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SUPERINTENDENCIA

Delegatura de Propiedad Industrial
División de Nuevas Creaciones

SOLICITUD

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54. TITULO

METODO PARA LA PRODUCCION DE PANTALONES DE PAÑAL

51. CLASIFICACION INTERNACIONAL

A61F13/15

71. SOLICITANTE

SCA HYGIENE PRODUCTS AB

DOMICILIO

Goteborg, Suecia.

74. APODERADO

EMILIO FERRERO

C.C. 438.019 de Usaquén.

22. BOGOTA, D.C.,

29/09/2004



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PETITORIO

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Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

FORMULARIO UNICO DE SOLICITUD DE PATENTE
PCT
ENTRADA EN FASE NACIONAL

1 SOLICITUD DE:			
☒ Patente de Invención.		☐ Patente de Modelo de Utilidad.	
☐ Capítulo I.		☒ Capítulo II.	
2 SOLICITANTE (71)	Nombre: SCA HYGIENE PRODUCTS AB sociedad constituida y existente bajo las leyes de Suecia. Dirección: SE-405 03 Göteborg, Suecia. Domicilio: Göteborg, Suecia.		IDENTIFICACIÓN C.C. ☐ NIT ☐ C.E. ☐ Otro ☐ Cual _____ Número _____
3 REPRESENTANTE O APODERADO	Nombre: EMILIO FERRERO Dirección: Carrera 4ª. No. 72-35 Teléfono: 347 36 11 Fax: 217 92 11 E-mail: clientes@camyo.com Domicilio: Bogotá, Colombia.		IDENTIFICACIÓN C.C. ☒ NIT ☐ C.E. ☐ Otro ☐ Cual _____ Número <u>438.019</u> T.P <u>31.929</u>
4 INVENTOR (ES) (72)	1. Birgitta KARLSSON Törnrosvägen 14 SE-435 31 Mölnlycke, Suecia 3. Lennart ERWAST Norra Gubberogatan 26 SE-416 63 Göteborg, Suecia. 5. Ingemar FERNFORS Alfhöjdsgatan 13, SE-431 38 Mölndal, Suecia. 2. Johan SKOGSBERG Fredåsgatan 28, SE-431 57 Göteborg, Suecia. 4. Urban WIDLUND Pärönvägen 5, SE-435 43 Pixbo, Suecia.		
5 PCT (86)	Solicitud Internacional No. <u>PCT/SE03/00491</u> Fecha: <u>25 de marzo de 2003</u> Publicación Internacional No. <u>WO 03/094815 A1</u> Fecha: <u>20 de noviembre de 2003</u>		
6 Título (54)	<u>MÉTODO PARA LA PRODUCCIÓN DE PANTALONES DE PAÑAL</u>		
7 Clasificación Internacional (51)	<u>A61F 13/15</u>		
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For patents, utility models, industrial designs, trademarks, commercial names, trade emblems, slogans.

Para patentes, modelos de utilidad, diseños industriales, marcas de fábrica, nombres comerciales, enseñas, lemas comerciales.

REPRESENTACION Y PODER

REPRESENTATION AND
POWER OF ATTORNEY

I (we), the undersigned / Yo (nosotros), abajo firmado (s)
SCA HYGIENE PRODUCTS AB

of / domiciliado (s) en \$405 03 Goteborg,
SWEDEN

por el presente nombramos a EMILIO FERRERO, tpa. 31929; GONZALO PERDOMO, tpa. 831; LUZ CLEMENCIA DE PAEZ, tpa. 23555 y GERMAN CAVELIER, tpa. 832, domiciliados en la Carrera 4ª N° 72-35, Bogotá, Colombia, en obediencia a lo dispuesto en el parágrafo 1º del Artículo 543 del Código de Comercio, el primero como principal y los demás como suplentes, en su orden, como mis (nuestros) representantes en todos los asuntos de propiedad industrial con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. El primer representante suplente reemplazará al principal en caso de ausencia o impedimento temporal o definitivo de aquél. La misma regla se aplicará cuando el segundo representante suplente haya de reemplazar al primero, o el tercero al segundo. En tales casos, el representante principal, o el primero, o segundo suplente, en su caso, o ambos, declararán su intención de no ejercer la representación mediante declaración autenticada por Notario Público en Colombia, o por Notario u otro Funcionario Público, o Cónsul de Colombia, en el extranjero; y si se tratare de impedimento, con el certificado respectivo. Si alguno de los nombrados faltare definitivamente, el siguiente tomará su lugar. Cuando cesare la ausencia o impedimento del representante principal, o de su primero o segundo suplentes, en su caso, podrán ejercer la representación, en su orden, uno u otros según el caso, asumiéndola por el solo hecho de ejercerla, cesando en ese momento el ejercicio de la representación por el primero, segundo o tercer suplente en su caso.

Además, confiero (conferimos) poder a los abogados arriba nombrados, para obtener la protección de mi (nuestra) propiedad industrial y contra la competencia desleal, a cuyo efecto autorizo (amos) a los dichos apoderados para que me (nos) representen ante cualesquiera entidades o personas, ejerzan o no jurisdicción, especialmente ante las del orden administrativo, contencioso-administrativo y judicial, así como los tribunales de arbitramento, en todo lo concerniente a los siguientes asuntos: a) Obtención de patentes de invención, modelos de utilidad, y diseños industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, variedades vegetales y denominaciones de origen; su renovación, traspaso, cambio de nombre o domicilio, cancelación voluntaria; y el registro de licencias de uso de esos derechos; b) Las acciones de competencia desleal, protección del consumidor, oposiciones u observaciones, cancelación administrativa y judicial, nulidad, medidas cautelares, concesión de licencias, la tutela, la protección de secretos industriales, y en general los juicios civiles, penales, administrativos o contencioso-administrativos relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan. Y para que en todos los asuntos arriba determinados, puedan sustituir este mandato, transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar, y ratificar los actos de agentes oficiosos.

In due compliance with the terms of paragraph 1st. of article 543 of the Commercial Code, do hereby appoint EMILIO FERRERO, tpa. 31929; GONZALO PERDOMO, tpa. 831; LUZ CLEMENCIA DE PAEZ, tpa. 23555 and GERMAN CAVELIER, tpa. 832, domiciled at Carrera 4ª N° 72-35, Bogotá, Colombia, the first as principal and the others as alternates, in the order of their appointment, as our representatives for all industrial property matters with faculty to receive notifications and to appoint attorneys in and out of Court. The first alternate shall replace the principal in case of his absence or of temporal or definitive impediment. The same rule will apply when the second alternate representative is to replace the first one, or when the third is to replace the first or second alternates in their turn, or both of them, second. In such cases, the principal representative, or the first or second alternates in their turn, or both of them, shall state their intention not to act as representatives through a declaration given before a Notary Public in Colombia, or before a Notary or another Public Official or a Colombian Consul abroad; and in case of impediment, the appropriate certificate shall suffice. If any of the appointees were to be definitely absent, the following alternate shall take his place. When the absence or impediment of the principal representative, or of the first or second alternate in their turn ceases, the representation can be taken again in their sequence, by the principal, the first or second alternate depending on case, and the mere fact or its exercise will suffice. The exercise of the representation by the first, second or third alternates in their turn shall end at such time.

In addition, we grant a Power of Attorney in favor of the above-named attorneys-at-law so that they may obtain the protection of my (our) industrial property and against the unfair competition, for which purpose I (we) authorize the said attorneys to represent me (us) before any authorities or persons, with or without jurisdiction, especially those administrative, administrative contentious and judicial as well as before Arbitration Court in all matters concerning the following: a) Obtainment of patents, utility models and industrial designs; the registration of trademarks, collective, defensive and service marks, slogans, commercial names, trade emblems, vegetal varieties and denominations of origin; its renewal, assignment, change of name or domicile, voluntary cancellation; and the registration of licenses of use of the above rights; b) Actions of unfair competition, protection to the consumer, oppositions or observations, administrative or Court cancellation, nullity, infringement, granting of licenses, the action for writ mandamus, the protection of trade secrets, and in general the civil, penal, and administrative suits relating to those rights; actions and suits instituted by me (us) or against me (us). And that in all the above matters they may substitute this Power of Attorney, compromise, conciliate, admit the facts of the case, desist, cancel, receive, resign, and ratify acts done by representatives without a power of attorney.

Given and signed this / Dado y firmado hoy

Gothenburg 19 February 1999

In/en

Signature

Firma

Bengt Forshult

SCA Hygiene Products AB

Head of Patent Department

CAVELIER ABOGADOS
BOGOTÁ (MINUTA 12.1.12.5)

TRADUCCION No.: 1707199
MARIA ELVIA MARTELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

LEGALIZACION

El Señor Cónsul de Colombia debe expedir un certificado consular sobre (1) la existencia legal de la compañía que otorga el poder, (2) que ésta ejerce su objeto social, y (3) que las personas que otorgan el poder están autorizadas para darlo. A este efecto les solicitamos que muestren al Señor Cónsul las pruebas que acreditan esos hechos (1), (2) y (3).

LEGALIZATION

The Colombia Consul must issue a consular certificate, on (1) the legal existence of the company which grants the Power-of-Attorney, (2) that it is in actual exercise of its company purposes, and (3) that the persons who execute the Power of Attorney is authorized to do so. To this effect, please show the Consul the evidence to prove the above facts (1), (2) and (3).

TRADUCCION No.: 1707/99
MARIA ELVIRA MARQUELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

NO SE ASUME
RESPONSABILIDAD DEL TEXTO
DE LEGALIZACIONES
2000 FEB 14 A 11:50

I, the undersigned, RICKARD STRÖM, Notary Public of Gothenburg, Sweden, do hereby certify,

that Bengt Forshult

has personally signed this document overleaf, and

according to a Power of Attorney, dated 1998-08-11, signed by GUNNAR ANDERSSON and SVEN-ERIK WINLÖF, who are duly authorized

to sign jointly for and on behalf of

SCA HYGIENE PRODUCTS AKTIEBOLAG - Org.No. 556007-2356

According to a Swedish Certificate of Registration, dated 1998-07-20, Bengt Forshult is duly authorized

to sign such a document on behalf of the company.

