retaining portion 37 while the
25 sanitary napkin is in use. The construction adhesive may include block copolymers, plasticizers and/or reinforcing or tackifying resins.

5

Cover Layer

The sanitary napkin 10 may include cover layer 22. Cover layer 22 may include non-woven web material, an apertured thermoplastic film (such as those described in U.S. Pat. No. 4,690,679), or combinations thereof. The cover layer 22 may be composed of only one type of fiber, such as polyester or polypropylene or it may include a mixture of more than one fiber. The cover layer 22 may be composed of bi-component or conjugate fibers having a low melting point component and a high melting point component. The fibers may be selected from a variety of natural and synthetic materials such as nylon, polyester, rayon (in combination with other fibers), cotton, acrylic fiber and the like and combinations thereof. Preferably, the cover layer 22 has a basis weight in the range of about 10 gsm to about 75 gsm.

Bi-component fibers suitable for use in cover layer 22 may be made up of a polyester layer and a polyethylene sheath. The use of appropriate bi-component materials results in a fusible non-woven fabric. Examples of such fusible fabrics are described in U.S. Pat. No. 4,555,430 issued Nov. 26, 1985 to Chicopee. Using a fusible fabric increases the ease with which the cover layer 22 may be mounted to the absorbent layer and/or to the barrier layer.

The cover material should preferably contain a significant amount of relatively large pores or apertures. This is because the cover layer 22 is intended to take-up body fluid rapidly and transport it away from the body and the point of deposition. Therefore, the cover layer 22 contributes little to the time taken for the napkin to absorb a given quantity of liquid (penetration time).



5 Advantageously, the fibers which make up the layer 22 should not lose their physical properties when they are wetted, in other words they should not collapse or lose their resiliency when subjected to water or body fluid. The cover layer 22 may be treated to allow fluid to pass through it readily. The cover layer 22 also functions to transfer the fluid quickly to the other layers of the absorbent system 44. Thus, the cover layer 22 is
10 advantageously wettable, hydrophilic and porous. When composed of synthetic hydrophobic fibers such as polyester or bi-component fibers, the cover layer 22 may be treated with a surfactant to impart the desired degree of wettability.

The fibers of the nonwoven cover may be bonded by any of various means such as spunlacing (hydroentanglement), thermobonding, latex bonding, and the like.

15 The cover layer 22 may be embossed to the fluid-retaining assembly 37 in order to aid in promoting hydrophilicity by fusing the cover layer 22 to the next layer. Such fusion may be effected locally, at a plurality of sites or over the entire contact surface of cover layer 22 and absorbent system 44. Alternatively, the cover layer 22 may be attached to the fluid-retaining assembly 37 by other means such as by adhesion.

20 Other Structures and Attributes

Sanitary napkins according to the present invention are preferably thin, preferably having a thickness of less than 4.0 mm, more preferably less than 3.0 mm, and most preferably less than 2.5 mm.

25 Any or all of the cover, absorbent layer, transfer layer, backsheet layer, and adhesive layers may be colored. Such coloring includes, but is not limited to, white, black, red, yellow, blue, orange, green, violet, and mixtures thereof. Color may be imparted according to the present invention through dyeing, pigmentation, and printing.



5 Colorants used according the present invention include dyes and inorganic and organic pigments. The dyes include, but are not limited to, anthraquinone dyes (Solvent Red 111, Disperse Violet 1, Solvent Blue 56, and Solvent Green 3), Xanthene dyes (Solvent Green 4, Acid Red 52, Basic Red 1, and Solvent Orange 63), azine dyes (Jet black), and the like. Inorganic pigments include, but are not limited to, titanium dioxide (white), carbon black
10 (black), iron oxides (red, yellow, and brown), chromium oxide (green), ferric ammonium ferrocyanide (blue), and the like.

Organic pigments include, but are not limited to diarylide yellow AAOA (Pigment Yellow 12), diarylide yellow AAOT (Pigment Yellow 14), phthalocyanine blue (Pigment Blue 15), lithol red (Pigment Red 49:1), Red Lake C (Pigment Red), and the
15 like.

The absorbent article may include other known materials, layers, and additives, such as, foam, net-like material, perfumes, medicaments or pharmaceutical agents, moisturizers, odor control agents, and the like. The absorbent article can optionally be embossed with decorative designs.

20 The absorbent article may be packaged as unwrapped absorbent articles within a carton, box or bag. The consumer withdraws the ready-to-use article as needed. The absorbent article may also be individually packaged (each absorbent article encased within an overwrap).

While overall shape of the sanitary napkin may be symmetrical as shown in the
25 Figures, it is also contemplated herein include asymmetrical and symmetrical absorbent articles having parallel longitudinal edges, dog bone- or peanut-shaped, as well as articles having a tapered construction for use with thong-style undergarments.

5 The sanitary napkin of the present invention may be applied to the crotch by placing the body-contactable adhesive against the inner thigh region of the user, thereby securing the absorbent assembly against the perineal region.

10 **Test Procedures For Sanitary Articles: Procedures for Measuring (1) Peel Force and (2) Peak Force for 20% Stretch of the Body-Attachable Sanitary Napkin**

 According to certain one aspect of the invention, in order to provide both reduced pain as well as improved stay in place, the body-attachable sanitary napkin has a Peel Energy, G_c and a Young's modulus, E that satisfy the following relationship:

15

$$G/tE > 0.1 \text{ N/m; and}$$

$$tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$$

G/tE is a measure of the body-faeceable sanitary napkin's ability to stay in place.

20 It is calculated using "Peel Force," P , which is in turn determined using the PEEL FORCE TEST PROCEDURE. tGE is a measure of the sanitary napkin's ability to be peeled from the body with reduced pain. It is calculated using results from the PEEL FORCE TEST PROCEDURE as well as the "Peak Force at 20% Stretch," F , the latter of which is determined using the PEAK FORCE-20% STRETCH TEST PROCEDURE.

25 The PEEL FORCE TEST PROCEDURE and the PEAK FORCE-20% STRETCH TEST PROCEDURE are each set forth in detail below.

 "Peel Force" is determined by a test performed as follows. The PEEL FORCE TEST PROCEDURE is a measure of the force required to peel an adhesive from a

al

5 standard sheet of plastic film. The apparatus necessary for the PEEL FORCE TEST
PROCEDURE includes the following parts:

(1) A force-measurement gauge and more specifically an Instron inverted tension
load cell. Instron Universal testing machine with load cell capable of measuring tensile
10 forces from 10 to 200 grams (2000 gram capacity preferred), such as an Instron machine,
e.g., Instron 1122 or 1125, commercially available from Instron Engineering Corporation,
Canton, Mass.

(2) 90 degree peel fixture such as Instron 2820-035 or 2820-036.
15

(3) a grip attachable to force measurement gauge and suitable for pulling 1 cm
peel strip without slip or tearing (e.g., 1 1/2" x 1" rubber face jaw plates)

(4) 2.5" by 7" pieces of double stick tape, e.g., PERMACEL available from
20 Permacel, A Nitto Denko Company of East Brunswick, NJ

(5) Rigid plastic or metal plate for clamping in peel fixture and attaching double
stick tape and napkin sections. Approximately 3" by 7".

25 (6) 1 cm wide by 12" long sections of polyolefin film (hereinafter, "film
adherent"), e.g., Pliant #3471 0.7 mil white polypropylene film.

5 **FIG. 6** depicts a schematic side view of an apparatus 60 suitable for the PEEL
FORCE TEST PROCEDURE. Body adhesive should be protected from the
environment until shortly before testing by a release liner or similar cover. A sample of
the body adhesive section of the napkin is cut out to form test sample 62. Test sample 62
should be at least 1 cm wide and preferably 6" in length. If no such continuous region of
10 body-faceable adhesive exists, then one should choose a 1 cm wide and 6" long portion
that encompasses the greatest amount of body-contactable adhesive as possible. The
layer of material in touch with the body adhesive is left intact but lower layers are
removed so that the test sample is as flat as possible. The remaining test sample thus
includes a substrate 64 and body-contactable adhesive 66. The double stick tape 68 is
15 adhered to rigid plate 70 such that the body-faceable adhesive 66 is facing up. Any
release liner is removed and the film adherent 72 is placed over the sample of body
adhesive with the long end toward the screw clamp 5. A 1" square piece of release paper
(if no release paper was provided with the test sample, any suitable release strip may be
used) is placed at the point where the 1 cm sample turns up 90°, this will be the starting
20 point of the test. The adherent film 72 is covered with release paper and rolled once with
a 5 Lb. weight. The release film is then removed. The rigid plate 70 is firmly attached to
the stage 74. The instron grip 76 is attached to the end of the film adherent 72 with the
square piece of release paper, which is in turn rigidly attached to moveable crosshead
80 of the Instron.
25 Tension cell 78 is allowed to warm-up 20 minutes before starting the calibration
procedure. The load cell is calibrated once before any tests are done on a given day.

