

Señores
Superintendencia de Industria y Comercio
División de Nuevas Creaciones
E S D

84/

SUPERINTENDENCIA Y COMERCIO
Radicación: 02-036439
Fecha (Ord): 2004-02-12 15:35:34
Trámite: QUE PIDE NUESTRO REGISTRO DE MARCA
Devolución: 2020 DIVISION DE NUEVAS CREACIONES

Ref Expediente No 02-036 439
Solicitud de Patente de Invención denominada
"Calzón Absorbente Desechable con Ajuste
Mejorado"
Solicitante Grupo P L Mabe, S A. de C V

Dario Cárdenas Navas, identificado como aparece al pie de mi firma y obrando en mi condición de apoderado de la sociedad Grupo P L Mabe, S A. de C V, solicitante de la Patente de Invención mencionada en la referencia, mediante este memorial solicito al Despacho lo siguiente

- 1 Se sirva reconocermé personería para continuar con este proceso, para lo cual adjunto una copia auténtica del Poder a mí conferido por Grupo P L Mabe, S.A. de C.V así como del certificado de existencia y representación legal de dicha compañía, los cuales se encuentran debidamente legalizados
- 2 Asimismo y estando dentro del término legal correspondiente solicito *se sirva proceder con el examen de patentabilidad o de fondo* de esta patente, para lo cual adjunto el recibo oficial de caja No 04-9,956

Atentamente,


Dario Cárdenas Navas
CC 17 066 629 de Bogotá
T P 1 250 del Consejo Superior de la Judicatura

AMB/L/Pedro/gerencia/por el sin número fondo dar/
F 0 P-260

NOTARIA 16 DEL CIRCUITO DE
SANTAFE DE BOGOTÁ
DILIGENCIA DE RECONOCIMIENTO
Y RECIBO
El Notario hace
ante mí fue
Dario Cárdenas Navas
17-066.629.
T P 1 250


SANTAFE DE BOGOTÁ 2-FEB 2004

32

Superintendencia y Control
Indicacion 02036433 00000001 Folio 4
Fecha (Año) 2004-02-09/13 2004
Fuente 0000 PATENTES D. I. MEXICANA/ 200 PATENTES
Dependencia 2000 DIVISION DE MARCAS COMERCIALES

417 000176000 2

RECIBO OFICIAL DE CAJA 04 7,75
FECHA FEBRERO 9 DE 2004

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

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	/- PAGO
CARDENAS * CARDENAS F *	CONSIGNACION	BANCO POPULAR	050 00110-6	21070040	09/02 2004	+ 344 000 '0

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

CANT	RENTISTAS	CONCEPTO	TOTAL CONCEPTO
1	50005 01 01	SOLICITUDES	05 EXAMEN DE PATENTABILIDAD DE "MEX"
		TOTAL	353,000 00
			353 000 00

SON TRESCIENTOS CINCUENTA Y TRES MIL PESOS

RESPONSABLE 

RECIBO DE CAJA APLICADO AL EXPEDIENTE N. 02-036 439

2004-02-09

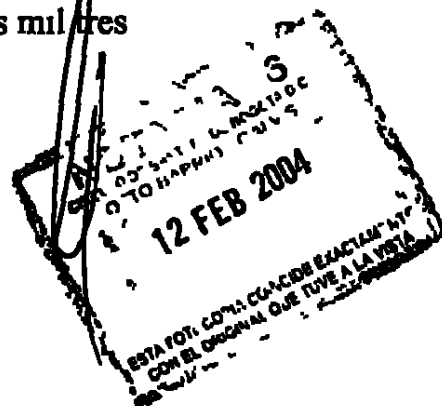


34

Lic. Pedro Eduardo Silva Durán
Corredor Público Número Seis
del Distrito Federal

PRIMER ORIGINAL DE LA
PÓLIZA NÚMERO 1,843 que contiene

El PODER ESPECIAL que otorga "Grupo P I Mabe",
Sociedad Anónima de Capital Variable, representada
por su apoderado señor Manuel Gomez Maqueo
Aréchiga, a favor de los señores Darío Cárdenas
Navas, Eduardo Cárdenas Caballero, Bernardo P
Cárdenas Martínez, Luz Helena Adarve Gómez,
Juanita Acosta-Gómez y Ana Maria Ruiz Rueda, de
fecha diecisiete de enero del año dos mil tres



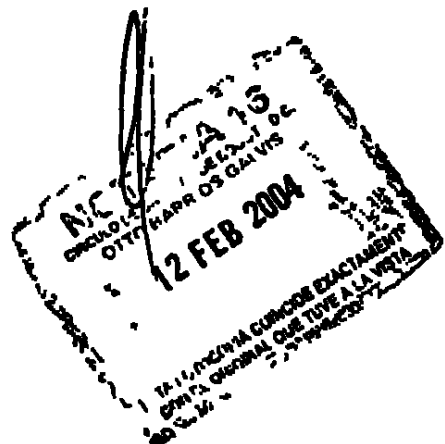
INSURGENTES SUR No 1991 TORRE "A" DESPACHO 201
COL GUADALUPE INN DELEG. ALVARO OBREGON
MEXICO, D F 01020 TEL 5661-0376 / 5661-9858
e-mail esilvad avantel net

SS

**CORREDURIA PUBLICA No. 6, DEL D.F.
LIC. PEDRO EDUARDO SILVA DURAN**

**PRIMER ORIGINAL DE LA
PÓLIZA NÚMERO 1,843 que contiene**

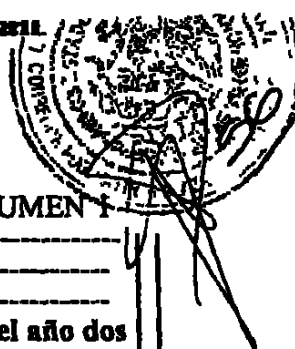
El PODER ESPECIAL que otorga "Grupo P I Mabe",
Sociedad Anónima de Capital Variable, representada
por su apoderado señor Manuel Gómez Maqueo
Aréchiga, a favor de los señores Darío Cárdenas
Navas, Eduardo Cárdenas Caballero, Bernardo P
Cárdenas Martínez, Luz Helena Adarve Gómez,
Juanita Acosta-Gómez y Ana María Ruiz Rueda, de
fecha diecisiete de enero del año dos mil tres



**INSURGENTES SUR No 1991, COL GUADALUPE INN
MEXICO, 01020, DEL ÁLVARO OBREGÓN, D F
TEL. 56-61-03-76, 56-61-98-58, 56-62-33-59
e-mail esilvad@avantel.net**



**Corredor Público Número Seis
del Distrito Federal**



**POLIZA NÚMERO MIL OCHOCIENTOS CUARENTA Y TRES - VOLUMEN I
LIBRO DE REGISTRO DE SOCIEDADES MERCANTILES**

En la ciudad de México, Distrito Federal a los diecisiete días del mes de enero del año dos mil tres, -----

YO, PEDRO EDUARDO SILVA DURAN, Corredor Público en ejercicio, titular de la Correduría Pública número Seis del Distrito Federal, HAGO CONSTAR -----
EL PODER ESPECIAL que otorga "GRUPO P I MABE", SOCIEDAD ANÓNIMA DE CAPITAL VARIABLE, representada por su apoderado señor MANUEL GÓMEZ MAQUEO ARÉCHIGA, en favor de los señores DARIO CÁRDENAS NAVAS, EDUARDO CÁRDENAS CABALLERO, BERNARDO P CÁRDENAS MARTÍNEZ, LUZ HELENA ADARVE GÓMEZ, JUANITA ACOSTA-GÓMEZ y ANA MARÍA RUIZ RUEDA de conformidad con las siguientes -----