Gothenburg, this 25th day of February 1999

MINISTERIO DE RELACIONES
EXTERIORES
28 FEB 2004
RICKARD STRÖM



PAGADO
Impuesto de Timbre
Certe
dólares US\$ 7
Cien

The Ministry for Foreign Affairs in Stockholm, hereby certified that Mr. Rickard Ström, Notary Public of Gothenburg, has issued and signed the foregoing attestation in his official capacity

Fee Stockholm this 2nd day of March
Kr 120/- PAID 1977

Ulf Högberg

N. RITA SMITH RUEDA
Encargada de las Funciones (per. Hanc)

Fecha 1999-03-05

que el señor Bengt Forshult
quien firma el documento que antecede
ejerce para la SCA Hygiene Products
de la Sociedad SCA Hygiene Products
que existe en la ciudad de Gothenburg
según se puede verificar en los libros que
tuve a la vista

NOTA PARA EL SEÑOR CONSUL DE COLOMBIA: Según los artículos 65 del C. de P.C. y 480 del C. de Co., si el poderdante es una sociedad, el Señor Cónsul debe certificar que tuvo a la vista las pruebas de su existencia, que ejerce su objeto social y que quien confiere el poder es su representante:



MINISTERIO DE RELACIONES
EXTERIORES

282032
Marta Smith Rueda
Cuya firma aparece en el
DOCUMENTO DESEMPEÑA
LAS FUNCIONES INDICADAS

JEFE
CA

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TRADUCCION No. 1107/99
MARIA ELVIRA MARTELO
Traductora e Interpretadora Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

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DOCUMENTO DESEMPEÑA
LAS FUNCIONES INDICADAS
JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D.C.

COMO NOT. NO EXISTE EL CUAL JUE
UN ESCOTA, KERO CONSTAR CUE LA
FOTOCOPIA COINCIDE CON EL ORIGINAL
QUE HA LLEGADO A LA VISTA
28 SET 2004
PATE



EL CONSULADO DE COLOMBIA EN
ESTOCOLMO, SUECIA

Fecha.....1999-07-01..... No:.....329

Previa la confrontación correspondiente DA
FE de que la firma que aparece en este docu-
mento es similar a la REGISTRADA aquí por

*Imper Höglberg, Min. Relaciones
Exteriores, Suecia*

M. Smith

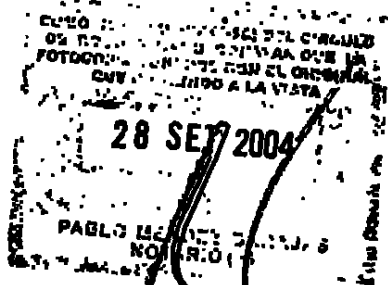
MARIA SMITH-RUEDA
Encargada de las Funciones Consulares



PAGADO	
Impuesto de Timbre	
<i>Diez</i>	dólares US\$ <i>7</i>
Derechos Consulares	
<i>Quince</i>	dólares US\$ <i>15</i>



TRADUCCION No: 1729199
MARIA ELVIRA MARTÍNEZ
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2079 Min. Justicia



5

TRADUCCIÓN OFICIAL No. 17.07/99 preparada por María Elvira Martelo, Traductora Oficial aprobada por el Ministerio de Justicia por Resolución 2879 de 1995 y reconocida por el Ministerio de Relaciones Exteriores.

(A continuación se traducen los sellos y legalizaciones de un documento escrito en inglés y español, por el cual SCA HYGIENE PRODUCTS AB otorga poder a EMILIO FERRERO, GONZALO PERDOMO, LUZ CLEMENCIA DE PAEZ Y GERMAN CAVELIER). Dado y firmado el 19 de febrero de 1999 en Gothenburg. (Firma ilegible) Bengt Forshult, Jefe del Departamento de Patentes.

Yo, el abajo firmante RICKARD STRÖM, Notario Público de Gothenburg, Suecia, por el presente certifico

que Bengt Forshult

ha firmado personalmente el documento anterior y

que de acuerdo con el poder de fecha 1998-08-11, firmado por GUNNAR ANDERSSON y SVEN-ERIK WINLÖF, quienes están debidamente autorizados para firmar conjuntamente por y a nombre de SCA

HYGIENE PRODUCTS AKTIEBOLAG - Org. No. 556007-2356; según Certificado de Registro Sueco de fecha 1998-07-20, Bengt Forshult está debidamente autorizado para firmar dicho documento a nombre de la compañía. Gothenburg, 25 de febrero de 1999.

Ex officio: (Firma ilegible), RICKARD STRÖM (Sello notarial).

Exp. No.: 79234

Derechos: SEK 350:-.

No. 3066

El Ministerio de Relaciones Exteriores en Estocolmo por el presente certifica que el Sr. Rickard Ström, Notario Público de Goteborg, ha expedido y firmado la declaración anterior en su capacidad oficial.

Derechos Estocolmo, 25 de marzo

Kr. 120 PAGADOS de 1999

(Firma ilegible) Inger Högberg. (Sello en tinta) Ministerio de Relaciones Exteriores.

(En español) Certificación de la capacidad legal de Bengt Forshult y de la existencia legal de SCA HYGIENE PRODUCTS AKTIEBOLAG expedida el 5 de marzo 1999 por el Consulado de Colombia en Estocolmo bajo el No. 022. (Firma) M. Smith. MARÍA SMITH RUEDA, Encargada de las Funciones Consulares. Sello consular en tinta. Pagados impuesto de timbre y derechos consulares.

(En español) Certificación de la firma de Inger Högberg, Ministerio de Relaciones Exteriores, Suecia, expedida el 01 de julio de 1999 por el Consulado de Colombia en Estocolmo bajo el No. 001329. (Firma) M. Smith. MARÍA SMITH RUEDA, Encargada de las Funciones Consulares. Sello consular en tinta. Pagados impuesto de timbre y derechos consulares.

(Al anverso) Legalización de la firma que antecede expedida por

7
el MINISTERIO DE RELACIONES EXTERIORES bajo el No. 119916 del 14
de febrero del 2000, firmado por el Jefe de Legalizaciones.

Es traducción fiel y completa de la cual se deja copia en esta
oficina para su confrontación.

COLO 11256-801-014-7

Id. 108

Feb. 15/00

Maria Elvira Martelo
TRADUCCION No. 140799
MARIA ELVIRA MARTELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

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MINISTERIO DE RELACIONES
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2000 FEB 15/00
Jefe de Legalizaciones
SANTAFE DE BOGOTÁ D.C.

COMO NOTARIO SEVTO DEL CENSO DE LA PUEBLA
HAYTA, HAGO CONSTAR QUE LA FIRMA DE
Alfonso Chirra
Alfonso Chirra
CONCORDA CON LA FIRMA REGISTRADA POR
EL CENSO EN ESTA NOTARIA
A CONTINUACION DE LA FIRMA
16 FEB 2000



COMO NOTARIO SEVTO DEL CENSO DE LA PUEBLA
HAGO CONSTAR QUE LA FIRMA DE
CONCORDA CON EL ORIGINAL
28 SET 2004

(19) World Intellectual Property Organization
International Bureau



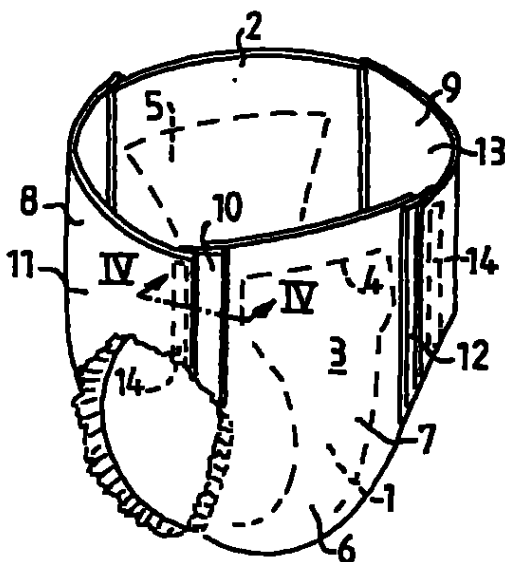
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WO 03/094815 A1

- (51) International Patent Classification: A61F 13/15, 13/496, 13/56, A41F 1/00 (74) Agent: ALBIHNS STOCKHOLM AB; P.O.Box 5581, Linnégatan 2, S-114 85 Stockholm (SE).
- (21) International Application Number: PCT/SE03/00491 (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
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- (71) Applicant: SCA HYGIENE PRODUCTS AB (SE/SE); S-405 03 Göteborg (SE).
- (72) Inventors: KARLSSON, Birgitta; Törnrosvägen 14, S-435 31 Mölnlycke (SE). SKOGSBERG, Johan; Fredåsgatan 28, S-431 57 Göteborg (SE). ERWAST, Lenaart; Norra Gobberogatan 26, S-416 63 Göteborg (SE). WIDLUND, Urban; Pärnsvägen 5, S-435 43 Pixbo (SE). FERNFORS, Ingemar; Alfhöjdgatan 13, S-431 38 Mölndal (SE).
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR PRODUCTION OF DIAPER PANTS



(57) Abstract: The present invention relates to a method for production of disposable diaper pants or of a sanitary panty of the disposable type with openable and resealable side panels (8, 9), characterized by the following steps: a) a web (1, 2, 3) of interconnected diaper pants blanks, which each comprise an absorption body (1) enclosed between an inner cover sheet (2) of liquid-permeable material and an outer cover sheet (3) of liquid-impermeable material and have a front portion (4) and a rear portion (5) and an intermediate crotch portion (6), is formed by means of a row of absorption bodies (1) being applied on a continuous web of inner or outer cover sheet material (2 or 3) so that the front portions (4) and the rear portions (5) of adjacent diaper pants blanks in the web of interconnected diaper pants blanks are directed toward each other, after which a continuous web of outer or inner cover sheet material is applied to the web with absorption bodies and secured to it in those parts thereof which lie outside the absorption bodies, b) separate side panels (8, 9) connected to each other are secured to the side portions of each of the adjacent front portions or each of the adjacent rear portions of the diaper pants blanks, each side panel (8, 9) comprising two parts (10, 11 and 12, 13 respectively) which are connected to each other by means of a detachable and resealable connection (14), c) individual diaper pants blanks provided with side panels (8, 9) are cut out from the web of inter-

connected diaper pants blanks, d) each diaper pants blank is folded about a transverse axis in the crotch portion so that the front and rear edges of the blank lie against each other, e) after which the side panels of each diaper pants blank are folded in toward those side portions of either the rear portion or front portion which have no side panel and are secured thereto. The invention also relates to diaper pants produced by means of the method.