- 5 Calibration is performed as per the manufacturers instructions, by attaching a standard
100 gram mass directly to the load cell.

The stage 74 is such that it capable of sliding with little friction in a direction
normal with respect to the crosshead 80, thus allowing the film to be peeled from the
adhesive at a continuous 90 degree angle. As such it may include roller 80 in order to
10 reduce friction. The crosshead speed is set to 10.00 In/Min.

The force measurement apparatus records the force as the film adherent 72 is
peeled (pulled up) from the rigid plate to which the body adhesive is attached. The
measured peel force is recorded as the time averaged force from a section of the xy
recording where stable peeling occurs. As readily determined by one skilled in the art, by
15 "stable peeling" it is meant that time period of the force measurement can clearly be
delineated as the onset and completion of peeling.

This average peel force, P is then be utilized to calculate Peel Energy, G_c of the
body adhesive, as set forth using the calculation below:

20
$$G_c = \{P^2 / (2 A E w)\} + \{P / (1 - \cos \theta) w\}$$

θ = angle relative to plane of stage along which the film is pulled = 90 degrees,

implying $1 - \cos \theta_{\text{peel}} = 1 - \cos 90^\circ = 1$

P = peel force measured from the PEEL FORCE TEST PROCEDURE

25 w = width of the film adherent

E_f = elastic modulus of film adherent

A = cross sectional area of the film adherent

5

Peel Energy, G_c of the body adhesive is then used to calculate G_c/tE , where t =thickness of the film adherent, and again, E = elastic modulus of the film adherent. It is also used to calculate tGE , described below.

10 "Peak Force at 20% Stretch" is determined by a test performed as follows. The PEAK FORCE-20% STRETCH TEST PROCEDURE is a measure of the force required to induced 20% strain in the sanitary napkin.

The apparatus necessary for the PEAK FORCE-20% STRETCH TEST PROCEDURE includes the following parts:

- 15 1. Instron Universal testing machine with load cell capable of measuring tensile forces up to 50 pounds.
2. Two inch wide upper and lower grips capable of gripping a typical napkin structure without slipping or tearing.

20

The PEAK FORCE-20% STRETCH TEST PROCEDURE may be performed using an apparatus similar to apparatus 60 described above with respect to the PEEL FORCE TEST PROCEDURE and FIG. 6. Release paper is removed from the body adhesive strips. Talcum powder is applied on the tacky portion to eliminate tack. Two
25 points on opposite sides of the longitudinal centerline of the napkin that are covered with body adhesive are chosen as the test points. These points may be directly opposite the longitudinal centerline from each other or one may be further to the front or back than the

5 other ("front-to-back positioning" is at the discretion of the tester). The points, however must be chosen so that each point can be centered across the width of its particular grip. The entire width of the grip will be contacting the sanitary napkin. Distance between the two points is measured and the gage length on the test machine is set to this value. Crosshead speed is set to 5.00 in/min and load limit is set to 45lb for 50 lb load cell.

10 The sanitary napkin is stretched to a strain of 20% (i.e., the change in length between test points as a result of stretching via the test apparatus is 20% of the original length between test points. The Peak Force at 20% Stretch in grams is then read from the test apparatus. Five Replicates are tested to determine an average Peak Force at 20% Stretch for the sanitary napkin. The product, E_{nap} , is calculated using the formula below:

15

$$E_{nap} = F/W\epsilon$$

E_{nap} = Effective elastic modulus of napkin

t = thickness of the sanitary napkin

20 F = Peak Force at 20% Stretch, measured by the PEAK FORCE-20% STRETCH

TEST

W = width of the grip over which the specimen is held

ϵ = strain induced by test procedure = 0.2

25

26

5 E_{nap} is multiplied by G_c , as calculated previously (from Peel Force, P that was measured previously in the PEEL FORCE TEST PROCEDURE) to determine $tG_c E_{\text{nap}}$, a measure of the sanitary napkin's ability to be peeled from the body with reduced pain.

Examples of Inventive Sanitary Napkins

10 Specific examples of inventive sanitary napkins are described below.
Comparative examples are also provided.

All samples, except where noted used a 30gsm multidenier nonwoven cover, unless where noted.

15

Inventive Sanitary Napkin, Ex. 1

A body-attachable sanitary napkin was made according to embodiments of the invention, in which the fluid-retaining portion was attached to the extensible barrier layer in a centrally disposed portion of a region of juxtaposition and unattached to said
20 extensible barrier layer in other portions of the region of juxtaposition – similar to the sanitary napkin constructions shown in **FIG. 5** The extensible barrier layer was highly extensible, ADC # 9540002, and 80 gsm spunbond polyurethane/polyethylene nonwoven, commercially available from BBA Nonwovens of Peine, Germany. The body-
contactable adhesive was selected for strong ability to stay in place, NS 548B,
25 commercially available from National Starch Corporation of Bridgewater, NJ. The body-
contactable adhesive was present in a basis weight of 76gsm.

97

5 Inventive Sanitary Napkin, Ex. 2

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1. The extensible barrier layer was moderately extensible, a 30gsm thermobonded polypropylene commercially available from PGI, Inc of Dayton, NJ. The NS 548B body-contactable adhesive was present in a
10 basis weight of 82 gsm.

Inventive Sanitary Napkin, Ex. 3

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1. The extensible barrier layer was the
15 highly extensible extensible ADC # 9540002. The body-contactable adhesive was selected for weaker ability to stay in place, Fuller 1407, commercially available from HB HB Fuller Co., of St. Paul, Minnesota. The body-contactable adhesive was present in a basis weight of 83 gsm.

20 Inventive Sanitary Napkin, Ex. 4

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 1, except that the fluid-retaining portion did not include portions that were unattached to the extensible barrier layer. The extensible barrier layer was the highly extensible ADC # 9540002. The body-contactable adhesive
25 was the "stronger" NS 548B adhesive. The body-contactable adhesive was present in a basis weight of 83 gsm.

5 Inventive Sanitary Napkin, Ex. 5

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 4. The extensible barrier layer was the highly extensible ADC # 9540002. The body-contactable adhesive was the “weaker” Fuller 1407 adhesive. The body-contactable adhesive was present in a basis weight of 86
10 gsm.

Comparative Example, Sanitary Napkin, Comp. Ex. 1

A body-attachable sanitary napkin was made with a construction similar to Ex. 4. The extensible barrier layer was chosen to have poor extensibility, a 25gsm SMMS
15 composite commercially available from BBA Nonwovens. The body-contactable adhesive was the “stronger” NS 548B adhesive.

Comparative Example, Sanitary Napkin, Comp. Ex. 2

A body-attachable sanitary napkin was made with a construction having a cover
20 layer and barrier layer that extend beyond the fluid retaining layer, and the body-contactable adhesive present on the cover. Thus the sanitary napkin was similar to a conventional garment-attached sanitary napkin, but with body-contactable adhesive applied on the top side of the cover layer. The cover layer was an 80 gsm spunbond polyurethane/polyethylene nonwoven. The extensible barrier layer was the highly
25 extensible ADC # 9540002. The body-contactable adhesive was the “stronger” NS 548B adhesive.

5 Comparative Example, Sanitary Napkin, Comp. Ex. 3

A body-attachable sanitary napkin was made with a construction similar to Comp. Ex. 8. The extensible barrier layer was the moderately extensible 30gsm thermobonded polypropylene. The body-contactable adhesive was the "stronger" NS 548B adhesive. The body-contactable adhesive was present in a basis weight of 83 gsm.

10

Comparative Example, Sanitary Napkin, Comp. Ex. 4

A body-attachable sanitary napkin was made according to embodiments of the invention, with a construction similar to Ex. 4. The extensible barrier layer was the poorly extensible SMMS. The body-contactable adhesive was the "weaker" Fuller 1407 adhesive. The body-contactable adhesive was present in a basis weight of 58 gsm.