CLÁUSULAS

PRIMERA - "GRUPO P I MABE", SOCIEDAD ANÓNIMA DE CAPITAL VARIABLE, representada por su apoderado señor MANUEL GÓMEZ MAQUEO ARÉCHIGA, OTORGA PODER ESPECIAL en cuanto a su objeto pero tan amplio y suficiente como en derecho proceda, en favor de los señores DARIO CÁRDENAS NAVAS, EDUARDO CÁRDENAS CABALLERO, BERNARDO P CÁRDENAS MARTÍNEZ, LUZ HELENA ADARVE GÓMEZ, JUANITA ACOSTA-GÓMEZ y ANA MARÍA RUIZ RUEDA, PARA QUE LO EJERCITEN CONJUNTA O INDIVIDUALMENTE, abogados titulados de la firma CARDENA & CARDENAS ABOGADOS PROPIEDAD INTELECTUAL LTDA, con domicilio en Carrera 7ª (Séptima) No 71-52, (número setenta y uno guión cincuenta y dos) Torre B, Piso 9 (nueve), de Bogotá, D C, Colombia, para tramitar conjunta o separadamente ante las oficinas y autoridades nacionales de Colombia que correspondan la obtención del registro de marcas, patentes, modelos de utilidad, diseños y dibujos industriales, depósitos de nombres comerciales y enseññas, así como la tramitación de renovaciones, cesiones, cambios de nombre o domicilio del titular, renunciias y licencias de los mismos, cancelaciones de marcas, a cuyo efecto les faculta para dar ante dichas autoridades todos los pasos necesarios al objeto indicado, elevar solicitudes, declaraciones, reclamos, formular descripciones, enmiendas, oposiciones, observaciones y apelaciones, abonar todos los impuesto y cuotas y efectuar todos los demás pagos determinados por la ley, recibir todos los documentos y valores dando el descargo respectivo, llenar cualesquier otros requisitos y tomar todas las medidas que creyeron conducentes al resguardo de todos los derechos de propiedad industrial e intelectual de la compañía en caso de producirse infracciones, piratería, oposiciones, juicio de cancelación, nulidad, etc, pasando los antecedentes a los tribunales, quedan facultados para tomar intervención como demandantes o como demandados ante los jueces que sean competentes, pudiendo transigir, someter a árbitros, desistir, percibir, apelar y todas las demás facultades legales que resulten necesarias, y por el presente declara desde ahora válido y bueno cuanto dichos apoderados hicieron en su beneficio, dándoles asimismo facultad para sustituir el presente y en caso necesario revocar dichas sustituciones -----

SEGUNDA - Que el objeto para el cual este poder se confiere está incluido en aquellos que constituyen el objeto social de la mencionada compañía -----

TERCERA - Que para los efectos de los artículos 597 (quinientos noventa y siete) y 543 (quinientos cuarenta y tres) del Código de Comercio Colombiano los apoderados quedan facultados para recibir notificaciones y nombrar apoderados judiciales y extrajudiciales. -----

PERSONALIDAD

El señor MANUEL GÓMEZ MAQUEO ARÉCHIGA acreditó su personalidad, así como la legal existencia de su representada con el poder especial que le fuera conferido, con facultades de sustitución, para la ejecución de los actos que sustituye, mismo que fue ratificado ante la fe del licenciado Antonio Tinoco Landa, notario auxiliar de la notaria pública número cinco de Puebla, Puebla, de la que es titular el licenciado Sergio Tinoco Lloera, mismo que tuve a la vista y, en copia cotejada, se agrega al archivo a mi cargo -----

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----- G E N E R A L E S -----

El señor **MANUEL GÓMEZ MAQUEO ARÉCHIGA**, bajo protesta de decir verdad, por sus generales manifestó ser de nacionalidad mexicana, originario del Distrito Federal, donde nació el día treinta y uno del mes de agosto de mil novecientos cincuenta y cuatro, casado, agente de propiedad intelectual, con domicilio en Primera Cerrada del Pedregal número treinta y seis, colonia Coyoacán, en esta ciudad de México, Distrito Federal, y quien se no se identificó ante mí por conocerlo personalmente -----

----- C E R T I F I C A C I O N E S -----

YO EL CORREDOR PUBLICO hago constar bajo mi fe -----

I - Que lo relacionado e inserto concuerda fielmente con los originales que tuve a la vista y a los cuales me remito -----

II - La capacidad del compareciente, quien a mi juicio tiene plena capacidad para la celebración de este acto, por no constarme nada en contrario -----

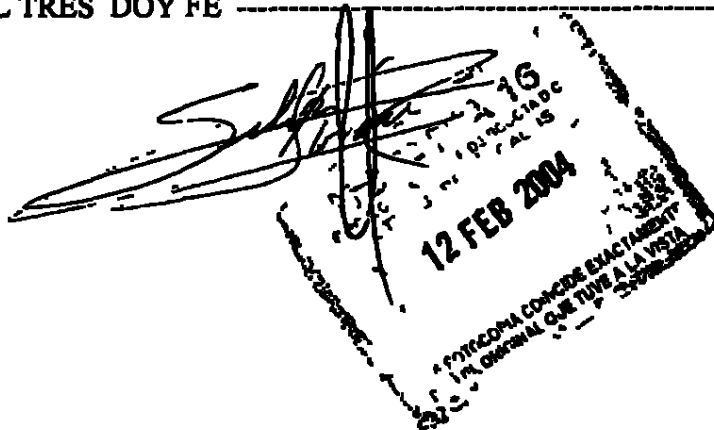
III - Que me aseguré de la identidad del compareciente en la forma en que consta en el presente instrumento -----

IV - Que el apoderado de "**GRUPO P I MABE**", **SOCIEDAD ANÓNIMA DE CAPITAL VARIABLE**, manifestó que su representada tiene capacidad para la celebración de este acto y que su representación no le ha sido revocada ni limitada en forma alguna -----

V - Que leí íntegro y expliqué y orienté a la compareciente sobre el valor y consecuencias legales de este documento, quien manifestó su conformidad con el mismo suscribiéndolo en unión mía, por lo que **SE AUTORIZA DEFINITIVAMENTE** a continuacion por no necesitar ningún otro requisito legal México, Distrito Federal, a diecisiete de enero del año dos mil tres **DOY FE** -----

SEÑOR MANUEL GÓMEZ MAQUEO ARÉCHIGA - APODERADO DE GRUPO P I MABE, SOCIEDAD ANÓNIMA DE CAPITAL VARIABLE - Una firma - LICENCIADO PEDRO EDUARDO SILVA DURÁN - CORREDOR PUBLICO NUMERO SEIS DEL DISTRITO FEDERAL - El sello de autorizar - Una firma -----

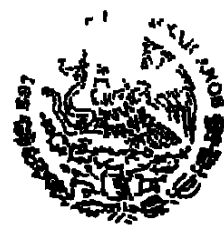
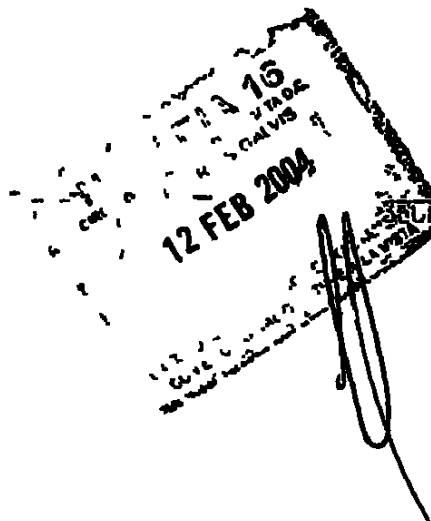
ES PRIMER ORIGINAL QUE SE EXPIDE PARA LOS SEÑORES DARIO CARDENAS NAVAS, EDUARDO CARDENAS CABALLERO, BERNARDO P CARDENAS MARTINEZ, LUZ HELENA ADARVE GÓMEZ, JUANITA ACOSTA-GÓMEZ y ANA MARIA RUIZ RUEDA, PARA TODOS LOS USOS LEGALES A QUE HAYA LUGAR VA EN DOS PÁGINAS UTILES - MÉXICO DISTRITO FEDERAL A DIECISIETE DE ENERO DEL AÑO DOS MIL TRES DOY FE -----