WO 03/094815 A1

Method for production of diaper pants

TECHNICAL FIELD

- 5 The present invention relates to a method for production of disposable diaper pants or of a sanitary panty of the disposable type with openable and resealable side panels, and to diaper pants or a sanitary panty produced by means of this method.

10 BACKGROUND TO THE INVENTION

- Diaper pants with openable and resealable side panels combine the advantages of conventional diaper pants and conventional diapers. They are produced with sealed side panels and, like conventional diaper pants, can be
- 15 taken off and put on in the same way as underpants. By means of the side panels being openable, they can also be taken off in the same way as conventional diapers, as a result of which they can be changed without underpants, shoes and stockings having to be taken off, and soiling of the infant can be avoided when changing the diaper pants. Moreover, the fact
- 20 that they are resealable means that a parent can open the diaper pants in order to check whether they need to be changed and can seal the diaper pants again if this is not the case. It is therefore of advantage to be able to produce such diaper pants in an economic way.

- 25 SE-C2-508 613 has already disclosed a method for producing diaper pants from a web of continuous diaper pants blanks, in which the blanks are arranged side by side. In the known method, the whole web of diaper pants blanks is folded so that front edges and rear edges lie edge-to-edge, and the side portions of the folded diaper pants blanks are secured to each other
- 30 with the aid of a folded band. The folded band can be in two parts, said two parts being connected to each other by means of a detachable and resealable connection. The band does not normally form separate side

panels, but it is stated that bands folded in a bellows fashion can be used if it is desired to use parts of the bands to form side panels. Such folding in a bellows fashion complicates the method and requires great precision when applying the bellows-folded bands. The document also mentions that, in the

5 case of a web of continuous diaper pants blanks in which the diaper pants blanks are arranged one after another, it is possible to connect the side portions of individual diaper pants blanks to each other with the aid of folded bands. Such a method requires great precision both when applying the bands and when cutting the individual diaper pants blanks from the web of

10 continuous diaper pants blanks.

WO 99/65439, WO 99/65441, WO 00/37007 and WO 00/37010 all disclose methods for producing diaper pants in which side panels are fastened in a detachable and resealable manner to side portions of the unit of the diaper

15 pants which encloses the absorption body. These methods too require great precision when applying the side panels and when cutting the individual diaper pants blanks from the web of continuous diaper pants blanks. These methods also make it difficult to design the openable and resealable connection as a childproof connection.

20

It is an object of the present invention to make available a method for production of disposable diaper pants or of a sanitary panty of the disposable type with openable and resealable side panels, said method requiring less precision than in previously known methods when applying side panels to a

25 web of continuous diaper pants blanks arranged in succession, and when subsequently cutting individual diaper pants blanks from the web. A further object is to permit application of childproof connections in a simple manner.

SUMMARY OF THE INVENTION

According to the invention, these objects are achieved by means of a method for production of disposable diaper pants or of a sanitary panty of the disposable type with openable and resealable side panels, characterized by the following steps:

- 5 a) a web of interconnected diaper pants blanks, which each comprise an absorption body enclosed between an inner cover sheet of liquid-permeable material and an outer cover sheet of liquid-impermeable material and have a front portion and a rear portion and an
10 intermediate crotch portion, is formed by means of a row of absorption bodies being applied on a continuous web of inner or outer cover sheet material so that the front portions and the rear portions of adjacent diaper pants blanks in the web of interconnected diaper pants blanks are directed toward each other, after which a continuous
15 web of outer or inner cover sheet material is applied to the web with absorption bodies and secured to it in those parts thereof which lie outside the absorption bodies,
- b) separate side panels connected to each other are secured to the side
20 portions of each of the adjacent front portions or each of the adjacent rear portions of the diaper pants blanks, each side panel comprising two parts which are connected to each other by means of a detachable and resealable connection,
- c) individual diaper pants blanks provided with side panels are cut out
25 from the web of interconnected diaper pants blanks,
- d) each diaper pants blank is folded about a transverse axis in the crotch portion so that the front and rear edges of the blank lie against each other,
- e) after which the side panels of each diaper pants blank are folded in
30 toward those side portions of either the rear portion or front portion which have no side panel and are secured thereto.

By virtue of the fact that the diaper pants blanks are arranged so that the front portion of one blank adjoins the front portion of the preceding or subsequent blank and the rear portion of one blank adjoins the rear portion of the subsequent or preceding blank, the blanks have the same width at the locations for division. This means that the precision requirements for division are reduced compared to the situation where parts with different widths are to be divided. The precision requirements for application of side panels are also reduced. Moreover, the application of two-part side panels means that the connection between the two parts can be made childproof before the application of the side panels to the web of diaper pants blanks.

In a preferred embodiment, the side panels are secured to the outer or inner cover sheet of the diaper pants blanks. Alternatively, the side panels are placed between the outer and inner cover sheets of the web of connected diaper pants blanks and are secured to both of these sheets. The side panels preferably consist at least partially of elastic material, and the detachable and resealable connection, which connects the two parts of each side panel to each other, consists of a childproof connection. In one variant, in addition to the detachable and resealable connection, each side panel also comprises a second childproof detachable connection, which is destroyed when the side panel is opened for the first time.

The invention also relates to disposable diaper pants or a sanitary panty of the disposable type with a front portion, a rear portion and an intermediate crotch portion, which comprises an absorption body enclosed between an inner cover sheet of liquid-permeable material and an outer cover sheet of liquid-tight material and separate side panels which, on both sides of the absorption body, extend outside the inner and outer cover sheets and connect the front and rear portions of the diaper pants to each other, so that the diaper pants acquire a pants-like configuration with a waist opening and two leg openings, characterized in that each side panel is elastic and

comprises two parts which are connected to each other by means of a detachable and resealable connection member.

In a preferred embodiment, the detachable and resealable connection
5 consists of a childproof connection member, and the elastic side panels include parts of nonelastic material in those sections to which parts of the connection members are secured. In one variant, in addition to the detachable and resealable connection, each side panel comprises a second
10 childproof detachable connection, which is destroyed upon opening the side panel for the first time. The force needed to open the childproof connection is greater than 4 N, preferably greater than 6 N, more preferably 8 N, and most preferably 10 N but less than 20 N, preferably 15 N.

DESCRIPTION OF THE FIGURES

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The invention will now be described with reference to the attached figures, of which:

Figures 1 and 2 are diagrammatic representations, in a side view and plan
20 view respectively, of an arrangement for producing diaper pants according to a first embodiment of the invention,

Fig.3 shows a diagrammatic perspective view of diaper pants produced in an arrangement according to Figures 1 and 2,

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Fig. 4 shows a cross-sectional view along the line IV-IV in Figure 3, and

Figure 5 is a diagrammatic representation of a method for testing the
30 childproof nature of a connection.

DESCRIPTION OF EMBODIMENTS

Figures 1 and 2 are diagrammatic representations of an arrangement for producing the diaper pants according to Figure 3. The diaper pants shown in Figure 3 comprise an absorption body 1 enclosed between an inner cover sheet 2 of liquid-permeable material and an outer cover sheet 3 of liquid-tight material. The cover sheets 2 and 3 are connected to each other by adhesive bonding or welding in parts lying outside the absorption body. The unit 7 formed by the cover sheets and the absorption body has a front portion 4, a rear portion 5 and an intermediate narrower crotch portion 6. The diaper pants 3 also comprise side panels 8, 9 which extend between the front and rear portions of the unit 7 lying on the same sides of the absorption body and connect these portions to each other so that the diaper pants acquire a form similar to underpants.

The side panels 8, 9 comprise two parts 10, 11 and 12, 13, respectively, which parts overlap each other and are connected to each other by means of a detachable and resealable mechanical connection 14 in the overlapping portions. In the example shown, the connection 14 is of the velcro type, i.e. one part 10 is provided with a fastening element 15, or male element, having a number of hooks which project outward from the surface of the fastening element, and the other part 11 is provided with a fastening element 16, or female element, having a number of loops or eyelets in which the hooks engage. In the illustrative embodiment shown, some of the hooks of the male element are also firmly connected to the female element, e.g. firmly welded in the female element by point welding. In this way it is possible to obtain a connection which is difficult or impossible for an infant to open but is easy for an adult to open. It has indeed been found that infants like to manipulate their diaper pants, and for this reason there is a need for a childproof connection. The number of weld points should be chosen so that the force needed to open such a connection is greater than 4 N, preferably greater than 6 N, more preferably greater than 8 N, and most preferably greater than

10 N but less than 20 N, preferably less than 15 N, in order to ensure childproofing and yet make the connection easy for an adult to open. The opening force can be easily measured, in the manner shown diagrammatically in Figure 5, by coupling a weight to that part of the two parts of the connection which is overlapped, and thereafter taking hold of the grip part of the overlapping part and then lifting the connection. If the weight remains suspended from the connection for more than 30 seconds without the connection opening, the connection is considered sufficient to hold the weight.

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Another factor which influences the childproof aspect is the length of the grip tab, i.e. the length a (see Figure 5) of that part of the overlapping side panel which projects beyond the connection. It has been found that if the grip tabs are shorter than 7 mm, it is very difficult for the children themselves to open the connection. For this reason, the length of the grip tab should lie between 3 and 7 mm, preferably between 4 and 6 mm.

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The childproofing can also be obtained in another way by means of the fact that, outside the mechanical connection 14, the overlapping portions of the two parts 10, 11 and 12, 13, respectively, of the side panels are connected to each other by means of a second openable but not resealable connection, for example a weld connection or adhesive connection, with an opening force in accordance with the above. A second connection of this kind is destroyed when the side panels are opened for the first time. The outermost edge part of the overlapping part of the two parts 10, 11 and 12, 13, respectively, can also be firmly connected to the underlying part of the side panel, in which case opening is obtained by means of a line of weakening in the overlapping part situated between the connection 14 and the firmly connected outermost edge part.