15

The sanitary napkins suitable for use in the present invention and comparative samples were tested according to the test methods described in the "Test Procedures for Sanitary Articles" section above,

The peel force, P in grams was measured using the PEEL FORCE TEST

20 PROCEDURE. Pliant #3471 0.7 mil white polypropylene film was used as the film adherent for the test. Peel Energy, G_c was calculated using the formula described previously. The peel force in grams from the PEEL FORCE TEST PROCEDURE was converted to units of Newtons by multiplying by a geometric conversion factor of 0.0098 N/g. For this particular film adherent, the cross sectional area of the film adherent, A was
25 0.000018 m (width, w, was 0.01m and thickness, t was 0.000018 m) and the elastic modulus of film adherent, E_f was $383 \times 10^6 \text{ N/m}^2$. G_c , thus calculated, had units of J/m^2 .

- 5 G/tE , the measure of stay in place, was then calculated using the thickness of the film adherent, t and Elastic Modulus, E_f of the film adherent.

Peak Force at 20% Stretch measured using the PEAK FORCE-20% STRETCH TEST PROCEDURE. The Peak Force at 20% Stretch was converted to units of Newtons by multiplying by a geometric conversion factor of 0.0098 N/g. The width, W of the grip
 10 was 2 inches = 5.08cm. tGE , a measure of the sanitary napkin's ability to be peeled from the body with reduced pain, thus calculated, had units of N^2/m^2 .

The results of which are set forth in Table 1 provided below.

Table 1

Sample	Peel Force, F (g)	Peel energy, G (J/m ²)	Peak Force @ 20% Stretch, F (g) CENTER	Peak Force @ 20% Stretch, F (g) END	Et (N/m) CENTER	Et (N/m) END	tGE (N ² /m ²)	G/Et
Ex. 1	96.6	94.7	471	302	454.3	291.3	2.8E+04	0.3252111
Ex. 2	93.92	92.1	519	246	500.6	237.3	2.2E+04	0.3881591
Ex. 3	137.18	134.6	544	333	524.7	321.2	4.3E+04	0.4189559
Ex. 4	102.11	100.1	941	629	907.7	606.7	6.1E+04	0.1650555
Ex. 5	166.43	163.3	1004	678	968.4	654.0	1.1E+05	0.2496979
Comp Ex. 1	121.38	119.1	4369	3219	4214.2	3104.9	3.7E+05	0.0383441
Comp Ex. 2	72.27	70.9	2641	1950	2547.4	1880.9	1.3E+05	0.0376741
Comp Ex. 3	79.19	77.7	2698	1940	2602.4	1871.3	1.5E+05	0.0414963
Comp Ex. 4	18.32	18.0	4632	3221	4467.9	3106.9	5.6E+04	0.0057794

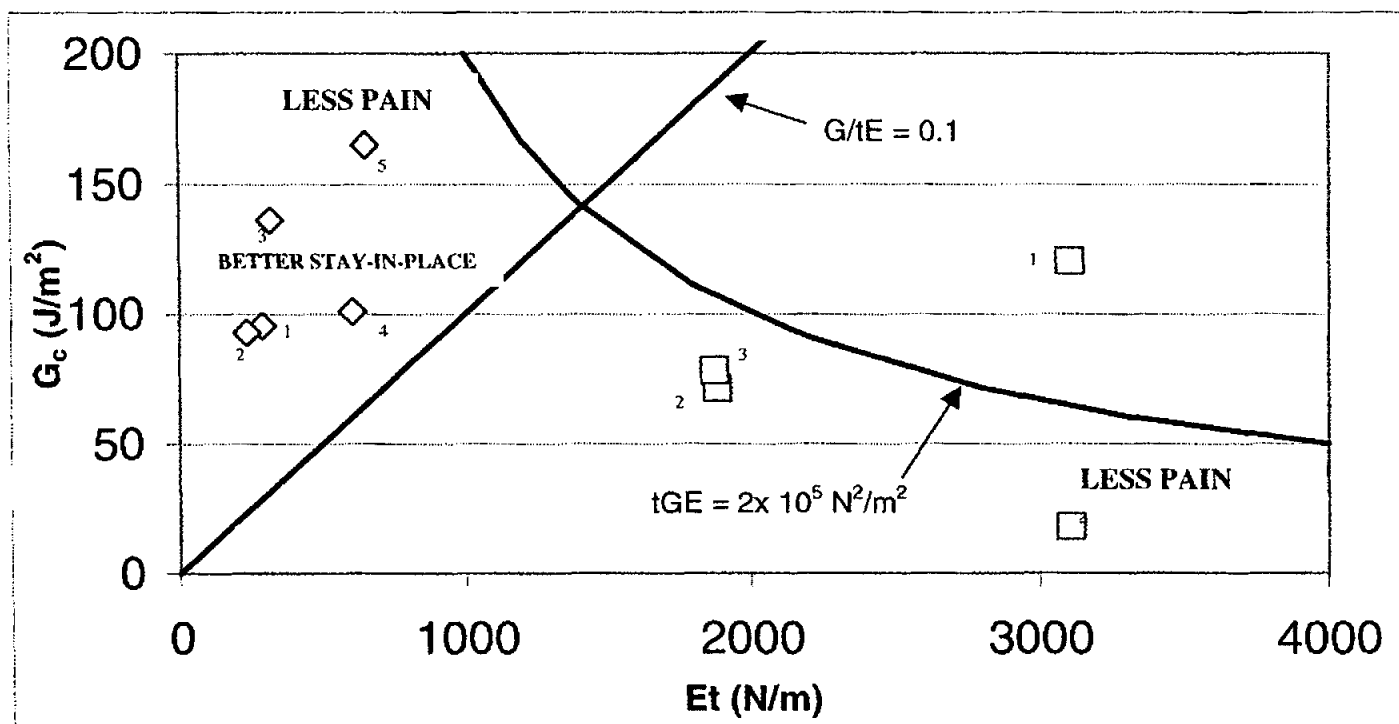
15

101

5 The results are shown graphically in **FIG. 7**. The particular example is matched with the data point in the Figure. Points above the line, $G/tE = 0.1$ indicate high stay-in-place. Points below the curve, $tGE = 2 \times 10^5 \text{ N}^2/\text{m}^2$ indicate lower removal pain. The points in the upper left quadrant (where Examples 1-5 fall) combine both high stay-in-place as well as lower removal pain.

10

FIG. 7



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5 In view of the above absorbent articles and results of test procedures provided
herein, it can be seen that by sanitary napkins of the present invention remain securely
attached to the body during use, move with the body during use, yet at the same time
enable the user to selectively remove the napkin in a pain free manner.

 Applications of the sanitary napkin according to the present invention for sanitary
10 and other health care uses can be accomplished by any sanitary protection, incontinence,
medical and absorbent methods and techniques as are presently or prospectively known
to those skilled in the art. Thus, it is intended that the present application cover the
modifications and variations of this invention provided that they come within the scope
of the appended claims and their equivalents.

15

5

CLAIMS

I Claim:

1. A body-attachable sanitary napkin, comprising:

- 10 a fluid-pervious cover layer;
a fluid-retaining assembly; and
a barrier layer having a body-contactable adhesive disposed on at least
first portions thereof, wherein said sanitary napkin satisfies the following:

$$G/tE > 0.1 \text{ and } tGE < 2 \times 10^5 \text{ N}^2/\text{m}^2$$

15

2. The body-attachable sanitary napkin of claim 1, wherein said barrier layer has a first portion and a second portion, said second portion having a body-attachable adhesive arranged thereon; and wherein said fluid-retaining assembly is arranged in overlapping relationship to said first portion of said barrier layer thereby defining an area of
20 juxtaposition between said fluid-retaining assembly and said barrier layer, and wherein said fluid-retaining assembly is secured to said barrier layer along a selected portion of said area of juxtaposition.

3. The body-attachable sanitary napkin of claim 2, wherein the selected portion of the
25 area of juxtaposition has an area fraction that is from about 20% to about 80% of the area of juxtaposition.