SS

VACIO
/

VACIO
/



SECRETARIA DE GOBIERNO
UNIDAD DE FIDELIDAD

LA SUSCRITA, SUBDIRECTORA AUTORIZACIONES Y DIFUSIÓN DE CORREDURÍA PÚBLICA ADSCRITA A LA DIRECCIÓN GENERAL DE NORMATIVIDAD MERCANTIL DE LA SECRETARÍA DE ECONOMÍA, CON FUNDAMENTO EN LO DISPUESTO POR LOS ARTÍCULOS 1º, 2º, 3º, FRACCIÓN I, 12 FRACCIÓN III DE LA LEY FEDERAL DE CORREDURÍA PÚBLICA 1º, 19, 27 DE SU REGLAMENTO, 20 FRACCIÓN XVII Y ÚLTIMO PÁRRAFO DEL REGLAMENTO INTERIOR DE LA SECRETARÍA DE ECONOMÍA

CERTIFICADO

QUE LOS SELLOS, RÚBRICA Y FIRMA QUE RESPECTIVAMENTE APARECEN EN LA PÓLIZA NÚMERO 1843 (MIL OCHOCIENTOS CUARENTA Y TRES) RELATIVA A EL PODER ESPECIAL QUE OTORGA "GRUPO P I MABE" SOCIEDAD ANÓNIMA DE CAPITAL VARIABLE REPRESENTADA POR SU APODERADO EL SEÑOR MANUEL GÓMEZ MAQUEO ARÉCHIGA, A FAVOR DE LOS SEÑORES DARIO CÁRDENAS NAVAS, EDUARDO CÁRDENAS CABALLERO, BERNARDO P CÁRDENAS MARTÍNEZ, LUZ HELENA ADARVE GÓMEZ, JUANITA ACOSTA-GÓMEZ Y ANA MARÍA RUÍZ PINEDA CONSTA EN 1 (UNA) HOJA ÚTIL IMPRESA POR AMBOS LADOS, DICHS SELLOS, RÚBRICA Y FIRMA CONCUERDAN TOTALMENTE A LOS QUE SE ENCUENTRAN REGISTRADOS BAJO EL NÚMERO 32 (TREINTA Y DOS) A FOJAS 63 (SESENTA Y TRES) DEL LIBRO DE REGISTRO DE CORREDORES NÚMERO 1 (UNO) DE ESTA UNIDAD ADMINISTRATIVA, MISMO QUE CORRESPONDE AL LICENCIADO PEDRO EDUARDO SILVA DURÁN, QUIEN SE ENCONTRABA EN FUNCIONES COMO CORREDOR PÚBLICO NÚMERO 6 (SEIS) EN LA PLAZA DEL DISTRITO FEDERAL, EL DÍA 17 (DIECISIETE) DE ENERO DEL AÑO 2003 (DOS MIL TRES), POR LO ANTERIOR, HAGO CONSTAR QUE LA FIRMA, RÚBRICA Y SELLOS CITADOS SON AUTÉNTICOS Y VÁLIDOS CONFORME A LA NORMATIVIDAD ANTERIORMENTE CITADA. ESTA LEGALIZACIÓN NO PREJUZGA SOBRE EL CONTENIDO O CUMPLIMIENTO DE LA LEGISLACIÓN APLICABLE A LA PÓLIZA MATERIA DE LA PRESENTE.

MÉXICO, DISTRITO FEDERAL, A VEINTIDÓS DE ENERO DEL AÑO DOS MIL TRES

LA SUBDIRECTORA

GUADALUPE ROSA DUEÑAS DONNADIEU

Este documento no es válido si presenta alguna tachadura, enmendadura o alteración y sin sello oficial que debe aparecer en la parte inferior derecha.

This document is not valid if it presents any cross out, amendment or alteration and without official seal that must appear in the right inferior side.

Ce document n'est pas valide s'il présente une rature, amendement ou altération et si il manque le sceau officiel que il doit apparaître au côté inférieur droite.

SECRETARÍA DE GOBERNACIÓN México
UNIDAD DE COBIPEN
SGDF
Apostille
(Convention de la Haye du 5 octobre 1961)
Derechos 8435.00
No orden 45272003
En México el presente documento público ha sido firmado por C. GUADALUPE ROSA DUEÑAS DONNADIEU
quién actúa en calidad de SUBDIRECTORA DE AUTORIZACIONES Y DIFUSIÓN DE CORREDURÍA PÚBLICA DE LA DIRECCIÓN GENERAL DE NORMATIVIDAD MERCANTIL EL DÍA 22 DE ENERO DE 2003.
y esta revestido del sello correspondiente a SECRETARÍA DE ECONOMÍA
Certificado en MÉXICO, D.F. por C. LIC. MIGUEL ÁNGEL DE HARO PAVÁN, SUBDIRECTOR DE FORMALIZACIÓN Y CONTROL
el 23 de ENERO de 2003
SECRETARÍA DE GOBERNACIÓN
UNIDAD DE GOBIPEN
BITAL

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

2020

Bogotá, D. C., 10 de Marzo de 2006

Doctor

DARÍO CARDENAS NAVAS

Representante **GRUPO P I MABE DE C V**

ASUNTO

Radicación No	02-36439
Trámite	002
Evento	001
Actuación	430
Oficio	3117
Folios	017

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica

1) Documentos estudiados

- a) Para el presente estudio se tendrán en cuenta el capítulo descriptivo, comprendido en los folios 8 a 16 de la solicitud en estudio
- b) Para el presente estudio se tendrán en cuenta los dibujos comprendidos en los folios 22 a 25 de la solicitud en estudio
- c) Para el presente estudio se tendrá en cuenta el capítulo reivindicatorio que comprende 17 reivindicaciones en los folios 17 a 20 de la solicitud en estudio
- d) Conforme lo establece los artículos 9, 10 y 11 de la decisión 486 de la Comisión de la Comunidad Andina, la presente solicitud en estudio fue presentada el 29 de abril de 2002, y en el momento de la radicación SI se reclamo prioridad de la primera solicitud presentada en México MX/2001/004425

2) Objeto de la Invención

- a) Las reivindicaciones 1 a 17 de la solicitud en estudio se refieren a
 - i) (1 -) Un artículo absorbente desechable, tal como un calzón desechable para niños, formado por una capa interior permeable, una capa exterior impermeable formada por dos películas unidas entre sí y una matriz absorbente colocada entre las capas interior y exterior, el cual está unido por sus orillas laterales de modo de tener una configuración adecuada para poder ser subido y bajado por las piernas, con una abertura de cintura y dos aberturas de piernas y con elásticos en estas aberturas de cintura y de piernas, el artículo teniendo una parte frontal,

una parte trasera y una zona central de entrepierna, cada una de las partes frontal y trasera estando constituida por una zona de cintura y una zona de cadera, **caracterizado porque** la matriz absorbente tiene una longitud máxima de alrededor de 125% de la longitud de la zona de entrepierna del artículo y porque tiene elásticos de ajuste colocados paralelos a los elásticos de cintura en una zona que está libre de matriz absorbente

- ii) (2 -) Un calzón desechable para niños, formado por una capa exterior y un inserto absorbente, de modo que la capa exterior esté formada a su vez por dos películas de un material respirable dentro de las cuales se colocan los elásticos de cintura y los elásticos de pierna, el inserto absorbente estando formado por una capa superior permeable, una capa inferior impermeable, una matriz absorbente colocada entre ambas y de preferencia barreras laterales anti-escurrimientos, el artículo teniendo una parte frontal, una parte trasera y una zona central de entrepierna, cada una de las partes frontal y trasera estando formada por una zona de cintura y una zona de cadera, **caracterizado porque** el inserto absorbente tiene una longitud máxima de 125% de la longitud de la zona de entrepierna del artículo y porque tiene elásticos de ajuste colocados paralelos a los elásticos de cintura en una zona que está libre de inserto absorbente

- b) El anterior producto busca mejorar el ajuste de artículos absorbentes desechables a los usuarios finales
- c) Según la Clasificación Internacional de Patentes, la codificación para esta solicitud corresponde a A 61 F 13/15

3) Determinación del Estado de la Técnica

El artículo 16 de la Decisión 486 de la Comisión establece

"El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida "

"Sólo para el efecto de la determinación de la novedad, también se considerará dentro del estado de la técnica, el contenido de una solicitud de patente en trámite ante la oficina nacional competente cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando, siempre que dicho contenido este incluido en la solicitud de fecha anterior cuando ella se publique o hubiese transcurrido el plazo previsto en el artículo 40 "