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The two-part side panels 8, 9 are elastic and are preferably made of elastic material, except in those parts which include the securing elements 15, 16.

which parts are preferably made of nonelastic material. The elastic material can consist of elastics made from block copolymers, such as polyurethanes, copolyether esters, polyamide-polyether block copolymers, ethylene-vinyl acetates (EVA) and the like, including polyurethanes available from E. I. Du Pont de Nemours Co., USA, under the name LYCRA® (also known as "spandex"); elastomeric styrene-butadiene copolymers, including those such as KRATON® material, which are available from Shell Chemical Company of Houston, Texas, USA; tetra-block copolymers, including elastomeric styrene-poly(ethylenepropylene) block copolymers available from Shell Chemical Company of Houston, Texas, USA, under the trade name KRATON®; polyamides including polyether block amides available from Ato Chemical Company, USA, under the trade name PEBAX®; polyesters, such as those available from E. I. Du Pont de Nemours Co. under the trade name HYTREL®; single-site or metallocene-catalyzed polymers, including single-site or metallocene-catalyzed polyolefins with a density of less than about 0.89 gram/cm³ from Dow Chemical Co., USA, under the trade name AFFINITY®; and natural and synthetic rubber. The nonelastic material can consist of a nonwoven material, for example a spunbond nonwoven, a carded nonwoven, a meltblown nonwoven or a nonwoven laminate, for example a spunbond-meltblown-spunbond (SMS) laminate. The fibers used to build up the nonwoven materials can consist of fibers of polyolefins, for example polyethylene or polypropylene, or of polyester. Moreover, the nonwoven material can consist of a mixture of several different types of fibers, or of fibers which consist of several different polymers, called copolymers. It is also possible for the nonelastic material to be a plastic film. In the preferred embodiment, therefore, at least the parts 11 and 13 of the two 10, 11 and 12, 13, respectively, of which the side panels 8, 9 consist, are in turn made up of at least two parts. For the sake of simplicity, however, the parts 10, 11 and 12, 13, respectively, are shown as single material pieces in the figures.

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The aim of the elastic side panels is to give the diaper pants a good fit. The side panels are dimensioned to give the elastic force necessary, but not more. It is therefore conceivable that the side panels also have parts of nonelastic material at locations other than at the securing elements.

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As material for the side panels, it is also conceivable to use two nonwoven sheets between which elastic material, elastic bands or elastic threads are secured in the stretched state. With such a material, the elastic and nonelastic parts of the side panels consist of portions with and without such elastic material.

10

To improve access to the detachable and resealable connections 14, the parts 11 and 13 have a considerably greater extent in the circumferential direction than the parts 10 and 12, respectively, cooperating with them. In this way, the connections 14 will be situated on the front of the diaper pants, which makes them easier to get access to for a parent who wishes to open or take off the diaper pants from an infant lying on his/her back. In the embodiment shown in Fig. 3, the parts 10 and 12 which have a small extent in the circumferential direction are advantageously made entirely of nonelastic material, for example a nonwoven.

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It is of course also possible for the parts 11 and 13 to have substantially the same extent in the circumferential direction as the parts 10 and 12. In such a design, the connections 14 are situated on the user's side and are thus slightly more difficult to handle. However, such a design provides slightly better comfort for the wearer and reduces the risk of chafing.

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As will be seen from Figure 3, the unit 7 also comprises leg elastic consisting of one or more elastic threads which are arranged between the cover sheets 2 and 3 and are secured to these, in the stretched state, on both sides of the absorption body 1.

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The liquid-permeable cover sheet 2 consists, for example, of a nonwoven of spunbond polypropylene. Other materials which are used for liquid-permeable cover sheets, so-called top sheets, of absorbent articles, such as nonwovens of synthetic and/or natural fibers, perforated plastic sheets or
5 laminates of such materials, can of course also be used as cover sheet 2.

The liquid-tight outer cover sheet 3 can consist of a plastic sheet, preferably of the breathable type, or a laminate of a plastic sheet and a nonwoven. All materials used as so-called backing sheets for absorbent articles can be
10 used.

The absorption body 1 preferably comprises a layer of cellulose fibers with or without admixture of superabsorbents and/or binder fibers. Other materials such as foamed material or moss can also be used. The absorption body
15 can also be made up of several layers and advantageously comprises a layer of material with high permeability, for example a wadding.

An embodiment of a method for production of diaper pants according to Figure 3 will now be described with reference to Figures 1 and 2. To simplify
20 a comparison with the diaper pants in Figure 3, the components in Figures 1 and 2 have been given the same reference numbers as corresponding components of the finished diaper pants in Figure 3. For example, the web of liquid-permeable material in Figures 1 and 2 has been given the same reference number as the cover sheet 2 of the finished diaper pants.

25 The diaper pants according to Figure 3 are produced in the following way.

Absorption bodies 1 are placed on a running material web 2 of liquid-permeable material with the aid of a transfer wheel 17 on which absorption
30 bodies 1 formed in a mat former wheel (not shown) have been deposited. If the absorption bodies 1 can be formed in synchrony with the advance of the material web 2, the transfer wheel can be omitted and the wheel 17 can

consist of a mat former wheel. The moulds of the mat former wheel are expediently designed such that the absorption bodies leaving the mat former wheel have front ends and rear ends directed toward each other. If this is not the case, the transfer from the mat former wheel takes place in such a way that every second absorption body is turned 180° before the absorption bodies are placed on the transfer wheel 17. The absorption bodies 1 are then placed on the material web 2 in a row with front portions and rear portions of adjacent absorption bodies directed toward each other.

10 A material web 3 of liquid-tight material is then placed on top of the row of absorption bodies 1. The material web 3 passes a gluing unit 18 immediately before application and is secured, with the aid of a pair of rollers 19, to the material web 2 in parts lying outside the absorption bodies 1. If appropriate, the material web 3 is also secured to the rear side of each absorption body 1. Elastic threads or elastic bands 20 are inserted with the aid of a feed unit (not shown) between the webs 2 and 3 and are secured to these with the aid of the pair of rollers 19. Transverse elastic elements, waist elastic, are also expediently applied between the webs 2 and 3 before these pass through the pair of rollers 19. For the sake of clarity, this elastic is not shown in the figures. It should be noted that the production stages described above are conventional and well known to the skilled person.

The combined web 1, 2, 3 of continuous diaper pants blanks then runs through a unit 21 in which side panels 8, 9 are applied to each diaper pants blank. In the embodiment shown, the side panels 8, 9 are secured to the front portions 4 of the diaper pants blanks, but they could equally well be secured to the rear portions instead. The side panels 8, 9 of two adjacent diaper pants blanks are contiguous with each other upon application and differ from the side panels shown in Figure 3 by being rectangular. Each side panel 8, 9 consists of two parts 10, 11 and 12, 13, respectively, which are connected to each other by a connection 14 (not shown in Figures 1 and 2) which is described with reference to Figures 3 and 4. The unit 21 can be

arranged in such a way that, on both sides of the web of continuous diaper pants blanks, it can deliver and then secure rectangular side panels 8, 9 from a store of these, or the unit can also be arranged to separate rectangular side panels from a storage roller and then deliver these and secure them to the web of continuous diaper pants blanks. The side panels are attached by adhesive bonding or welding, and the unit 21 thus also comprises, in the case of adhesive bonding, a gluing unit and a stamp or the like and, in the case of welding, a welding device, for example an ultrasonic welding device.

10 After application of the side panels, the web of continuous diaper pants blanks runs through a cutter device 22 in which individual diaper pants blanks are cut out. In the embodiment shown, the cutter device is a blade roller which also cuts out leg openings from the diaper pants blank. In the illustrated embodiment of the diaper pants according to the invention, part of the leg openings is included in the side panels 8, 9. It is of course possible to cut out the leg openings in the web of continuous diaper pants blanks before the application of side panels, especially if the diaper pants are designed such that that part of the side panels included in the leg openings can be straight. Instead of rectangular side panels, it is of course also possible to apply side panels which have leg recesses. However, this is not preferred because it considerably increases the precision requirements for application of the side panels. The leg recesses are therefore preferably cut out after the side panels have been secured to the web of continuous diaper pants blanks. In the embodiment shown, the same blade roller is used for cutting leg openings and for dividing the web of continuous diaper pants blanks into individual diaper pants blanks, but it is of course instead possible to cut the leg openings before division by using a separate cutting device.

After the division of the web of continuous diaper pants blanks, the individual diaper pants blanks are fed to a folding device 23 via a guide arrangement (not shown), for example a guide rail and a suction conveyor. In the embodiment shown, the device 23 comprises a pair of rollers 24 and a

member 25 which executes a reciprocating movement and which drives the crotch portion of the diaper pants blank into the nip of the roller pair 24 when the diaper pants blank is situated at the nip. In this way, the diaper pants blank is folded double so that the front edge is situated level with the rear edge.

To obtain finished diaper pants from the diaper pants blanks, all that is left to do is to fold the side panels in across the rear portion of the diaper pants blanks and secure the side panels to these. It is simplest to secure the side panels to the rear portion by gluing. Every second double-folded diaper pants blank leaving the folding device 23 will have the front portion uppermost, and every other one will have the rear portion uppermost. This means that for every second double-folded diaper pants blank, the glue will be applied from above along the edges of the free ends of the side panels, and for every other diaper pants blank the glue will be applied from below. For this purpose, two gluing sprays 25, 26 are arranged for alternate use. Likewise, every second pair of side panels 8, 9 are folded upward and every other pair downward, and two devices 27, 28 are provided to alternately fold the side panels in across the rear portions and secure them to these. The devices 27, 28 can each comprise a pivot arm or the like which, with the aid of a vacuum, takes hold of the free ends of the side panels on their unglued side and then folds the side panels in across the rear portions and presses the glued side of the free ends of the side panels against the side areas of the rear portions. The devices 27, 28 also comprise a movable counterstay against which the pivot arms press. The diaper pants blanks are expediently fed intermittently past the gluing sprays 25, 26 and the devices 27, 28 and leave the devices 27, 28 as finished diaper pants.

In the embodiment described, the web 3 of liquid-tight material is placed on top of the web 2 of liquid-permeable material after the absorption bodies have been placed thereon. It is of course possible to switch the webs around

so that absorption bodies are placed on the web of liquid-tight material, and the web of liquid-permeable material is applied last.

By virtue of the fact that the detachable and resealably connected two-part side panels are applied to the web of continuous diaper pants blanks in the sealed state, the precision requirements when arranging the side panels on the web of continuous diaper pants blanks are reduced compared to the situation if the parts of the side panels were each to be applied individually, because a deviation from the desired position of the side panels, for example in the longitudinal direction, does not entail an offset of the mutual positions of the parts included in the resealable connection. In the event of such a deviation of a side panel whose free end contains a male element which is intended to interact with a female element secured to the outer cover of the diaper pants, the male and female elements of the securing arrangement will be offset in relation to each other. This means that the resistance to opening of the connection is less than intended, the diaper pants have a less attractive appearance, and the fit after opening and resealing is not as good as intended, if one assumes that the male and female elements after opening are joined together so that they completely overlap each other.