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- 5 4. The body-attachable sanitary napkin of claim 2, wherein the selected portion of the
area of juxtaposition has an area fraction that is from about 30% to about 70% of the area
of juxtaposition.
- 10 5. The body-attachable sanitary napkin of claim 2, wherein the overlapping relationship
between said first portion of said barrier layer and said fluid-retaining portion further
defines a peripheral region of juxtaposition, and wherein at least about 50% of the
peripheral region of juxtaposition is not secured to the barrier layer.
- 15 6. The body-attachable sanitary napkin of claim 2, wherein the overlapping relationship
between said first portion of said barrier layer and said fluid-retaining portion further
defines a segment of unattachment and a segment of attachment, and wherein the length
of the segment of unattachment 52 is greater than about 15% of that of the length of the
segments of attachment.
- 20 7. The body-attachable sanitary napkin of claim 2, further comprising an additional
barrier layer positioned intermediate the fluid-retaining assembly and the extensible
barrier layer.
- 25 8. The body-attachable sanitary napkin of claim 7, wherein the additional barrier layer
does not extend beyond the area of juxtaposition.

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- 5 9. The body-attachable sanitary napkin of claim 7, wherein the additional barrier layer is
free of body-contactable adhesive.
10. The body-attachable sanitary napkin of claim 2, wherein said extensible barrier
further comprises a third portion having a body-contactable surface, wherein the third
10 portion is free of body-contactable adhesive.

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ABSTRACT

A body-attachable sanitary napkin including a fluid-pervious cover layer, a fluid-retaining assembly; and a barrier layer having a body-contactable adhesive disposed on at least first portions thereof. The sanitary napkin according to the invention remains securely attached to the body during use, moves with the body during use, yet at the same time enables the user to selectively remove the napkin in a pain free manner.

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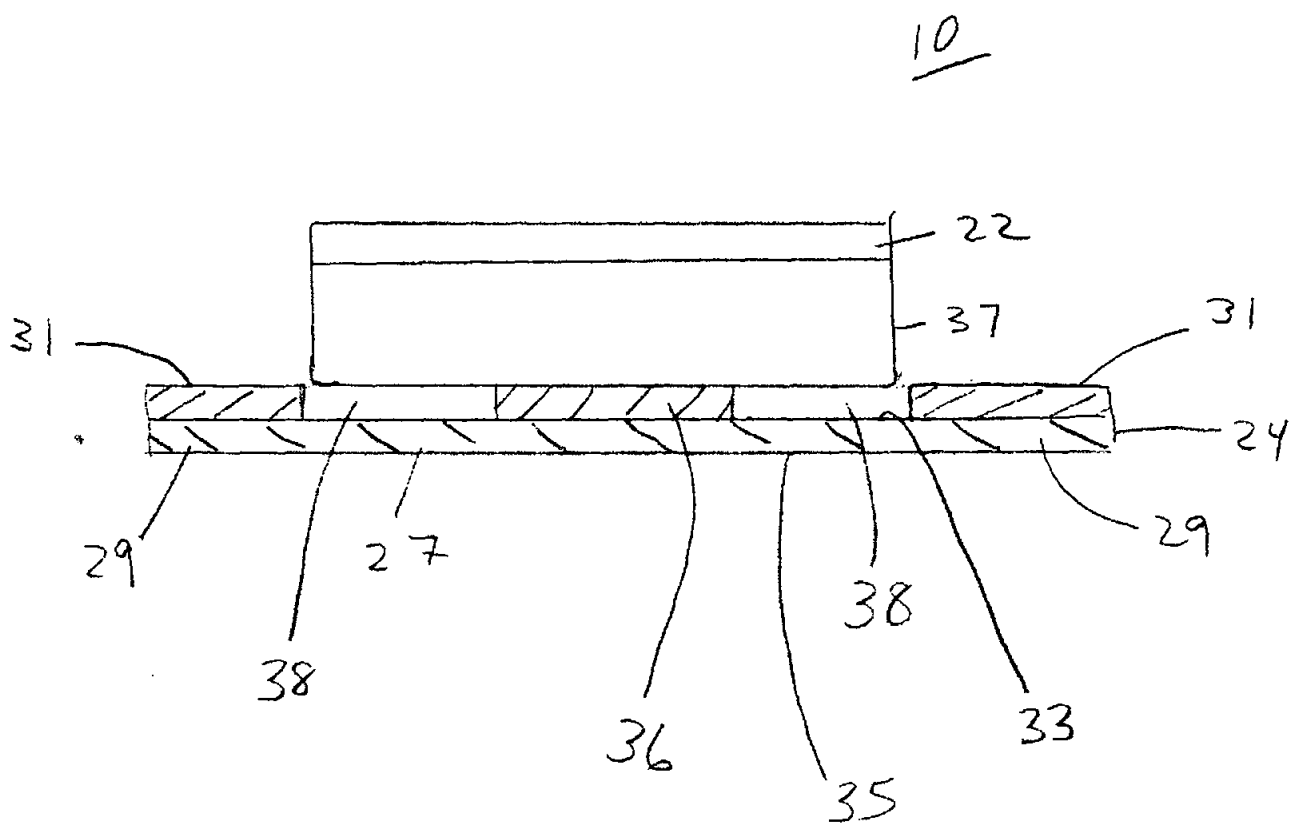


FIG. 2

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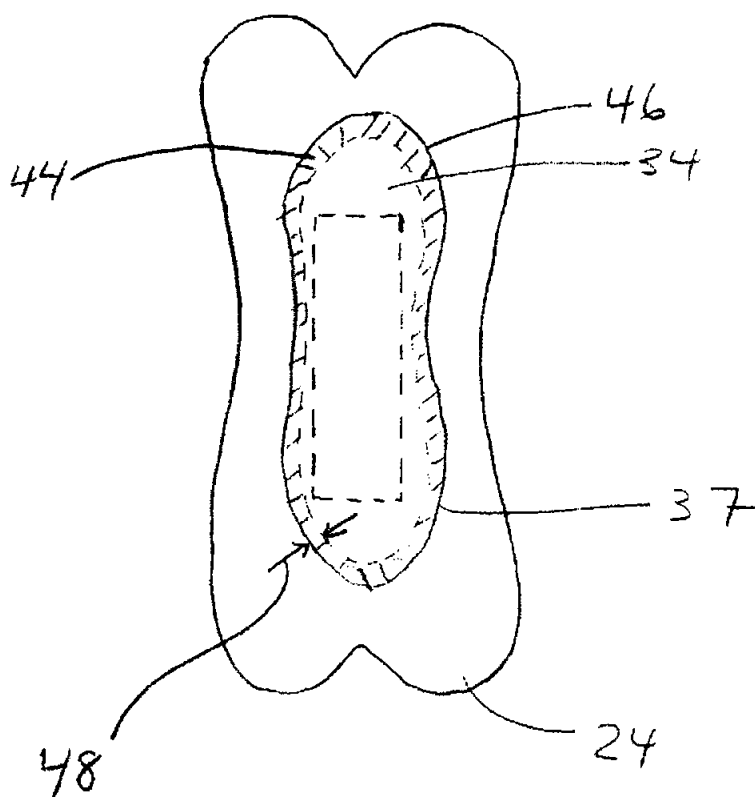