Consultadas las bases de datos y los archivos con que cuenta la entidad, especialmente bajo las clasificaciones A 61 F 13/15 y las más cercanas a ellas, se encontró que antes del 30 de abril de 2001 (fecha para determinar el estado de la técnica) habían sido publicados los documentos que se enumeran en la siguiente tabla los cuales se relacionan con mecanismos de ajuste de artículos absorbentes desechables

De acuerdo con o establecido en el artículo 16 se determinó el estado de la técnica y se encontró el siguiente antecedente

N°	Documento	Título	Fecha de Publicación
D1	EP 1027874	Disposable absorbent pull up type diapers and incontinent briefs	2000 08 02

4) Evaluación de los requisitos de patentabilidad

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece

"Los Países Miembros otorgarán patentes para las invenciones, sean de producto o procedimiento, en todos los campos de la tecnología, siempre que sean nuevas tengan nivel inventivo y sean susceptibles de aplicación industrial"

En cumplimiento con este artículo, se procedió a evaluar los requisitos de novedad, nivel inventivo y aplicación industrial con el fin de establecer la patentabilidad de la invención reivindicada en la solicitud en estudio

a) Evaluación del Nivel Inventivo

El art 18 de la Decisión 486 de la Comisión de la Comunidad Andina establece

"Se considerará que una invención tiene nivel inventivo, si para una persona del oficio normalmente versada en el arte en la materia técnica correspondiente, esa invención no hubiese resultado obvia ni se hubiese derivado de manera evidente del estado de la técnica"

Aunque D1 EP 1027874 no habla explícitamente de la relación de longitud entre la matriz absorbente y la zona de entrepierna, al hacer las relaciones de acuerdo a lo que allí se suministra, se encontraría que coinciden con lo revelado en el presente documento. Los dibujos de la anterioridad permiten mostrar el mismo resultado. De aquí que la presente solicitud no tendría la altura inventiva necesaria para que se le conceda el privilegio solicitado.

b) Resumen

En conclusión los requisitos de patentabilidad de la presente solicitud se podrían ver afectados así

N°	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	EP 1027874	1 - 17	Nivel inventivo

5) Notificación

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que dentro del término de sesenta días contados a partir de la fecha de la notificación de la presente comunicación debe responder a la notificación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

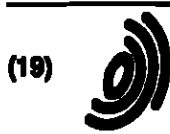
Notifíquese el presente oficio conforme a lo dispuesto por el numeral 5.2, literal e) del capítulo quinto del título primero de la Circular Unica N° 10 de 2001.


ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en la lista, de fecha

16 MAR 2006

Concepto Técnico N°	EXAMINADOR TÉCNICO	EXAMINADOR JURÍDICO
368	Código No 202003	Código No



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) EP 1 027 874 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication
16.08.2000 Bulletin 2000/33

(51) Int. Cl. ⁷ A61F 13/496

(21) Application number 00102825.1

(22) Date of filing 08.02.2000

(84) Designated Contracting States
AT BE CH CY DE DK ES FI FR GB GR IE IT LJ LU
MC NL PT SE
Designated Extension States.
AL LT LV MK RO SI

(72) Inventor Karami, Hamzah
McElhattan, PA 17748 (US)

(74) Representative:
Motach, Andreas et al
Patentanwalte
St-Anna-Platz 4
80538 München (DE)

(30) Priority 10.02.1999 US 247829

(71) Applicant
First Quality Enterprises, Inc.
McElhattan, Pennsylvania 17748 (US)

(54) Disposable absorbent pull-up type diapers and incontinent briefs

(57) An integral disposable pull-up absorbent article is provided having elasticated front and back waist portions, an insert member having an absorbent core comprising an elasticated crotch region and at least one elastic member disposed in the longitudinal direction on each side in the crotch region. The pull-up article also has a pair of leg openings each having a leg cuff comprising a thigh elastic member which does not intersect any of the crotch elastic members.

Also provided are disposable pants and briefs of the general structure as the pull-up article described herein but without an absorbent core member

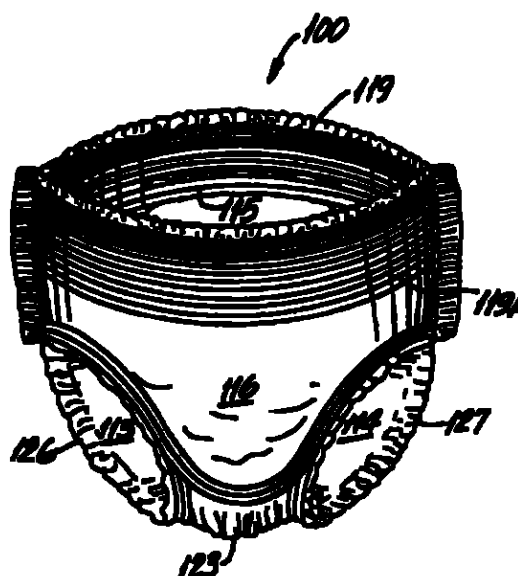


FIG 1

Description

FIELD OF THE INVENTION

[0001] The present invention relates generally to disposable absorbent articles such as pants and briefs, and is more particularly related to disposable absorbent pants, diapers and adult incontinent briefs of the so-called "pull-ups" or "pull-on" variety. In one particular aspect, this invention relates to such pull-on pants, diapers and adult incontinent briefs which, due to their unique construction and configuration, provide improved body fitness and comfort to the wearer while affording excellent protection against leakage of urine and other body exudates.

BACKGROUND OF THE INVENTION

[0002] Disposable absorbent articles such as disposable baby diapers and adult incontinent briefs, underpants, guards and the like articles are widely used in the homes and in various health care facilities and institutions. Indeed the use of such articles has become a sanitary practice, and while initially such absorbent articles were used mostly for baby care, more recently their use has been expanded for adults as well. In both instances, the absorbent article must be designed to effectively prevent leakage of urine and other fecal materials, while insuring body fit and comfort.

[0003] Present commercially available absorbent articles are generally unitary in structure, pre-shaped and pre-folded and comprise an absorptive pad having a liquid permeable top sheet facing the wearer's body, a liquid impermeable backsheet on the opposite side, and an absorbent sheet or panel disposed between the top sheet and the back sheet. The absorbent article comprises a front side portion, a crotch portion and a back-side portion, and further includes elastic members along the circumference of the waist and around the leg openings. While the heretofore commercially available absorbent articles have been somewhat effective against leakage of body fluids and fecal materials, and have therefore met some degree of acceptability, they have not been entirely satisfactory for their intended applications. In other words, they have not proven to be entirely leak proof, nor have they completely prevented issuance of the body exudates outside the diaper or the underpants. These deficiencies are primarily due to inadequate and loose body fit, which results in leakage of the body fluids and solids through the leg openings. These problems are even more pronounced in case of adults because of their diverse body shapes and varying contours. Another disadvantage of the commercially available absorbent articles such as diapers, incontinent briefs and the like, is associated with the ability of opening and removing the soiled article without soiling the wearer's legs or body.

[0004] There is a plethora of patents which disclose

the different attempts made by the prior art workers over the years to eliminate, or at least minimize, the shortcomings of the present commercially available absorbent articles.

[0005] United States Patent No. 5,607,416 issued to Masamitsu Yamamoto et al on March 4, 1997 describes a disposable absorbent pad comprising a pad member adapted to be formed into a boat shape under the contractile forces of elastic members contained side flaps, and an elastic support member longitudinally opposite sides of the pad member being connected to the front and rear sides of the support member by end flaps. Each of the end flaps comprises a top sheet and a back sheet and is divided into a pair of end flap halves by a slit so as to function as a suspending strap. The end flap halves are set apart in a V-shape with the slit there between as the support members is stretched and contributes to suspend the pad member with high stability. The absorbent pad described in the Yamamoto et al patent does not provide for forces to counteract the weight of the soiled pad which eventually stretches the crotch region and thus may cause leakage of urine and other body exudates through the leg openings.

[0006] United States Patent No. 5,204,997 issued to Migakum Suzuki et al on April 27 1993 describes a disposable pant-type garment, such as a diaper which is constructed by attaching elastic surrounding flaps around the leg openings and the waist opening. This garment is not elastically integral between the crotch and the waist portions and is not adjustable around the waist to conformably fit the body shape. Nor does this garment allow adjustment or refastening of the elastic flaps to insure body fit when the garment is soiled.