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The arrangement of the diaper pants blanks so that the front and rear portions of adjacent diaper pants blanks are directed toward each other also means that two side panels can be arranged in one piece and then divided by a straight cut in connection with the cutting of individual diaper pants blanks. This ensures that the waist edges of the side panels and the part of the diaper pants containing the absorption body are always at the same level, which can be difficult to achieve upon application of individual side panels. It should be noted that in a web of continuous diaper pants blanks in which the front portions are directed in the same sense so that the front portion of one diaper pants blank is directed toward the rear portion of the nearest leading diaper pants blank, very great precision is needed when dividing the web into individual diaper pants blanks by means of straight cuts,

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so as to ensure that part of the rear portion does not end up in the front portion, or part of the front portion end up in the rear portion. If the front and rear portions have the same width and the same material composition, this has no great effect, but, if these portions have a different width or different material composition, it is of course important to ensure that the cut is made in exactly the right place. By means of the method described, the tolerances for the positioning of the side panels are thereby increased, and at the same time the position of the dividing cuts requires less precision compared to methods in which a separate side panel for each front portion is applied.

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In addition, the childproof connection can be made with great care and precision since this is done in a production step before the actual diaper production. It is thus possible to use optimum web speeds, which can be considerably slower than the web speeds normally pertaining in process lines for diaper production. A number of parallel side panel blanks can be produced simultaneously if the web width is great enough. In this way, a large number of side panels can be prefabricated per unit of time without the web speed being too high.

20 The described method can of course be modified within the scope of the invention. For example, the side panels 8, 9 can be applied to the material web 2 before the material web 3 is applied, so that the side panels are arranged between the material webs 2 and 3 and are secured to both of these webs. The side panels can also be secured to the liquid-permeable cover sheet. The absorption bodies 1 can be completed with further layers, such layers being applied on top of the bodies 1 by means of further transfer or mat former wheels being added to the arrangement shown in Figures 1 and 2. Moreover, members for providing liquid barriers, so-called standing gathers, can be added to the arrangement. The waist elastic, which preferably extends along the front edge and rear edge of the diaper pants, does not need to be arranged between the material webs 2 and 3 and can instead be applied upon one of these webs. The absorption bodies can have

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a shape other than that shown, for example they can be rectangular or hourglass-shaped. Types of securing elements other than velcro members can be used, for example different types of snap-fit connections, which can also be made childproof. It is also conceivable for the side panels to be
5 made up of two parts with the same dimension in the circumferential direction. The components included in the arrangement described are of a type generally used in production of diapers, diaper pants and similar articles and can be replaced by other components with the same function, for example the blade roller can be replaced with a punch device. The invention
10 is therefore limited only by the content of the attached patent claims.

Patent Claims

1. Method for production of disposable diaper pants or of a sanitary
panty of the disposable type with openable and resealable side panels
(8, 9), characterized by the following steps:
- 5 a) a web (1, 2, 3) of interconnected diaper pants blanks, which each
comprise an absorption body (1) enclosed between an inner cover
sheet (2) of liquid-permeable material and an outer cover sheet (3) of
liquid-impermeable material and have a front portion (4) and a rear
10 portion (5) and an intermediate crotch portion (6), is formed by means
of a row of absorption bodies (1) being applied on a continuous web
of inner or outer cover sheet material (2 or 3) so that the front portions
(4) and the rear portions (5) of adjacent diaper pants blanks in the
web of interconnected diaper pants blanks are directed toward each
15 other, after which a continuous web of outer or inner cover sheet
material is applied to the web with absorption bodies and secured to it
in those parts thereof which lie outside the absorption bodies,
- b) separate side panels (8, 9) connected to each other are secured to
the side portions of each of the adjacent front portions or each of the
20 adjacent rear portions of the diaper pants blanks, each side panel (8,
9) comprising two parts (10, 11 and 12, 13 respectively) which are
connected to each other by means of a detachable and resealable
connection (14),
- c) individual diaper pants blanks provided with side panels (8, 9) are cut
25 out from the web of interconnected diaper pants blanks,
- d) each diaper pants blank is folded about a transverse axis in the crotch
portion so that the front and rear edges of the blank lie against each
other,
- e) after which the side panels of each diaper pants blank are folded in
30 toward those side portions of either the rear portion or front portion
which have no side panel and are secured thereto.

2. Method according to Claim 1, characterized in that the side panels (8, 9) are secured to the outer (3) or inner (2) cover sheet of the diaper pants blanks.
- 5 3. Method according to Claim 1, characterized in that the side panels are placed between the outer and inner cover sheets of the web of connected diaper pants blanks and are secured to both of these sheets.
- 10 4. Method according to any of Claims 1-3, characterized in that the side panels (8, 9) at least partially consist of elastic material.
- 15 5. Method according to any of Claims 1-4, characterized in that the detachable and resealable connection (14), which connects the two parts (10, 11 and 12, 13 respectively) of each side panel (8, 9) to each other, consists of a childproof connection.
- 20 6. Method according to any of Claims 1-4, characterized in that, in addition to the detachable and resealable connection, each side panel also comprises a second childproof connection which is detachable and which is destroyed when the side panel is opened for the first time.
- 25 7. Disposable diaper pants or a sanitary panty of the disposable type with a front portion (4), a rear portion (5) and an intermediate crotch portion (6), which comprises an absorption body (1) enclosed between an inner cover sheet (2) of liquid-permeable material and an outer cover sheet (3) of liquid-tight material and separate side panels (8, 9) which, on both sides of the absorption body, extend outside the inner and outer cover sheets and connect the front and rear portions of the
30 diaper pants to each other, so that the diaper pants acquire a pants-like configuration with a waist opening and two leg openings,

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characterized in that each side panel (8, 9) is elastic and comprises two parts (10, 11 and 12, 13 respectively) which are connected to each other by means of a detachable and resealable connection member (14).

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8. Diaper pants or sanitary panty according to Claim 7, characterized in that the detachable and resealable connection (14) consists of a childproof connection member.

10 9. Diaper pants or sanitary panty according to Claim 7, characterized in that, in addition to the detachable and resealable connection, each side panel also comprises a second childproof connection, which is detachable and is destroyed upon opening the side panel for the first time.

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10. Diaper pants or sanitary panty according to Claim 7, 8 or 9, characterized in that the elastic side panels (8, 9) comprise parts of nonelastic material in those sections to which parts (15, 16) of the detachable and resealable connection (14) are secured.

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11. Diaper pants or sanitary panty according to Claim 8 or 9, characterized in that the force needed to open the childproof connection is greater than 4 N, preferably greater than 6 N, more preferably 8 N, and most preferably 10 N but less than 20 N, preferably 15 N.

25

12. Diaper pants or sanitary panty according to any of Claims 7-11, characterized in that the overlap of the two parts (10, 11 and 12, 13 respectively) of each side panel (8, 9) which are connected to each other by means of a detachable and resealable connection member (14) protrudes beyond the connection member and forms a grip tab with an extent (a) of 3-7 mm, preferably 4-6 mm.

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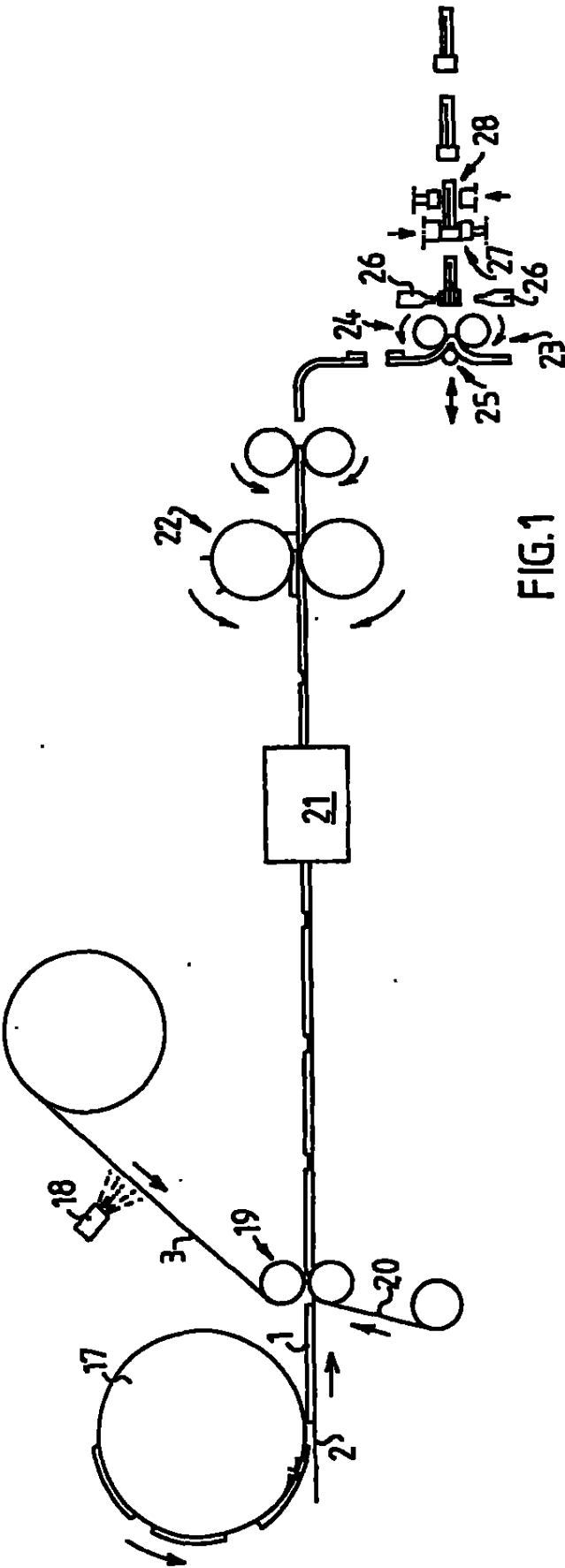