FIG. 3

100

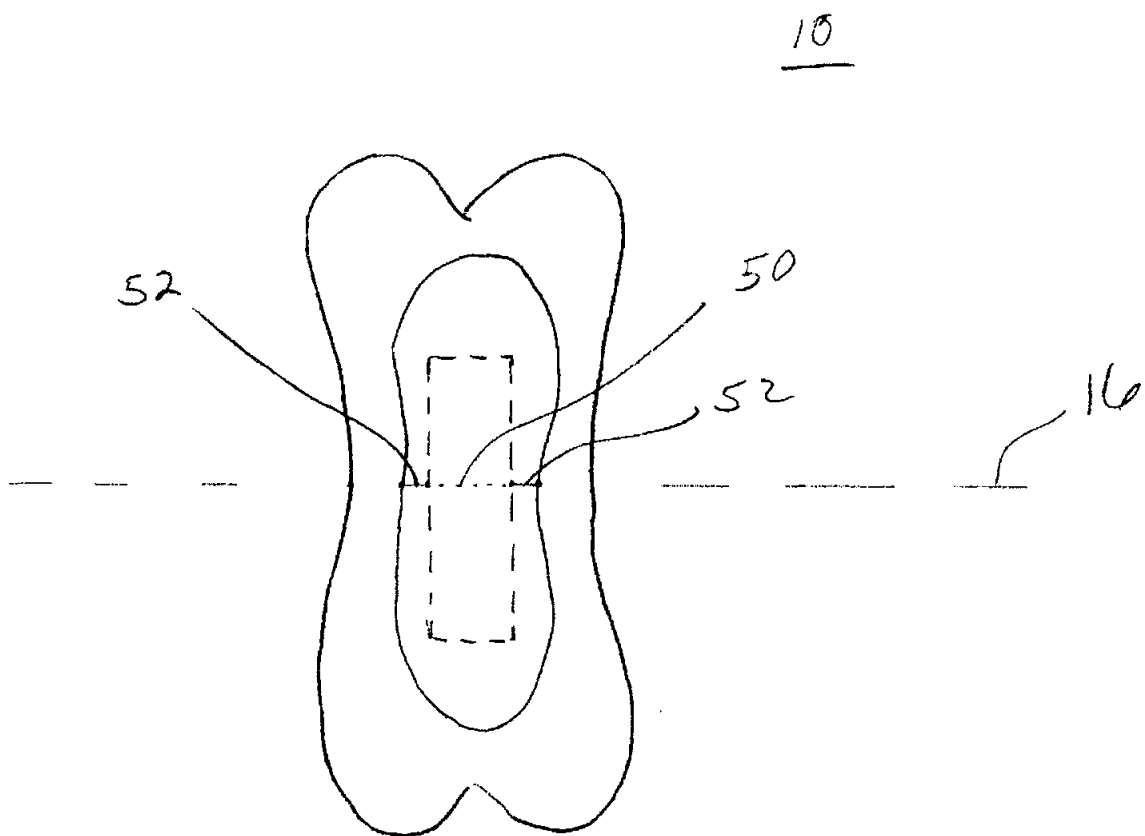


FIG. 4

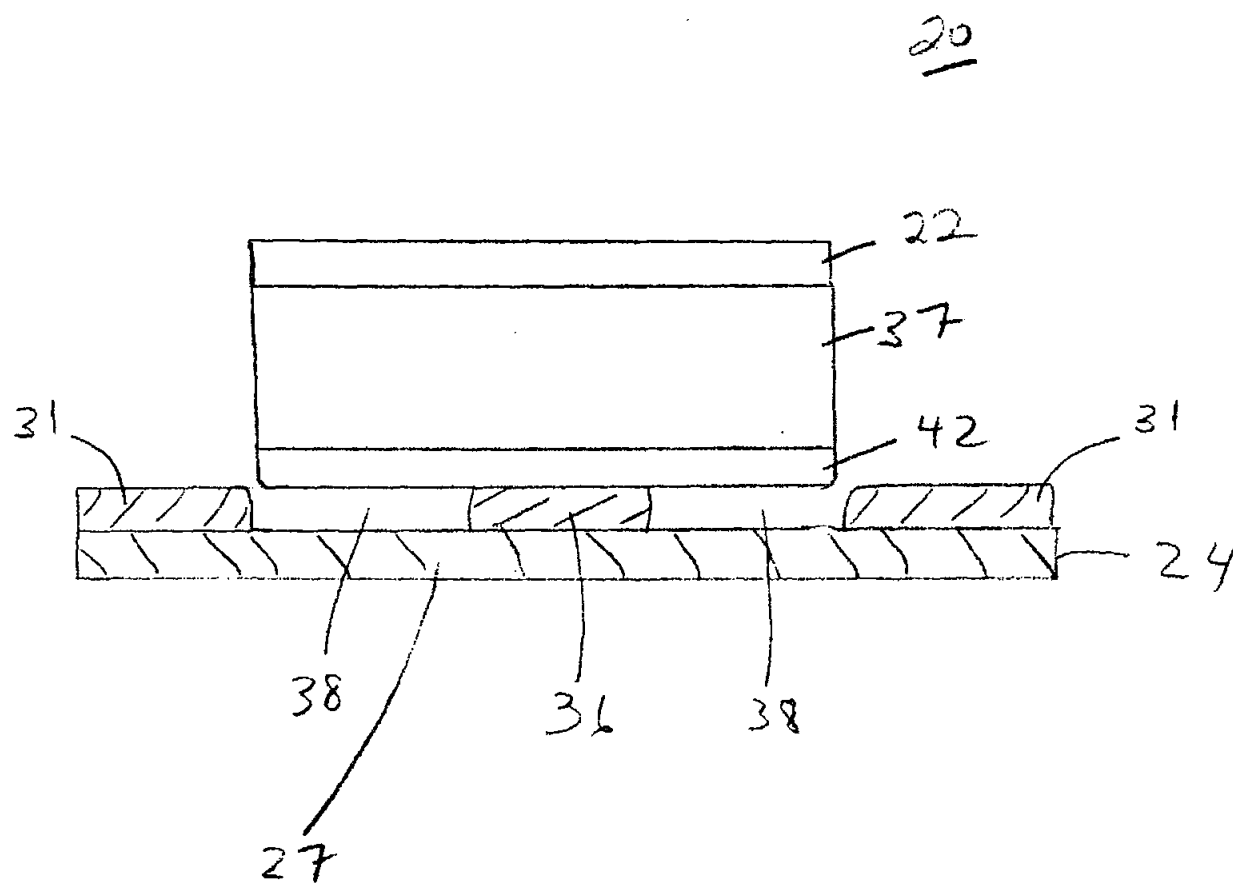


FIG. 5

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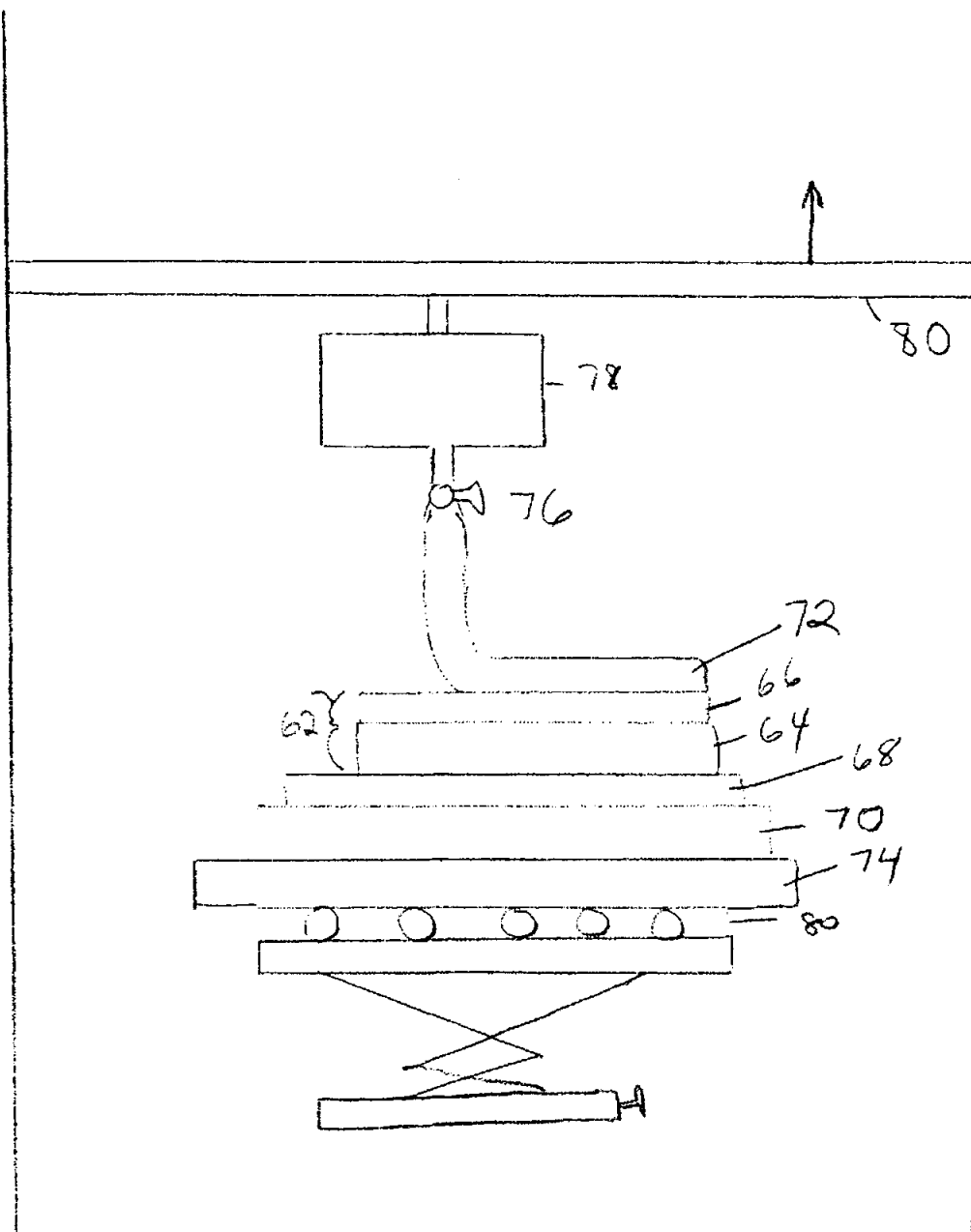


FIG. 6

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REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Bogotá,
2020

Doctor(a)
ESCOBAR URIBE JIMENA
Apoderado(a) y/o Representante de
MC NEIL - P P C, INC.