[0007] European patent application 798,002 published June 6, 1996 (WO 96/19169) describes an absorbent article such as a diaper which is provided with a closure system for anchoring the absorbent article to the wearer. The absorbent article is provided with tape tabs which are disposed at an angle of approximately 45 degree relative to the longitudinal side edges. The closure system is designed so that a plane of tension is formed at least about the front waist portion of the article to preclude rollover of the front waist portion.

[0008] European patent application 802 778 published July 16, 1996 (WO 96/21412) describes a disposable diaper having an absorbent part, a pair of ear parts projecting in opposite directions from opposite side edges of one of the longitudinal end portions of the absorbent part, and two fastening means are attached to the side edges of the ear parts, respectively. Each fastening means is attached to the ear part in a pulling section of the side edge, overlapping at least part of a first edge section and part of a second edge section so that component tensile forces of a tensile force are applied to the fastening means are distributed at a desired distribution ratio to the waist lapping portion and the leg lapping portion of the absorbent part.

[0009] European patent application 814,740 published September 28, 1998 (WO98/28038) discloses a disposable diaper having a pair of ears with oblique side edges which are inclined to extend at a predetermined angle to the longitudinal center axis of the absorbent article. The fastening means are attached to the oblique side edges and oblique side edge has a first oblique side edge and a second the oblique side edge section. Each ear has a stress relieving structure and each fastening means is attached to the ear in order to distribute the tensile forces.

[0010] Other prior art workers have described so called "pull-on garments" in order to overcome the deficiencies and problems associated with the prior type diaper constructions. These patents include United States patent numbers 3,237,625, 3,424,162; 3,468,778, 3,530,859, 3,599,638, 3,599,640, 3,613,689; 3,636,953, 3,663,982, 4,205,679 and 4,302,863. The diapers and briefs described in these patents, however have a common structural deficiency in that they are provided with side seams which are welded together by heat and pressure or vibration (ultrasonic welding). It is a matter of common experience that it has been difficult to achieve a perfect side seal, thus resulting in premature tearing and product malfunction, hence, consumers dissatisfaction. The application of heat and pressure also results in stiffness of side seams which causes discomfort to the wearers. Moreover, application of heat and pressure is incompatible with high-speed productions of the garment.

[0011] More recently, United States Patent No. 5,789,838 issued to Kenneth B. Buell et al. on June 23, 1998 describes a pull-on garment provided with a continuous belt in the front region and the back region to distribute the forces generated during use in order to better fit the pull-on garment wearer. As in the above mentioned patent to Douglas, Jr. the article described in Buell et al. does not provide for examination of the condition of the diaper and requires tearing a side seam for its removal, thus causing soiling to the wearer and the applicator of the garment.

[0012] The foregoing patents by no means constitute an exhaustive list of the patents which reflect the efforts of the prior art workers in this field, but are merely illustrative and are described briefly herein for background purposes. As it can be appreciated, however, notwithstanding attempts by others to provide satisfactory absorbent articles for infants as well as for incontinent adults, there is still a need for providing articles commercially, which are highly effective in preventing leakage of urine and other bodily exudates, and which are comfortable to wear and conformably fit the body contours so as to insure against such leakage and prevent soiling the wearer's body as well as the person who applies the garment to the wearer.

[0013] Accordingly, it is an object of the present invention to provide a pull-up type disposable absorbent such as baby diapers, adult incontinent underpants,

briefs, guards and the like articles, which overcome the deficiencies and shortcomings of the prior art absorbent articles, including the present commercially available garments used for this purpose.

[0014] It is another object of the invention to provide such disposable absorbent articles which due to their unique construction provide improved fit to the body and prevent leakage of urine and other body exudates through the leg openings.

[0015] It is a further object of this invention to provide pull-up diapers, and briefs of all sizes, which have uniquely elasticated waist, legs and crotch regions in order to ensure against leakage of body fluids and exudates while assuring a more perfect fit to the body of the wearer.

[0016] The foregoing and other objects and features of the present invention will be more fully comprehended and appreciated from the ensuing detailed description and the drawing which form parts of the application.

[0017] It must be understood throughout this application that the term "pull-up" as used herein is synonymous with "pull-on" as used in some of the prior art patents, including, for example, the aforementioned Buell et al.'s United States Patent No. 5,789,838.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In the drawings, wherein like reference numerals are employed to designate like parts.

Figure 1 is a perspective view of the disposable absorbent article of the present invention shown as a pull-up diaper,

Figure 2 is a stretched plan view of the pull-up diaper shown in Figure 1.

Figure 2A is similar to Figure 2 except that the thigh elastic is substantially straight rather than curved as in Figure 2.

Figure 2B is similar to Figure 2A except that the leg openings have a generally rectangular pattern;

Figure 2C is similar to Figure 2 except that the front and back waist portions of the pull-up diaper include Velcro regions adapted to seal the diaper.

Figure 3 is a sectional view taken along the line 3-3 of Figure 2 featuring the various layers of the absorbent article, and

Figure 4 is a sectional view taken along the line 4-4 of Figure 2.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Referring to Figure 1 there is shown a pull-up diaper generally designated as 100 comprising an elasticated back waist portion 115 and an elasticated front waist portion 116. The elasticated back waist portion 115 includes an elastic band comprising a plurality of relatively narrow members 119 spanned across the

back waist portion 115, and the elasticated back waist portion 115 also includes a band comprising a plurality of relatively wider elastic members 120 spanned across the back waist portion 115. Similarly, the elasticated front waist portion 116 includes an elastic band comprising a plurality of relatively narrow elastic members 118A spanned across the front waist portion 116, and the elasticated front waist portion 116 also includes an elastic band comprising a plurality of relatively wider elastic members 120A spanned across the front waist portion 116. The diaper 100 also comprises a pair of elasticated leg openings, i.e. a right elasticated leg opening 113 and a left elasticated leg opening 114. The right leg opening 113 is provided at its peripheral edges with the crotch elastic member 126 and the left leg opening 114 is also provided at its peripheral edges with the crotch elastic member 127 each leg opening also comprises a thigh elastic member 128 which is usually tensioned from about 0 to about 400 percent elongation, preferably from about 150 to about 250 percent elongation. The peripheral elastic members 126 and 127 are tensioned between from about 0 to about 400 percent elongation preferably from about 200 to about 300 percent elongation so that the leg openings fit snugly against the crotch region 123 of the wearer in order to prevent leakage of any urine or other body exudates through the leg openings. When the front and back of the diaper 100 are folded as shown in Figure 1 they can be sealed to form the side seals 117A and 117B thus providing a tight leak proof fit around the waist of the wearer. These side seals may be formed by heat and pressure or alternatively, they can be formed by a combination of heat and pressure and, in addition, adhesively sealing a finite area on each end of the side seals, such as at A1, A2, A3, and A4, by a hot melt adhesive or cold adhesive material as shown in Figure 2.

[0020] Alternatively, as shown in Figure 20 the front and back waist portions may be provided with mechanical sealing means for sealing the diaper. Such means include, as shown in this figure, a male Velcro region 201 in the front waist portion 116, and female Velcro regions 203, 205 in the back waist portion 115, adapted to engage into one another when the front of the diaper is folded onto the back of the diaper thus providing a leak-proof seal. When Velcro regions are provided as aforesaid the portions covered by these regions usually need not be elasticated.

[0021] Referring again to the drawings, more specifically to Figures 2, 3 and 4, the diaper 100 comprises the diaper insert member 118 which contains the absorbent core 104 sandwiched between the cover or top layer or sheet 101 (facing the body of the wearer) and the polyethylene film 108. The insert 118 is secured, adhesively or by some other suitable means, to a spunbond nonwoven layer 107. Optionally, the absorbent core 104 may be covered by the top and bottom tissue layers 103 and 105, generally made of wood pulp fibers or similar material. An acquisition layer 102

is interposed between the top or cover sheet 101 and the core layer 104 and serves to temporarily retain the body exudates and slowly distribute them through the absorbent core 104 in order to keep the skin dryer. The various layers are generally coextensive with one another and are sealed together to form a sealed composite structure.