FIG. 1

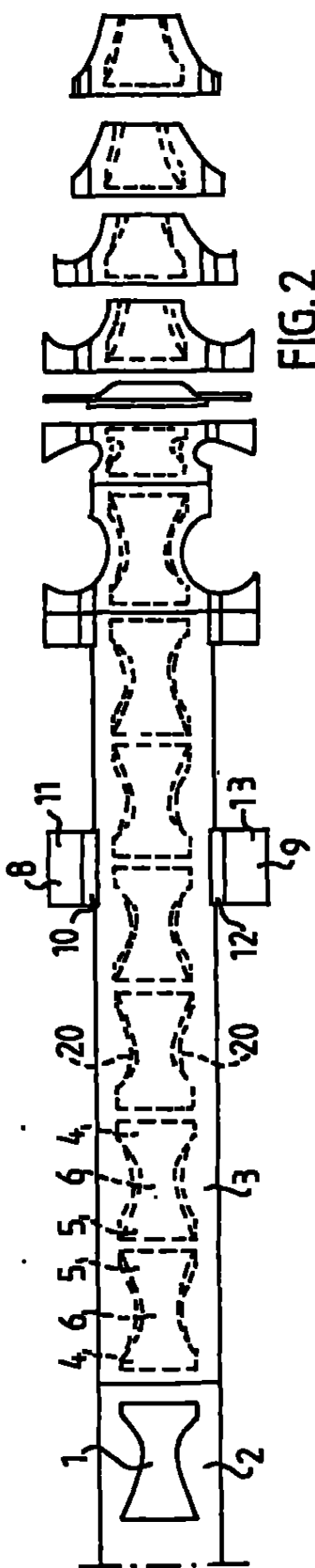


FIG. 2

2/3

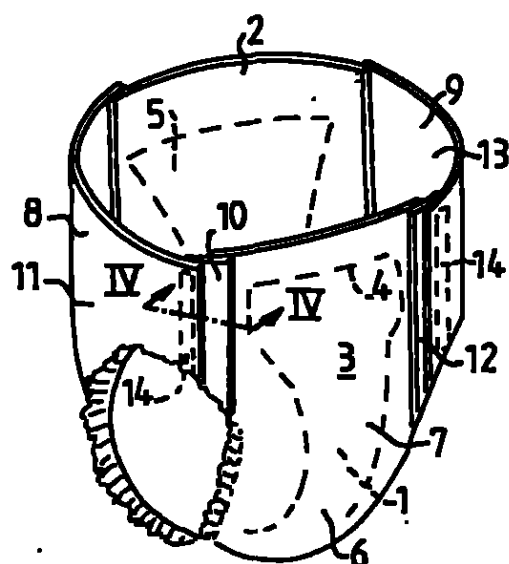


FIG. 3

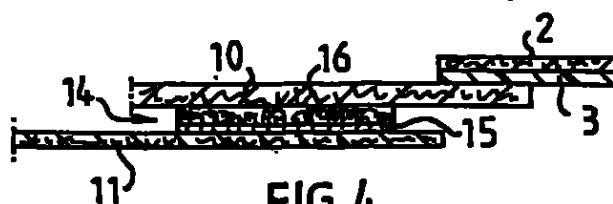


FIG. 4

3 / 3

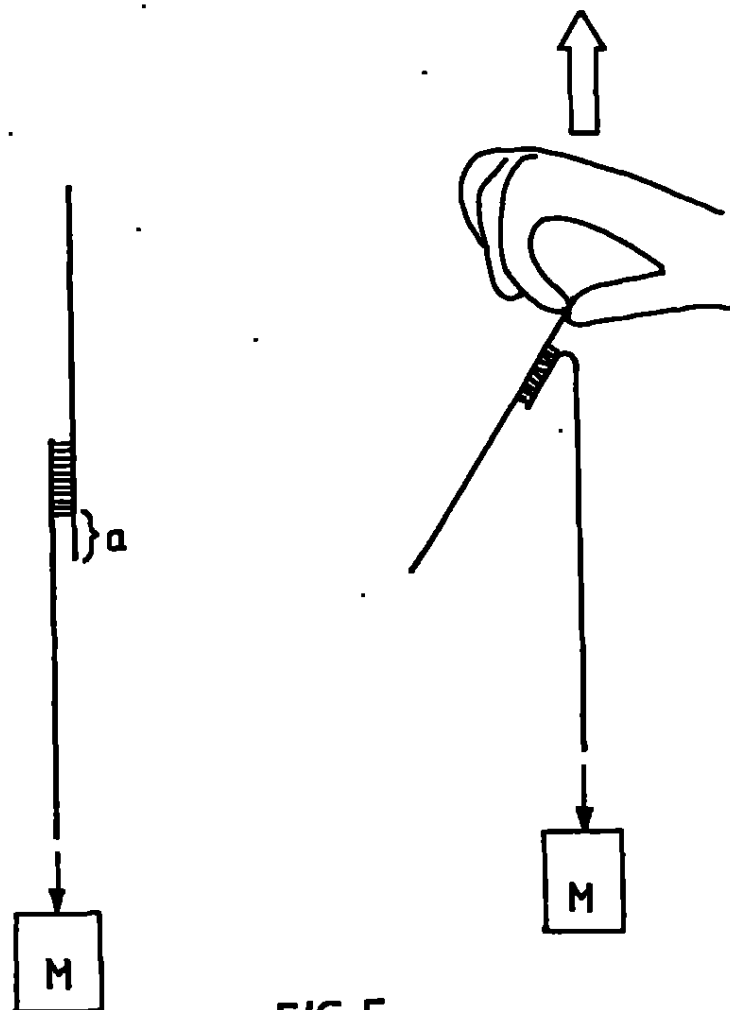


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 03/00491

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A61F 13/15, A61F 13/496, A61F 13/56, A41F 1/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A61F, A41F

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

SE,DK,FI,NO classes as above

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

WPI, PAJ, FULLTEXT, INSPEC, EPOQUE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6022432 A (ELSBURG ET AL), 8 February 2000 (08.02.00), see fig. 1-5, column 2, line 34; column 3, line 36 and column 5, line 55 - column 6, line 4 ---	1-12
Y	US 6036805 A (MCNICHOLS), 14 March 2000 (14.03.00), see fig. 1-12, column 2, line 25; column 4, line 5 ---	1-12
A	WO 0037007 A1 (KIMBERLY-CLARK WORLDWIDE, INC.), 29 June 2000 (29.06.00), figures 1,4, abstract ---	1-12

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 2 June 2003	Date of mailing of the international search report 17-06-2003
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer BEATA SLUSARCZYK/E1s Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT
Information on patent family members

29/04/03

International application No.

PCT/SE 03/00491

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	6022432	A	08/02/00	AU	742581 B	10/01/02
				AU	2236099 A	05/01/00
				BR	9911154 A	24/04/01
				CN	1306409 T	01/08/01
				EP	1089691 A	11/04/01
				JP	2002518097 T	25/06/02
				WO	9965441 A	23/12/99
US	6036805	A	14/03/00	AU	742637 B	10/01/02
				AU	2235899 A	05/01/00
				BR	9911174 A	27/03/01
				CN	1306410 T	01/08/01
				EP	1089690 A	11/04/01
				JP	2002518096 T	25/06/02
				WO	9965439 A	23/12/99
WO	0037007	A1	29/06/00	AU	755450 B	12/12/02
				AU	2052100 A	12/07/00
				BR	9916113 A	04/06/02
				EP	1139956 A	10/10/01
				JP	2002532194 T	02/10/02
				US	6113717 A	05/09/00
DE	9422298	U1	02/12/99	AU	677458 B	24/04/97
				AU	8044994 A	31/08/95
				BR	9405118 A	24/10/95
				CA	2124478 A	24/08/95
				DE	69418851 D,T	05/01/00
				EP	0669121 A,B	30/08/95
				SE	0669121 T3	
				ES	2132315 T	16/08/99
				FR	2716351 A,B	25/08/95
				GB	2286762 A,B	30/08/95
				GB	9425777 D	00/00/00
				JP	7236655 A	12/09/95
				PH	30618 A	06/08/97
				US	5399219 A	21/03/95
				ZA	9409972 A	22/08/95

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00491

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 9422298 U1 (KIMBERLY-CLARK WORLDWIDE, INC.), 2 December 1999 (02.12.99), figures 11,14,16, abstract -----	1-12

se-524

PCT REQUEST

64432-70983

Original (for SUBMISSION) - printed on 24.03.2003 02:27:51 PM

0	For receiving Office use only	
0-1	International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	
0-4	Form - PCT/RO/101 PCT Request	
0-4-1	Prepared using	PCT-EASY Version 2.92 (updated 01.01.2003)
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	Swedish Patent Office (RO/SE)
0-7	Applicant's or agent's file reference	64432-70983
I	Title of invention	METHOD FOR PRODUCTION OF DIAPER PANTS
II	Applicant	
II-1	This person is:	applicant only
II-2	Applicant for	all designated States
II-4	Name	SCA HYGIENE PRODUCTS AB
II-5	Address:	S-405 03 Göteborg Sweden
II-6	State of nationality	SE
II-7	State of residence	SE
III-1	Applicant and/or inventor	
III-1-1	This person is:	inventor only
III-1-4	Name (LAST, First)	KARLSSON, Birgitta
III-1-5	Address:	Törnrosvägen 14 S-435 31 Mölnlycke Sweden
III-2	Applicant and/or inventor	
III-2-1	This person is:	inventor only
III-2-4	Name (LAST, First)	SKOGSBERG, Johan
III-2-5	Address:	Fredåsgatan 28 S-431 57 Göteborg Sweden
III-3	Applicant and/or inventor	
III-3-1	This person is:	inventor only
III-3-4	Name (LAST, First)	ERWAST, Lennart
III-3-5	Address:	Norra Gubberogatan 26 S-416 63 Göteborg Sweden

25.