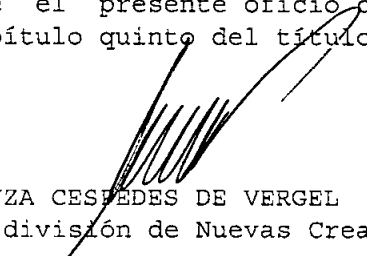
REFERENCIA	Radicación No. 8 116816
	Trámite 2
	Evento 1
	Actuación 430
	Oficio No. No 1 5 2 9 6

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica que:

1. La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante, conforme a lo establecido por el artículo 26 literal k) de la Decisión 486 de la Comisión de la Comunidad Andina. Cuando se trate de documentos otorgados en el extranjero, estos deberán legalizarse de conformidad con lo dispuesto por los artículos 259 y 260 del Código de Procedimiento Civil. Cuando se trate de las declaraciones a que hace referencia la Regla 4.17 ii) del Tratado de Cooperación en Materia de Patentes PCT., el alcance de las tales declaraciones se determinará según indiquen claramente una cesión de derechos del inventor al solicitante o su causante, de conformidad con lo dispuesto en el numeral 5.2.15 del Capítulo Quinto, Título X de la Circular Única de Superintendencia de Industria y Comercio.

En cumplimiento del artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos (2) meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Unica No.10 de 2001.


ALIX CARMENZA CESPEDES DE VERGEL
Jefe de la división de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista de
fecha 04 DIC. 2008
jfernand

Clarke, Modet & C^o

COLOMBIA

p-1716

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO DIVISION DE NUEVAS CREACIONES

E. S. D.

Re: Expediente No. 08-116.816
Solicitud de Patente a nombre de
McNeil-PPC, Inc.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACIONES
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, domiciliada en la carrera 11 No. 86-53, piso 6, obrando como apoderada en este negocio, atentamente solicito a usted se sirva conceder una prórroga de 2 meses para dar respuesta al oficio No. 15296 notificado por fijación en lista el 4 de diciembre de 2008, relacionado con la solicitud de patente que se está tramitando bajo el expediente de la referencia.

Acompaño los recibos Nrs. 09-2,838, 09-2,660, 09-2770, 09-2,771, 09-2,772, 09-2,773, 09-2,774, 09-2,775 todos los anteriores de 13 de enero de 2009, correspondiente a la tasa de la prórroga del término.

Señor Superintendente,

JIMENA ESCOBAR URIBE

C.C. 39.779.452 de Usaquen

T.P. 68.228

Cod. 5376

/srr

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,838
FECHA : ENERO 13 DE 2009



***** CONSIGNACION

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
KE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	99 OTROS SERVICIOS ADMINISTRATIVOS
			TOTAL : \$ 50,000.00

SON: CINCUENTA MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No.

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

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P-1716
2

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 09 - 2,660
FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

***** CONSIGNACION

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		*** REIVINDICACION UNITARIA ADICIONAL	25,000.00
		TOTAL :	\$ 25,000.00

SON: VEINTICINCO MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,770
FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816-00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

***** CONSIGN

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
THE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	1,000.00
99		OTROS SERVICIOS ADMINISTRATIVOS	1,000.00
TOTAL :			\$ 1,000.00

SON: MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,771

FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

***** CONSIGNA

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
		99 OTROS SERVCIOS ADMINISTRATIVOS	1,000.00
		TOTAL :	\$ 1,000.00

SON: MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,772
FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
		99 OTROS SERVICIOS ADMINISTRATIVOS	1,000.00
TOTAL :			\$ 1,000.00

SON: MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No.

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,773
FECHA : ENERO 13 DE 2009

***** CONSIGNACION

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	
MARKET MODET Y CO. COLOMBIA	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
99		OTROS SERVICIOS ADMINISTRATIVOS	1,000.00
TOTAL :			\$ 1,000.00

SON: MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

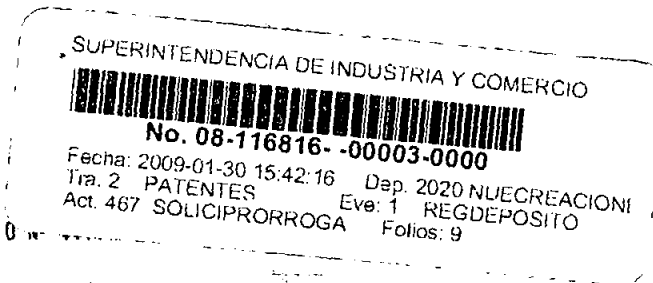


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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,774
FECHA : ENERO 13 DE 2009



***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE MODET Y CO. COLOMBIA	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	99 OTROS SERVICIOS ADMINISTRATIVOS
			1,000.00
TOTAL :			\$ 1,000.00

SON: MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,775

FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00003-0000

Fecha: 2009-01-30 15:42:16 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 467 SOLICIPRORROGA Folios: 9

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** C O N C E P T O *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
		99 OTROS SERVCIOS ADMINISTRATIVOS	1,000.00
TOTAL :			\$ 1,000.00

SON: MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

[Handwritten signature]

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Clarke, Modet & C^o

COLOMBIA

P-1716

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES

E.

S.

D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816-00004-0000

Ref.: Expediente No. 08-116.816
Solicitud de Patente a nombre de
McNeil-PPC, Inc.

Fecha: 2009-02-11 15:01:07 Dep. 2020 NUECREACION
Tra. 2 PATENTES Eve. 1 REGDEPOSITO
Act. 444 RESPUESTAREQUE Folios: 9

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad **McNeil-PPC, Inc.**, domiciliada en Skillman, New Jersey, Estados Unidos de América, solicitante de la patente de la referencia, en respuesta al oficio No. 15296 notificado por fijación en lista el día 4 de diciembre de 2008, me permito presentar el documento(s) en que consta la cesión del derecho a la patente otorgada por el inventor a favor de mi mandante, junto con la traducción de las partes pertinentes del inglés al español.

Espero con esto haber dado cabal cumplimiento a lo solicitado por ese despacho y de conformidad con lo indicado en los artículos 3º, inciso 3; 35, inciso 2 y 59, inciso 2 del CCA, al analizar este memorial, atentamente ruego se traten todas las cuestiones planteadas con motivo del mismo.

Señor Superintendente,

JIMENA ESCOBAR URIBE
C.C.39.779.452 de Usaquén
T.P. 68228
Cód. 5376

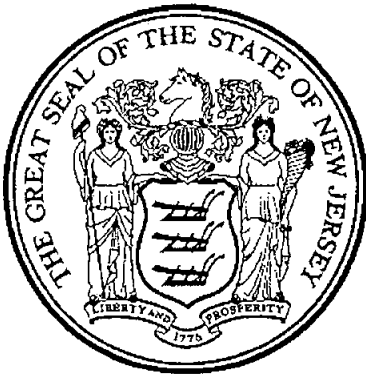
APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

1. COUNTRY: UNITED STATES OF AMERICA
2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY:
CHRISTINA A CLICKNER
3. ACTING IN THE CAPACITY OF:
NOTARY PUBLIC OF NEW JERSEY
4. BEARS THE SEAL/STAMP OF:
CHRISTINA A CLICKNER, NOTARY

CERTIFIED

5. AT TRENTON, NEW JERSEY
6. THE 27TH DAY OF JANUARY 2009
7. BY: R. David Rousseau, NEW JERSEY TREASURER
8. NO. A352383
9. SEAL/STAMP:
10. SIGNATURE



A handwritten signature, likely of R. David Rousseau, is written over a horizontal line.