[0022] As shown in Figure 2, the absorbent core 104 spans part of the length of the diaper 100 terminating at the back edge 104A, the front edge 104B, the right side edges 104C, 104D, and left side edges 104E and 104F. However as it can also be seen from this figure, the back edge 104A and the front edge 104B of the absorbent core 104 are spaced apart a finite distance, which may be varied, relative to the back and front edges of the diaper. The insert 118 is defined by the longitudinal side edges 118A, 118B, 118C and 118D, the lateral edges 118E and 118F and includes the necked down region defined by the necked down side edges 118G and 118H. The necked down region defined by the necked down side edges 118G and 118H is elasticated at both sides by the elastic members 126, 127.

[0023] As previously mentioned, the leg openings 113, 114 each is tensioned by a thigh elastic member 128 shown as a curved elastic in Figure 2, but may be straight elastic element as in Figure 2B and Figure 2C or may be as a triangular element as in Figure 2A. The thigh elastic may be tensioned minimally, say, from about 0 to about 400% elongation preferably from about 150 to about 300 percent elongation for more improved fitness about the legs.

[0024] As is further shown in Figure 2, the diaper 100 of the present invention has an elasticized crotch region 123 which is provided with one or more spaced-apart right elastic members 126 disposed interiorly of the leg right opening 113 on the right side edge of the insert 118, and one or more spaced-apart left elastic members 127 disposed interiorly of the leg opening 114 on the left side edge of the insert 118. The crotch region 123 has a crotch cuff 113A disposed on the left side thereof and the crotch cuff 114A disposed on the right side thereof. These crotch cuffs are elasticated having at least one elastic element which is not tensioned, or is minimally tensioned between about 0 to about 50% elongation.

[0025] Alternatively, each cuff elastic may be tensioned differently along its length. Thus, for example, parts of each cuff elastic may be tensioned (elongated) from about 0 to about 10% while other parts may be tensioned to a higher degree, say, up to about 50%.

[0026] Positioning the crotch elastic members interiorly relative to the leg openings and the insert 118 insures improved fit in the crotch region. While three elastic members are shown fewer or more elastic members may be used, if desired.

[0027] As shown in Figure 2, the thigh elastics 128 and the crotch elastics 126 on the right sides of the diaper 100 define a protective ring around the left leg open-

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ing 113 in a discontinuous pattern. Similarly, on the left side of diaper 100 there is shown a discontinuous ring around the right leg opening 114. This construction assures tight, leak proof fit without pinching the body of the wearer.

[0028] The relatively narrow back and front bands comprising the elastic members 119 and 119A each usually comprises about 3 to about 10 elastic members having a percent elongation of from about 100 to about 600 percent, preferably from about 300 to about 400 percent. The relatively wider back and front bands comprising the elastic members 120 and 120A each usually comprises about 2 to about 16 elastic members and have a percent elongation of from about 100 to about 600 percent, preferably from about 300 to about 400 percent. Also, the elastic members 119 and 120A are wider and spaced closer to one another compared to the spacings of the elastic members 119A and 120. This results in higher retraction forces which help pull the article onto the torso of the wearer without falling down. All the elastic members 119, 119A, 120 and 120A are usually made of synthetic rubber such as Fullex rubber available from Fullex Inc., Providence, Rhode Island. Conveniently the elastic members 119, 119A, 120 and 120A are covered by the layer 129 which is made of nonwoven polypropylene as shown in Figure 3.

[0029] In addition to the unique arrangements of the elastic members comprised within the relatively narrow and wide band portions as aforesaid, the diaper 100 of the present invention comprises from about 1 to about 6, preferably about 3 crotch elastics 126 and 127 which are spaced apart from each other, located on the right and left of the crotch region 123 on each side of the absorbent core 104, as shown in Figure 2. These crotch elastic members 126, 127 are tensioned and adhesively secured on the sides of the absorbent core but their "active lengths" do not intersect the thigh elastic members 128. The term "active length" refers to the length of the elastic member that is attached under tension interiorly of the insert 118 edges. Extending the crotch elastic members 126, 127 beyond the thigh elastics 128 has no additional advantage since, otherwise, the elastic crotch members may exert unnecessary forces on the pull-on action of the garment and cause skin irritation or redness.

[0030] Referring to Figures 3 and 4, the top cover-sheet or layer 101 is conveniently made of spunbond nonwoven polypropylene which is available from First Quality Fibers, Inc., McElhattan, PA. The acquisition layer 102 is usually made of chemically bonded nonwoven polypropylene available from American Nonwovens, Columbus, Missouri. Preferably, the width of this layer is substantially the same as the width of the absorbent core 104. This core may be made of wood pulp fibers and superabsorbent polymers such as IM 7000 series available from Clariant Products, Inc., Portsmouth, VA, and Chemdal 200 series, available from Chemdal, Inc., Palantine, Illinois. Alternatively, the

absorbent core 104 may be made of dual layer construction, in which case, the absorbent polymer may be securely positioned between each layer of the absorbent material.

[0031] The film backing 106 is usually a polyethylene layer which is liquid, air and preferably vapor impermeable, and is placed under the absorbent core member 104 to prevent the body exudates from leaking and otherwise soiling the user's bed and clothing. The width and length of the backing film 106 are generally at least equal to the width and length of the absorbent core 104. Polyethylenes suitable as backing film for the purpose of this invention are available from Clopay Plastics, Cincinnati, Ohio as is further shown in Figures 3 and 4, a layer 107 of spunbond nonwoven polypropylene is disposed as a backing layer and covers the area under the insert 118. This layer is usually coextensive with the overall width and length of the pull-up diaper. This spunbond nonwoven polypropylene is also used to cover the waist elastic members 119, 119A, 120 and 120A.

[0032] As is further shown in Figures 2 and 3, there is one elasticated crotch cuff on each side of the garment. Each of these crotch cuffs is formed of a layer of spunbond nonwoven polypropylene laminated by hot-melt adhesive or by heat, and forms a fluid and an air impermeable composite structure. The crotch cuffs are under no tension or are minimally tensioned so that the garment can fit snugly against the body and prevent leakage of body fluids or exudates, without pinching the body of the wearer. Additionally, these cuffs act as barriers against fluid leakage on each side of the absorbent core.

[0033] The garment of the present invention also has an elasticated waist cuff 112 which, similar to the crotch cuffs, is not tensioned or is minimally tensioned between about 0 to about 10 percent elongation in order to provide a tight body fit which is leak-proof without pinching the body or causing discomfort to the wearer.

[0034] The insert 118 is adhesively secured to the nonwoven backing film 107 and as shown in Figure 2, the crotch width of the insert 118 is narrower than its width at the waist. As previously mentioned, there are usually three elastic members 126, 127 on each side, although fewer or more elastic members can be used, as desired.

[0035] As is further shown in Figure 2, the pull-on diaper of this invention has a waist cuff base 133 with a waist cuff apex 135 on both the front and back of the article. Similar to the crotch cuffs, these waist cuffs prevent fluid leakage from the ends of the core member 104.

[0036] While the present invention has heretofore been described with certain degrees of particularities and with reference to absorbent diapers and the like garments, it must be understood that several modifications may be made in the structure of the article which are apparent from the foregoing disclosure. For exam-

ple, the present invention also encompasses articles such as pants and briefs. In such cases, the article need not include an absorbent core as herein described. Nevertheless such articles as pants and non-absorbent briefs are included within the scope of the present invention.

Claims

1 An integral disposable pull-up absorbent article comprising

- (a) an elasticated waist portion having a front waist portion and a back waist portion,
- (b) an insert member comprising an absorbent core having a crotch region, said insert member being defined by opposed generally longitudinal sides and opposed lateral sides, and at least one elastic member in said crotch region disposed in the general longitudinal direction in each of said longitudinal sides and
- (c) a pair of spaced apart leg openings through which extend the legs of the wearer of said article, each of said leg openings having at least one partially elasticated crotch cuff and at least one thigh elastic member whereas none of said crotch elastic members intersect any of said thigh elastic members.