PCT REQUEST

84432-70983

Original (for SUBMISSION) - printed on 24.03.2003 02:27:51 PM

III-4	Applicant and/or Inventor	
III-4-1	This person is:	inventor only
III-4-4	Name (LAST, First)	WIDLUND, Urban
III-4-5	Address:	Påronvägen 5 S-435 43 Pixbo Sweden
III-5	Applicant and/or Inventor	
III-5-1	This person is:	inventor only
III-5-4	Name (LAST, First)	FERNFORS, Ingemar
III-5-5	Address:	Alfhöjdsgratan 13 S-431 38 Mölndal Sweden
IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	
IV-1-1	Name	ALBIHNS STOCKHOLM AB
IV-1-2	Address:	P.O.Box 5581 Linnégatan 2 S-114 85 Stockholm Sweden
IV-1-3	Telephone No.	+46 8 59 88 72 00
IV-1-4	Facsimile No.	+46 8 59 88 73 00
IV-1-5	e-mail	info.stockholm@albihns.se
V	Designation of States	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AP: GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW and any other State which is a Contracting State of the Harare Protocol and of the PCT EA: AM AZ BY KG KZ MD RU TJ TM and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT EP: AT BE BG CH&LI CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI SK TR and any other State which is a Contracting State of the European Patent Convention and of the PCT OA: BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG and any other State which is a member State of OAPI and a Contracting State of the PCT

PCT REQUEST

64432-70883

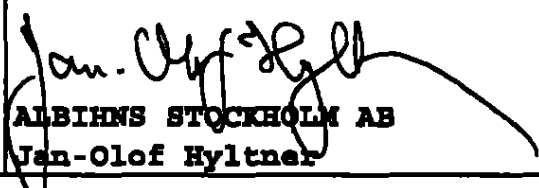
Original (for SUBMISSION) - printed on 24.03.2003 02:27:51 PM

V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH&LI CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
V-3	Precautionary Designation Statement In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.	
V-6	Exclusion(s) from precautionary designations	NONE
VI-1	Priority claim of earlier national application	
VI-1-1	Filing date	02 April 2002 (02.04.2002)
VI-1-2	Number	0200987-6
VI-1-3	Country	SE
VI-2	Priority document request The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	VI-1
VII-1	International Searching Authority Chosen	Swedish Patent Office (ISA/SE)
VII-2	Request to use results of earlier search; reference to that search	
VII-2-1	Date	02 April 2002 (02.04.2002)
VII-2-2	Number	SE 02/00299
VII-2-3	Country (or regional Office)	SE

PCT REQUEST

64432-70863

Original (for SUBMISSION) - printed on 24.03.2003 02:27:51 PM

VIII	Declarations	Number of declarations	
VIII-1	Declaration as to the identity of the inventor	-	
VIII-2	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	-	
VIII-3	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	-	
VIII-4	Declaration of inventorship (only for the purposes of the designation of the United States of America)	-	
VIII-5	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	-	
IX	Check list	number of sheets	electronic file(s) attached
IX-1	Request (including declaration sheets)	5	-
IX-2	Description	13	-
IX-3	Claims	3	-
IX-4	Abstract	1	EZABST00.TXT
IX-5	Drawings	3	-
IX-7	TOTAL	25	
	Accompanying items	paper document(s) attached	electronic file(s) attached
IX-8	Fee calculation sheet	✓	-
IX-11	Copy of general power of attorney	reference no. 429	-
IX-14	Translation of international application into:	English	
IX-17	PCT-EASY diskette	-	Diskette
IX-18	Other (specified):	Copy of ITS-report and Official Action	-
IX-19	Figure of the drawings which should accompany the abstract	3	
IX-20	Language of filing of the international application	Swedish	
X-1	Signature of applicant, agent or common representative		
X-1-1	Name	ALBIHNS STOCKHOLM AB	
X-1-2	Name of signatory	Jan-Olof Hytner	

FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	

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PCT REQUEST

64432-70883

Original (for SUBMISSION) - printed on 24.03.2003 02:27:51 PM

10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/SE
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 64432	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/SE 03/00491	International filing date (day/month/year) 25 March 2003	(Earliest) Priority Date (day/month/year) 2 April 2002
Applicant SCA HYGIENE PRODUCTS AB		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 3

☒ as suggested by the applicant.

☐ None of the figures.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00491

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A61F 13/15, A61F 13/496, A61F 13/56, A41F 1/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A61F, A41F

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

SE,DK,FI,NO classes as above

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

WPI, PAJ, FULLTEXT, INSPEC, EPOQUE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6022432 A (ELSBURG ET AL), 8 February 2000 (08.02.00), see fig. 1-5, column 2, line 34; column 3, line 36 and column 5, line 55 - column 6, line 4 --	1-12
Y	US 6036805 A (MCNICHOLS), 14 March 2000 (14.03.00), see fig. 1-12, column 2, line 25; column 4, line 5 --	1-12
A	WO 0037007 A1 (KIMBERLY-CLARK WORLDWIDE, INC.), 29 June 2000 (29.06.00), figures 1,4, abstract --	1-12

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"A" document member of the same patent family

Date of the actual completion of the international search

2 June 2003

Date of mailing of the international search report

17-06-2003

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

BEATA SLUSARCZYK/E1s

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00491

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 9422298 U1 (KIMBERLY-CLARK WORLDWIDE, INC.), 2 December 1999 (02.12.99), figures 11,14,16, abstract ----- 	1-12

INTERNATIONAL SEARCH REPORT
Information on patent family members

29/04/03

International application No.

PCT/SE 03/00491

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	6022432	A	08/02/00	AU	742581 B	10/01/02
				AU	2236099 A	05/01/00
				BR	9911154 A	24/04/01
				CN	1306409 T	01/08/01
				EP	1089691 A	11/04/01
				JP	2002518097 T	25/06/02
				WO	9965441 A	23/12/99
US	6036805	A	14/03/00	AU	742637 B	10/01/02
				AU	2235899 A	05/01/00
				BR	9911174 A	27/03/01
				CN	1306410 T	01/08/01
				EP	1089690 A	11/04/01
				JP	2002518096 T	25/06/02
				WO	9965439 A	23/12/99
WO	0037007	A1	29/06/00	AU	755450 B	12/12/02
				AU	2052100 A	12/07/00
				BR	9916113 A	04/06/02
				EP	1139956 A	10/10/01
				JP	2002532194 T	02/10/02
				US	6113717 A	05/09/00
DE	9422298	U1	02/12/99	AU	677458 B	24/04/97
				AU	8044994 A	31/08/95
				BR	9405118 A	24/10/95
				CA	2124478 A	24/08/95
				DE	69418851 D,T	05/01/00
				EP	0669121 A,B	30/08/95
				SE	0669121 T3	
				ES	2132315 T	16/08/99
				FR	2716351 A,B	25/08/95
				GB	2286762 A,B	30/08/95
				GB	9425777 D	00/00/00
				JP	7236655 A	12/09/95
				PH	30618 A	06/08/97
				US	5399219 A	21/03/95
				ZA	9409972 A	22/08/95

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: HYLTNER, Jan-Olof et al. ALBIHNS STOCKHOLM AB P.O.Box 5581 Linnégatan 2 S-114 85 Stockholm SUEDE	04. 10 <i>ME</i>
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PCT

WRITTEN OPINION
(PCT Rule 66)

Applicant's or agent's file reference 64432-70983		Date of mailing (day/month/year) 13.02.2004	
International application No. PCT/SE 03/00491		International filing date (day/month/year) 25.03.2003	Priority date (day/month/year) 02.04.2002
International Patent Classification (IPC) or both national classification and IPC A61F13/15			
Applicant SCA HYGIENE PRODUCTS AB			

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

I	☒	Basis of the opinion
II	☐	Priority
III	☐	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	☐	Lack of unity of invention
V	☒	Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	☐	Certain documents cited
VII	☐	Certain defects in the international application
VIII	☐	Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **02.08.2004**

Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Hindia, E Formalities officer (incl. extension of time limits) Jacobus Prues, S Telephone No. +49 89 2399-8113
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WRITTEN OPINION

International application No. PCT/SE 03/00491

I. Basis of the opinion

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*):

Description, Pages

1-16 as originally filed

Claims, Numbers

1-12 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

6. Additional observations, if necessary:

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WRITTEN OPINION

International application No. **PCT/SE 03/00491**

V. Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	7-12
Inventive step (IS)	Claims	1-12
Industrial applicability (IA)	Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/SE03/00491

Item V

Reasoned statement under Rule 66.2(a)(ii) PCT with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement:

1. The following documents from the International Search Report are mentioned for the first time in this written opinion; the numbering will be adhered to in the rest of the procedure:

D1=US-A-6022432

D2=US-A-6036805

D3=WO-A-0037007

D4=DE-U1-9422298

2. **Novelty**

- 2.1 D4 relates to disposable diaper pants having the features as in independent claim 7 (see in D4, the claims, figures 1-3 and 11). Thus, the teaching of D4 is novelty-destroying for the subject-matter of present claim 7. The combinations of features in claims 8-12 are either known from or rendered obvious by the teaching of D4 and seem to be product features within the scope of the customary practice followed by persons skilled in the art. Therefore, claims 7-12 do not comply with the requirements of Article 33(2) PCT.

- 2.2 Having regard to the prior art documents cited in the International Search Report, the subject-matter of claims 1-6 appears to be novel, since a method for production of disposable diaper pants comprising the method steps a)-e) as specified in claim 1 is not disclosed in the available prior art. The method in claim 1 differs from the closest prior art D1-D3, which relate to methods of making prefasted disposable absorbent articles with side panels, in that in D1-D3 the side panels do not comprise the features as specified under step b) in claim 1. D4 relates to disposable diaper pants comprising side panels having the features as defined under b) in claim, but D4 does not disclose a method for production of disposable diaper pants comprising all the features a)-e) as defined in claim 1. Thus, the claimed method in claims 1-6 is considered to be novel and the claims meet the requirements of Article 33 (2) PCT.

3. **Inventive Step**

The problem addressed by the present application is to provide a method for production of disposable diaper pants with openable and releasable side panels, the method requiring less precision than in previously known methods when applying side panels to a web of continuous diaper pants blanks arranged in succession and when subsequently cutting individual diaper pants blanks from the web. The problem has been solved by the method/diaper pants defined in the present claims. There are no doubts that the indicated problem has been solved by the claimed method/diaper pants having regard to the disclosure of the international application.

- 3.1 Closest prior art for the present claims are documents D1-D3 which relate to methods of making prefasted disposable absorbent articles with side panels and D4 which relates to disposable diaper pants comprising side panels having the features as defined in claim 7.

Thus, in view of the teaching of D4 the subject-matter of present claims 7-12 is both not novel and does not involve an inventive step and the claims do not comply with the requirements of Article 33(3) PCT.