Certificate Number: 113520938

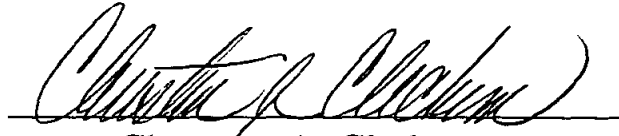
Verify this certificate online at

https://www1.state.nj.us/TYTR_StandingCert/ISP/Verify_Cert.jsp

PPC5287CONP1

CERTIFICATION

I hereby certify that I have compared the attached document with the original, and that such said document is a true copy of the original Assignment document as filed in the U S Patent Office in connection with USSN 60/984,218 filed OCTOBER 31, 2007 and USSN 11/958,986 filed DECEMBER 18, 2007

A handwritten signature in cursive script, appearing to read "Christina A. Clickner", is written over a horizontal line.

Christina A Clickner
(Notary Public of New Jersey)
My Commission Expires
March 2, 2010

DOCKET NO PPC-5287-USPSP1
PPC-5287-USNP1
Sole Inventor

A S S I G N M E N T

WHEREAS Leonard G Rosenfeld, residing at 1260 Madison Drive Yardley PA 19067 (hereinafter called Assignor') has made certain new and useful inventions or discoveries relating to

BODY-ATTACHABLE SANITARY NAPKIN

for which he has executed an application for Letters Patent of the United States, and

WHEREAS McNeil-PPC Inc , a corporation of the State of New Jersey, having its principal place of business at 199 Grandview Road, Skillman NJ 08558 (hereinafter called Assignee") is desirous of acquiring Assignors entire right title, and interest therein

NOW THEREFORE BE IT KNOWN that for and in consideration of the sum of One Dollar and other valuable considerations the receipt of which is hereby acknowledged Assignor has sold assigned and transferred and does hereby sell, assign, and transfer unto said Assignee the entire right, title and interest in and to all said inventions and discoveries disclosed in said application whose identification above by serial number and filing date when available is hereby authorized, and in and to said application, all substitutions, divisions, and continuations thereof, and in and to all Letters Patent United States and foreign that may be granted for said inventions and discoveries, and in and to all extensions renewals, and reissues thereof, the same to be held and enjoyed by said Assignee its successors and assigns, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made,

And Assignor hereby authorizes and requests the Commissioner of Patents of the United States to issue said Letters Patent in accordance with this Assignment

And for the consideration aforesaid Assignor covenants and agrees with said Assignee that he has a full and unencumbered title to the inventions and discoveries above described and hereby assigned which title he warrants unto said Assignee its successors and assigns

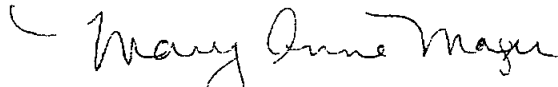
And for the consideration aforesaid Assignor further covenants and agrees that he will whenever requested but without cost to him promptly communicate to said Assignee or its representatives any facts known to him relating to said inventions and discoveries testify in any interference or legal proceedings involving said inventions and discoveries and execute any additional papers that may be necessary to enable said Assignee or its representatives successors nominees or assigns to secure full and complete protection for the said inventions and discoveries or that may be necessary to vest in said Assignee the complete title to the said inventions and discoveries and patents hereby conveyed and to enable it to record said title

IN TESTIMONY WHEREOF Assignor has hereunto set his hand and seal this 14 day of December 2007


_____(L S)
LEONARD G ROSENFELD

STATE OF NJ)
COUNTY OF Somerset) ss

BE IT REMEMBERED That on this 14th day of December, 2007, before me a Notary Public, personally appeared LEONARD G ROSENFELD who I am satisfied is the person named in and who executed the foregoing instrument in my presence and I having first made known to him the contents thereof, he did acknowledge that he signed, sealed and delivered the same as his voluntary act and deed for the uses and purposes therein expressed


Notary Public

MARY ANNE MAGEE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires January 21, 2008

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Traducción oficial hecha por Jimena Escobar Uribe, traductora e intérprete oficial según resolución No. 0369 del Ministerio de Justicia, del documento legalizado mediante la **APOSTILLA** No. **A352383** de 27 de enero de 2009 de 2009 expedida en Estados Unidos de América correspondiente a un documento de cesión.

PPC5287CONP1

CERTIFICACION

Por medio del presente certifico que he comparado el documento anexo con el original y que dicho documento es una copia veraz de la cesión original tal como fue presentada en la Oficina de Patentes de los Estados Unidos en relación con USSN 60/984,218 presentada el 31 DE OCTUBRE DE 2007 y USSN 11/958,986 presentada el 18 DE DICIEMBRE DE 2007.

(fdo) Christina A. Clickner, Notario Público
Mi comisión termina el 2 de marzo del 2010
(sello notarial, Estado de New Jersey)

Archivo No PPC-5287-USPSP1

PPC-5287-USNP1

Único Inventor

CESION

CONSIDERANDO que Leonard G. Rosenfeld residente en 1260 madison Drive, Yardley, PA 19067 (de ahora en adelante denominado "Cedente"), ha realizado ciertos novedosos y útiles inventos o descubrimientos relacionados con

TOALLA SANITARIA ADJUNTABLE AL CUERPO


JIMENA ESCOBAR URIBE
Traductor e Intérprete Oficial
Resolución No. 0369 Min. Justicia 1995

para el cual ha presentado una solicitud para Título de Patente en los Estados Unidos; y

CONSIDERANDO que McNeil-PPC, Inc., una sociedad del Estado de Nueva Jersey, con lugar principal de negocios en 199 Grandview Road, Skillman, NJ 08558 (de ahora en adelante denominada "Cesionario"), esta deseosa de adquirir la totalidad de los derechos, títulos e intereses del Cedente sobre el mismo:

AHORA, POR LO TANTO, SE HACE SABER que por la suma y en consideración de la misma por Un Dólar y otras consideraciones de valor, del cual se acusa recibo por medio del presente escrito, el Cedente ha vendido, cedido y transferido, y por medio del presente vende, cede y transfiere al Cesionario la totalidad del derecho, título e interés relacionado con los inventos y descubrimientos mencionados en dicha solicitud, cuya identificación por número de serie y fecha de presentación cuando sea disponible se autoriza por medio del presente y con dicha solicitud, todas las sustituciones, divisiones y continuaciones de la misma y con todos los Títulos de Patentes de los Estados Unidos de América o extranjeras que sean otorgados para dichos inventos y descubrimientos y con todas las prórrogas, renovaciones y re-expediciones de la misma, para que sean de y disfrutadas por el Cesionario, sus sucesores y cesionarios, tan amplia y cabalmente como los mismos hubieran sido encabezados y disfrutados por el Cedente si esta Cesión y venta no se hubiera realizado;

Y, el Cedente por medio del presente autoriza y solicita al Comisionado de Patentes de los Estados Unidos

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202

expedir el Título de patente en concordancia con esta Cesión;

Y, por las consideraciones anteriores, el Cedente pacta y acuerda con el Cesionario que él tiene un título entero y sin cargas sobre los inventos y descubrimientos descritos atrás y aquí cedidos, cuyo título él garantizan al Cesionario, sus sucesores y cesionarios;

Y, por las consideraciones anteriores, el Cedente además pacta y acuerda que, cuando le sea solicitado y sin costo adicional para él, comunicará al Cesionario o sus representantes cualquier hecho de que tenga conocimiento relacionado con dichos inventos y descubrimientos, testificará en cualquier interferencia o procedimientos legales relacionados con dichos inventos y descubrimientos y suscribirá cualquier documento adicional que sea necesario para permitir al Cesionario o sus representantes, sucesores, nominados o cesionarios que aseguren la completa protección para los mencionados inventos o descubrimientos o que sean necesarios para conferir al Cesionario el título completo de dichos inventos y descubrimientos y las patentes aquí transmitidas y para permitirle registrar dicho título.