2. An integral absorbent pull-up absorbent article as in claim 1 wherein each of said elastic members in said crotch region is disposed interiorly relative to its adjacent leg opening

3. An integral absorbent pull-up absorbent article as in claim 1 or 2 wherein each of said thigh elastic members is elongated between about 0 and about 400 percent.

4. An integral disposable pull-up absorbent article as in claim 1 wherein said elasticated waist portion comprises an elasticated waist cuff and said elastic member in said waist cuff is elasticated between about 0 and about 10 percent.

5. An integral disposable pull-up absorbent article as in claim 2 or 3 wherein said elasticated waist portion comprises an elasticated waist cuff and said elastic member in said waist cuff is elongated between about 0 and about 10 percent.

6. An integral disposable pull-up absorbent article as in claim 1 wherein each elasticated member in said crotch cuff is at least partially elongated between about 0 to about 50 percent.

7 An integral disposable pull-up absorbent article as in any of the claims 2 to 5 wherein each elasticated

member in said crotch cuff is at least partially elongated between about 0 to about 400 percent.

8. An integral pull-up absorbent article as in claim 1 or 3 wherein said elasticated waist portion comprises a portion having relatively narrow elastic members under tension spanning across the waist portion and a portion having a relatively wider elastic members under tension spanning across the waist portion

9. An integral pull-up absorbent article as in claim 1 or 3 wherein said elasticated front waist portion and back waist portion each comprises peripheral edges adapted to be sealed together to form a sealed article.

10. An integral absorbent pull-up article as in claim 1 or 3 wherein said waist portion is partially elasticated.

11 An integral absorbent pull-up article as in claim 1 or 3 wherein said crotch elastic members are tensioned to a different degree than the tension in the cuff elastic members.

12. An integral absorbent pull-up article as in claim 8 wherein said front waist portion comprises a region disposed generally in the middle of said waist portion and said back waist portion comprises a means disposed generally on each lateral side of said back waist portion, said means adapted to inter-engage to provide a leak-proof seal absorbent article.

13. An integral absorbent pull-up article as in claim 12 wherein each of said means comprises a Velcro surface.

14. An integral disposable article comprising

- (a) an elasticated waist portion having a front waist portion and a back waist portion
- (b) an insert member having an elasticated crotch region, said insert member being defined by opposed generally longitudinal sides, and opposed lateral sides, and at least one elastic member in said crotch region disposed in the general longitudinal direction in each of said longitudinal sides, and
- (c) a pair of spaced apart leg openings through which extend the legs of the wearer of said article, each of said leg openings having at least one partially elasticated crotch cuff and at least one elastic member, wherein none of said crotch elastic members intersect any of said thigh elastic members.

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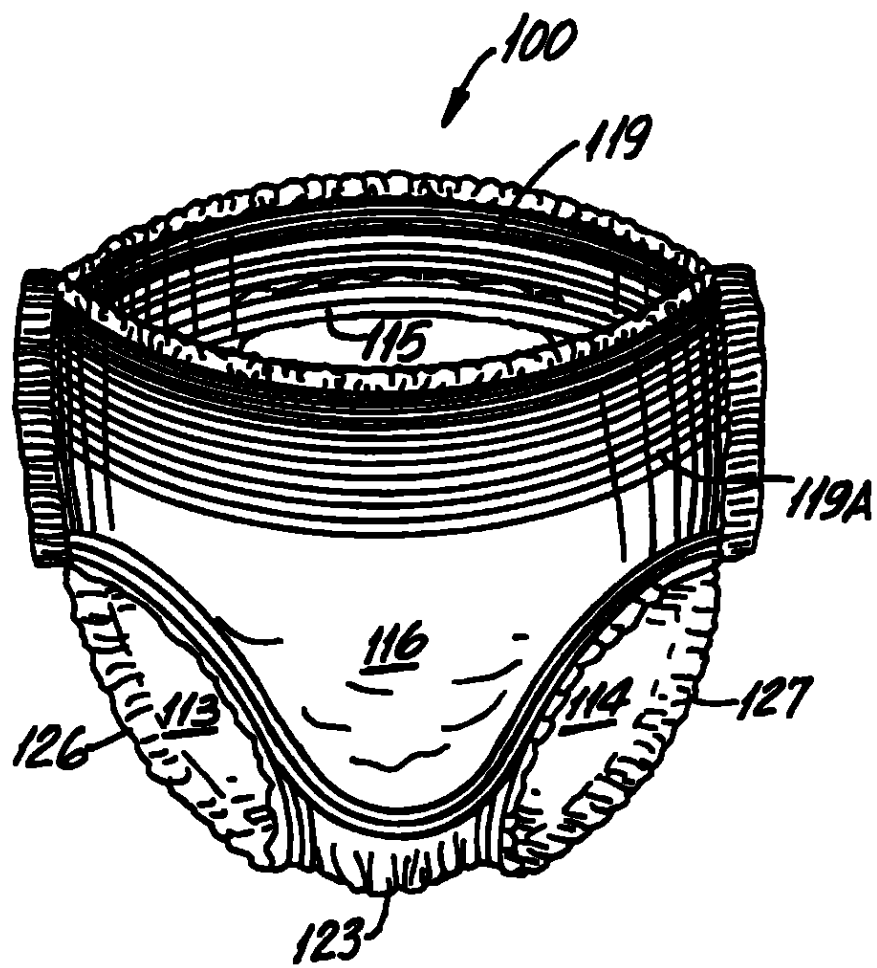


FIG.1

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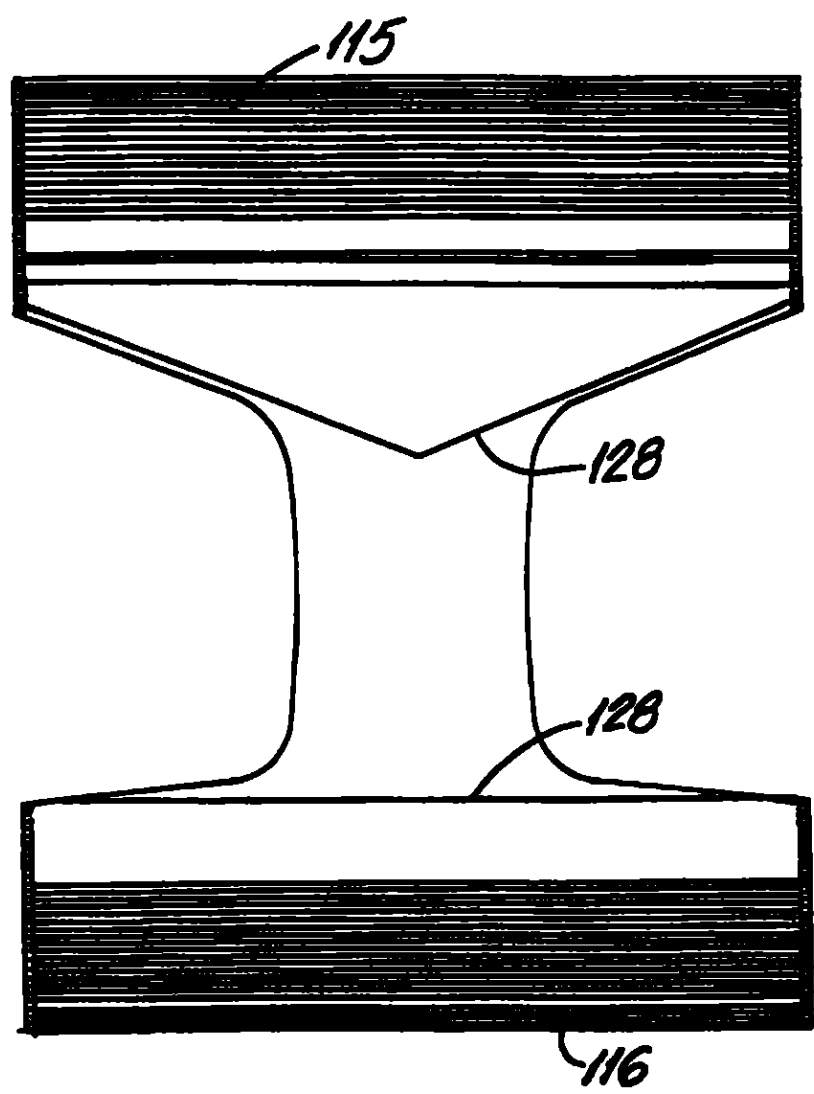