EN TESTIMONIO DE LO CUAL, el Cedente ha estampado su firma y sello, hoy 14 de diciembre de 2007

Firmado: LEONARD G. ROSENFELD

Estado de Nueva Jersey
Condado de Somerset

QUE SEA RECORDADO, que el 14 de diciembre 2007, ante mí, Notario Público, compareció personalmente LEONARD G.


203

ROSENFELD, quien estoy satisfecho es la persona nombrada en el instrumento precedente y quien lo suscribió en mi presencia, y habiéndole yo indicado el contenido del mismo, él reconoció que lo firmó, selló y otorgó como un acto voluntario para los usos y propósitos allí expresados.

Firmado: Firma ilegible, Notario Público

Sello: Mary Anne Magee, notario público de Nueva Jersey, mi comisión termina el 21 de enero de 2008

APOSTILLA

(Convención de la Haya de 5 de octubre de 1961)

1. País: Estados Unidos de América
2. Este documento público ha sido firmado por
Christina A. Clickner
3. Actuando en su calidad de:
Notario Público de Nueva Jersey
4. Lleva el sello/estampilla de:
Christina A. Clickner, Notario

CERTIFICADO

5. En Trenton, Nueva Jersey
6. El 27 de enero de 2009
7. Por R. A352383
9. Sello/Estampilla: Sello del Estado de Nueva Jersey
10. Firma: ilegible

Certificado número: 113520938

Verifique este número en línea en

https://www1.state.nj.us/TYTR_StandingCert/JSP/VerifyCert.jsp

MINISTERIO DE
RELACIONES EXTERIORES
Jefe de Legalizaciones
BOGOTÁ D.C.
2009 FEB -9 A 10:52
873255
NO SE ASUME
RESPONSABILIDAD
DEL TEXTO
GUAYAMA, P.R. EN EL
DOCUMENTO DE SEMPERNA
ASIGNACIONES INDICADAS

RECIBO LEGALIZACION
9/11

Jimena Escobar Uribe
JIMENA ESCOBAR URIBE
Traductor e Intérprete Oficial
Resolución No. 0369 Min. Justicia 1995

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24

300014 B.C.
OFFICE OF THE ATTORNEY GENERAL

DEPARTMENT OF JUSTICE
OFFICE OF THE ATTORNEY GENERAL

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ST. LOUIS, MO.
FEBRUARY 3, 1966

ST. LOUIS, MO.
FEBRUARY 3, 1966



2020
Bogotá D.C.,

Doctor(a)
ESCOBAR URIBE JIMENA
Apoderado(a) y/o Representante de
MC NEIL - P P C, INC.

REFERENCIA	Radicación No. 8 116816
	Trámite 2
	Evento 1
	Actuación 416
	Oficio No. 9618
	Folios 1

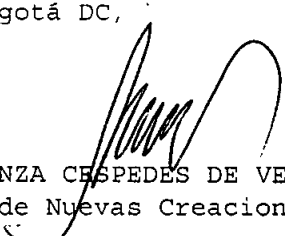
Teniendo en cuenta que la solicitud de privilegio de patente que se tramita bajo el expediente indicado en la referencia, reúne los requisitos de forma establecidos en los artículos 26 y 27 de la Decisión 486 de la Comisión de la Comunidad Andina, y en las demás disposiciones vigentes sobre la materia, se envía el extracto de la solicitud a la Oficina de Comunicaciones para efecto de su publicación en la Gaceta de Propiedad Industrial, conforme lo establece el artículo 40 de la misma Decisión.

Siendo manifestación expresa del interesado de efectuar la publicación "inmediato", esta se realizará en la próxima gaceta de Propiedad Industrial.

Cúmplase

Dado en Bogotá DC,

15 DIC. 2009


ALIX CARMENZA CESPEDES DE VERGEL
Directora de Nuevas Creaciones (c)

jfernand

206

Clarke, M

COL

P-1716

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00005-0000

Fecha: 2010-05-19 15:03:46 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 538 PETICION Folios: 2

SEÑORES
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES
E.S.D.

REF: EXPEDIENTE No. 08.116.816
SOLICITANTE: McNeil-PPC, Inc.

ASUNTO: SOLICITUD EXAMEN DE PATENTABILIDAD

DILIA RODRÍGUEZ D'ALEMAN identificada como aparece al pie de mi firma, domiciliada en Bogotá, domiciliada en la Carrera 11 No. 86-53, piso 6, obrando como apoderada de la sociedad solicitante, pido a usted que se proceda a examinar si la invención, cuya patente se tramita en el expediente de la referencia, es patentable.

Adjunto al presente memorial el recibo No. 10-36,576 de 6 de mayo de 2010 por la suma de \$470.000.00, con lo cual queda cubierta la tasa oficial correspondiente a dicho estudio.

Señor Superintendente,

DILIA MARÍA RODRÍGUEZ D'ALEMAN
C.C. 41.654.882 de Bogotá.
T.P. 20824 CSJ

207

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816- -00005-0000

Fecha: 2010-05-19 15:03:46 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 538 PETICION Folios: 2

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 10 - 36,576
FECHA : MAYO 6 DE 2010

Ri

***** CONSIGNACION *****

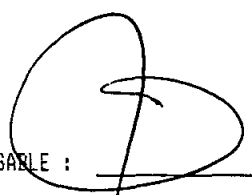
DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE MODET Y CD. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	353151680	05/05/2010	91,310,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	PRORROGAS Y RENOVACIONES	
		114 PRORROGAS Y RENOVACIONES	470,000.00
		TOTAL :	\$ 470,000.00

SON: CUATROCIENTOS SETENTA MIL PESOS

RESPONSABLE :



RECIBO DE CAJA APLICADO AL ASUNTO No.

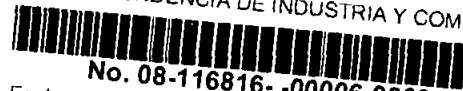
P-1716

Clarke, Modet & C°

COLOMBIA
Clarke, Modet & C°

COLOMBIA

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 08-116816-00006-0000

Fecha: 2010-09-23 15:22:41 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Evt. 1 REGDEPOSITO
Act. 329 CTOINFORMACION Folios: 2

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES**

E. S. D.

Re: Expediente No. 08.116.816
Solicitud de patente a nombre de McNeil-PPC, Inc.

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, de acuerdo al poder que adjunto en copia auténtica y que ya **obraba en el expediente**, con base en la especial facultad que me otorgó el mandante para ratificar, **RATIFICO** todo lo actuado por la Doctora **Dilia Rodríguez D'Aleman** en el expediente de la referencia, en especial la presentación que hizo El 19 de mayo de 2010 solicitando el examen de patentabilidad.

Atentamente.


JIMENA ESCOBAR URIBE

C.C. 39.779.452 de Usaquen.

T.P. 68.228

PRESENTACION PERSONAL

El anterior escrito fue presentado ante el

NOTARIO C. DE DEL CIRCULO DE BOGOTA, D.C.

personalmente por Jimeno Escobar

Libre

quien exhibió la c.c. 37779542 de Bogotá

y Tarjeta Profesional No. 11111111

Fecha 28 DIC 2009

28 DIC 2009

[Handwritten signature]
Guillermo Chávez Crisóstomo
NOTARIO



SEÑORES

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIVISIÓN DE NUEVAS CREACIONES

E S D

REF

EXPEDIENTE NR 08 116 816

SOLICITUD DE PATENTE A NOMBRE DE McNeil-PPC, Inc

Yo, **JIMENA ESCOBAR URIBE**, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No 86-53 Piso 6, atentamente digo a usted que sustituyo el poder con que obro a la doctora **DILIA RODRIGUEZ D'ALEMAN**, domiciliada en Bogotá, D C, portadora de la tarjeta profesional No 20 824, con las mismas facultades con que me fueron conferidas para este caso


JIMENA ESCOBAR URIBE

C C 39 779 452 de Usaquén

T P 68 228

Acepto sustitución

DILIA RODRIGUEZ D'ALEMAN

C C 41 654 882 de Bogotá

T P 20 824

PRESENTACION PERSONAL

El anterior escrito fue presentado ante el

NOTARIO ONCE (E) DEL CIRCULO DE BOGOTA D.C.

personalmente por

Jimeno Escobar

quien exhibió la c.c.

39.779.482 Usa puon

y Tarjeta Profesional No.

682.28 C.S.J.

Firma

Fecha

23 AGO 2010

Nelson J. Sánchez García
NOTARIO (E)