FIG.2A

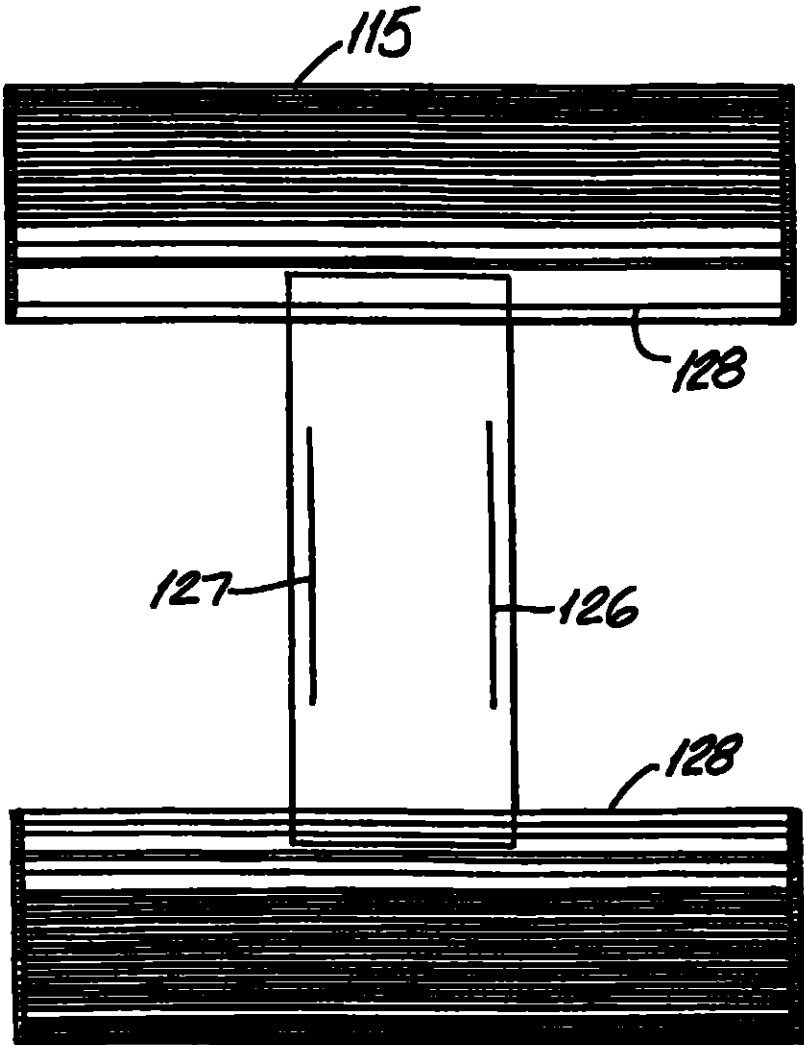
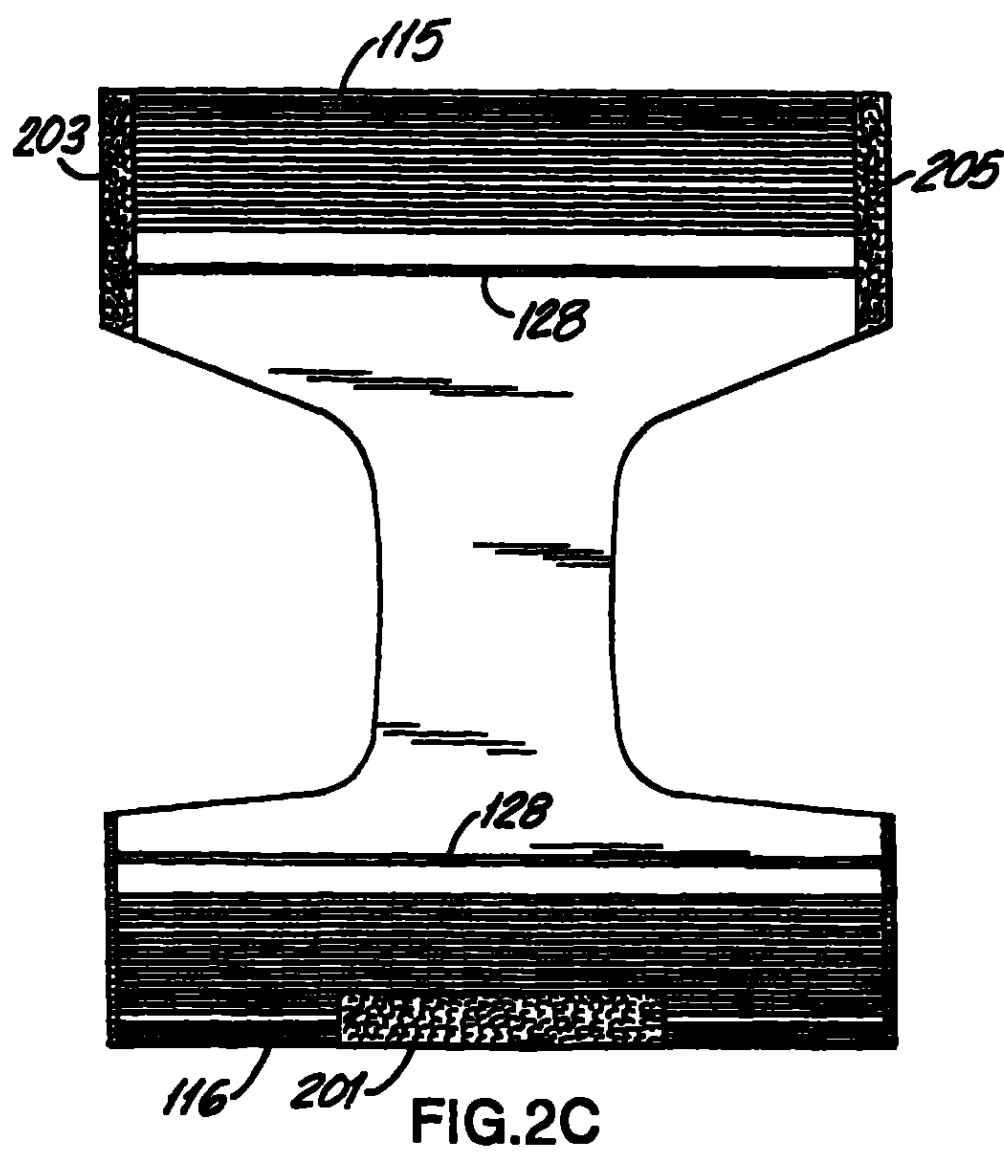
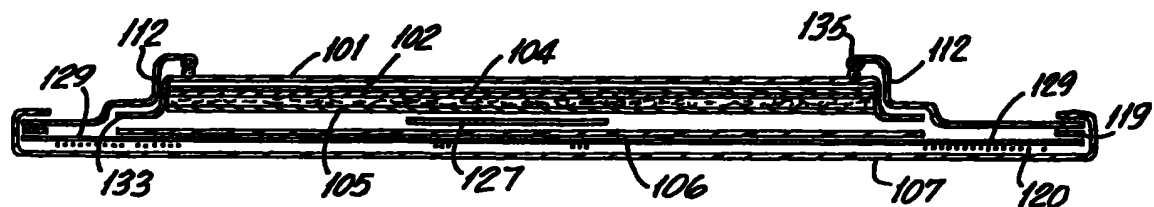


FIG.2B





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FIG.3

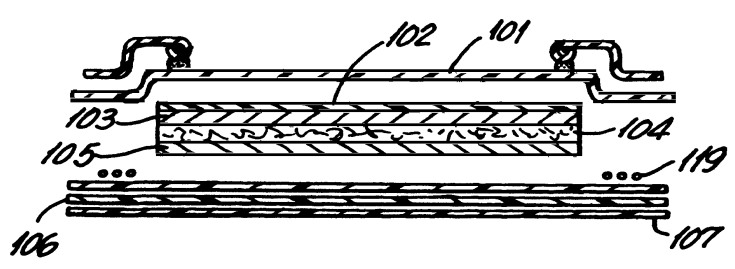


FIG.4