- 3.2 The subject-matter of claims 1-6 does not comply with the requirements of Article 33(3) PCT for the following reasons:

The method in claim 1 differs from the closest prior art D1-D3, which relate to methods of making prefasted disposable absorbent articles with side panels, in that in D1-D3 the side panels do not comprise the features as specified under step b) in claim 1. D4 relates to disposable diaper pants comprising side panels having the features as defined under b) in claim, but D4 does not disclose a method for production of disposable diaper pants comprising all the features a)-e) as defined in claim 1. Thus, it would have been obvious to the skilled worker in the art faced with the problem posed who starts with the method in each of D1-D3 and who knows the teaching of D4 to employ the side panels known from D4 in the method of D1, D2 or D3 as a normal design option in order to solve the problem posed, and thus arrive at the method in claim 1 without the exercise of inventive skill. In this respect it is pointed out that the present application does not demonstrate the attainment of an unexpected effect or advantage attributable to the particular use of the side panels known from D4 in the methods of D1, D2 or D3, which would enable an inventive step to be acknowledged. The same applies for claims 2-6, as

**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/SE03/00491

they do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, since the subject-matter thereof appears obvious from the general teaching of D1-D3/D4. Moreover, it appears that these method features are not essential features necessary to solve the problem posed in the application, since the problem has already been solved by the method in claim 1 which does not comprise such features. Therefore, an inventive step cannot be acknowledged for these claims.

Therefore, an inventive step cannot be acknowledged for present claims 1-6 and they do not comply with the requirements of Article 33(3) PCT.

4. Present claims 1-12 comply with the requirements of Article 33(4) PCT (industrial applicability).

European Patent Office
D-80298 MÜNCHEN
TYSKLAND

Via facsimile

Our ref.
64432-70983-JOH/JOH

Your ref.
P10443

Stockholm
13 May 2004

**International Patent Application No. PCT/SE03/00491 - SCA HYGIENE
PRODUCTS AB**

Dear Sirs,

I have the following comments to your written opinion.

I am not in agreement with the analysis of D4. In the written opinion it is stated that D4 discloses all the features of claim 7 and it is referred to the claims, figures 1-3 and 11 as a support for said statement. As I understand the claims, they are all directed to a fastener tab (44 in figures 1-3) and the manufacturing thereof and not to the article to which such a fastener tab is affixed. The claims of D4 can therefore not destroy the novelty of a disposable diaper pants according to claim 7 of the present application.

Figures 1-3 and 11 of D4 disclose a diaper of open type and not a pants type diaper, see for example figure 1 and page 23, last paragraph from which it is evident that tab 44 co-operates with a target area 46 extending over the width of the front end part of the diaper.

An open type diaper differs from a diaper pants in that the open type diaper is delivered from the manufacturer in a flat shape, the sides parts of the diaper being brought together by the user of the diaper, whereas a diaper pants is delivered with the side parts attached to each other. A diaper pants has thus a pants-like configuration already when delivered, whereas an open type diaper does not attain a pants-like configuration until it is applied to a user thereof.

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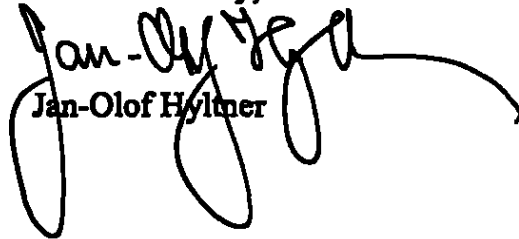
70

The diaper according to D4 can therefore not destroy the novelty of the diaper pants according to claim 7. Neither can the content of D4 give a skilled man any incitement to change the construction of known diaper pants.

It is also clear that the existence of diapers of open type can not give a skilled man facing the problems of the precision required in the manufacturing of diaper pants having openable and resealable side panels, any guidance, especially since the fastener tabs of open type diapers can be affixed in different positions so as to enable an adjustment of the overlap between the front and rear side parts in order to make the diaper fit on different wearers.

For these reasons I disagree with the conclusions of the Examiner and respectfully ask for a favourable IPER.

Yours faithfully,


Jan-Olof Hyltner

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

To: HYLTER, Jan-Olof et al. ALBIHNS STOCKHOLM AB P.O.Box 5581 Linnégatan 2 S-114 85 Stockholm SUEDE	04. 05. 28
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Date of mailing (day/month/year)	26.05.2004
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Applicant's or agent's file reference 64432-70983	IMPORTANT NOTIFICATION
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International application No. PCT/SE 03/00491	International filing date (day/month/year) 25.03.2003	Priority date (day/month/year) 02.04.2002
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Applicant SCA HYGIENE PRODUCTS AB

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the International preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the International preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tlx 523856 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Lázaro Ortiz, A Tel. +49 89 2399-8011
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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 64432-70983	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEAA16)	
International application No. PCT/SE 03/00491	International filing date (day/month/year) 25.03.2003	Priority date (day/month/year) 02.04.2002
International Patent Classification (IPC) or both national classification and IPC A61F13/15		
Applicant SCA HYGIENE PRODUCTS AB		

1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 20.10.2003	Date of completion of this report 26.05.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80288 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Hindia, E Telephone No. +49 89 2399-8482 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/SE 03/00491**

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-16 as originally filed

Claims, Numbers

1-12 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/SE 03/00491**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/SE03/00491

2/5

Item V

Reasoned statement under Article 35(2) PCT with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents from the International Search Report have been considered for the purposes of this report:

D1=US-A-6022432

D2=US-A-6036805

D3=WO-A-0037007

D4=DE-U1-9422298

2. **Novelty**

- 2.1 D4 relates to diapers of open type. A disposable diaper pants or sanitary panty as in independent claim 7 is not disclosed in D4; the open type diaper in D4 differs from the claimed diaper pants in that the open type diaper is delivered from the manufacturer in a flat shape, the sides parts of the diaper being brought together by the user of the diaper, whereas the diaper pants is delivered with the side parts attached to each other and thus, a diaper pants has a pants-like configuration already when delivered, whereas an open type diaper does not attain a pants-like configuration until it is applied to a user thereof. Thus, the subject-matter of present claims 7-12 is considered to be novel and to meet the requirements of Article 33 (2) PCT.

- 2.2 Having regard to the prior art documents cited in the International Search Report, the subject-matter of claims 1-6 is novel, since a method for production of disposable diaper pants comprising the method steps a)-e) as specified in claim 1 is not disclosed in the available prior art. The method in claim 1 differs from the closest prior art D1-D3, which relate to methods of making prefastened disposable absorbent articles with side panels, in that in D1-D3 the side panels do not comprise the features as specified under step b) in claim 1. D4 relates to diapers of open type comprising sides parts having the features as defined under b) in claim 1, but D4 does not disclose a method for production of disposable diaper pants comprising all the features a)-e) as defined in claim 1. Thus, the claimed method in claims 1-6 is considered to be novel and the claims meet the requirements of Article 33 (2) PCT.

3. **Inventive Step**

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/SE03/00491

The problem addressed by the present application is to provide a method for production of disposable diaper pants with openable and releasable side panels, the method requiring less precision than in previously known methods when applying side panels to a web of continuous diaper pants blanks arranged in succession and when subsequently cutting individual diaper pants blanks from the web. The problem has been solved by the method/diaper pants defined in the present claims. There are no doubts that the indicated problem has been solved by the claimed method/diaper pants having regard to the disclosure of the international application. The solution offered to the problem posed above cannot be derived in an obvious manner from a reading of closest prior art documents D1-D4, since a method comprising the combination of method steps a)-e) as in claim 1 and a diaper pants as in claim 7 comprising in particular the specified side elastic panels (8,9) comprising two parts (10, 11 and 12, 13, respectively) which are connected to each other by means of a detachable and resealable connection member (14) are neither disclosed nor suggested by the prior art to solve the problem posed in the application. Therefore, the present claims involve an inventive step (Article 33 (3) PCT).

4. Present claims 1-12 comply with the requirements of Article 33(4) PCT (industrial applicability).

MÉTODO PARA LA PRODUCCIÓN DE PANTALONES DE PAÑAL

CAMPO TÉCNICO

La presente invención se relaciona con un método para la producción de pañales de pañal desechables o de un pantaloncito sanitario del tipo desechable con paneles laterales abríles y resellables, y a pantalones de pañal o pantaloncitos sanitarios producidos por medio de este método

ANTECEDENTES DE LA INVENCION

Los pantalones de pañal con paneles laterales abríles y resellables combinan las ventajas de los pantalones de pañal convencionales y de los pañales convencionales. Estos son producidos con paneles laterales sellados y, como pantalones de pañal convencionales, pueden ser retirados y puestos de la misma manera que unos interiores. Por medio de los paneles laterales abríbles, también ellos pueden retirarse de la misma manera que lo hacen los pañales convencionales, como resultado de lo cual ellos pueden ser cambiados sin interiores, zapatos o

material que tiene que ser quitado, y el mugre del niño puede ser evitado cuando se cambian los pantalones de pañal. Más aún, el hecho de que ellos sean resellables significa que un pariente puede abrir los pantalones de pañal para poder verificar si requieren ser cambiados y puede sellar los pantalones de pañal nuevamente si este no es el caso. Por lo tanto otra de las ventajas es ser capaz de producir tales pantalones de pañal de una manera económica.

La SE-C2-508 613 ha descrito ya un método para producir pantalones de pañal a partir de una tela o rollo de blancos de pantalón de pañal continuos, en el cual los blancos están dispuestos lado a lado. En el método conocido, el rollo completo de blancos de pantalón de pañal está doblado de modo que los bordes delanteros y los bordes traseros descansan borde a borde, y las porciones laterales de los blancos de pantalones de pañal doblados están asegurados uno al otro con la ayuda de una banda doblada. La banda doblada puede estar en dos partes, dichas dos partes están conectadas una a la otra por medio de una conexión liberable y resellable. La banda normalmente no forma paneles laterales separados, pero se ha establecido que las bandas dobladas de una

manera de acordeón pueden ser usadas si es deseado usar partes de las bandas para formar los paneles laterales. Tales dobleces en una manera de acordeón complica el método y requiere de gran precisión cuando se aplican las bandas dobladas por un acordeón. El documento también menciona que, en el caso de un rollo de blancos de pantalones de pañal continuo en el cual los blancos de pantalones de pañal están dispuestos uno después del otro, es posible conectar las porciones de pañales de blancos de pantalones de pañal individuales uno a otro con la ayuda de bandas dobladas. Tal método requiere gran precisión tanto cuando se aplican las bandas y cuando se cortan los blancos de pantalones de pañal individuales del rollo de blancos de pantalones de pañal continuo.

La WO 99/65439, WO 99/65441, la WO 00/37007 y WO 00/37010 todas describen métodos para producir pantalones de pañal en los cuales los paneles laterales son sujetos de una manera liberable y resellable a las porciones laterales a la unidad de los pantalones de pañal que encierran el cuerpo de absorción. Estos métodos también requieren de gran precisión cuando se aplican los paneles laterales y cuando se cortan los blancos de pantalón de pañal individuales del rollo de blancos de pantalones de pañal

continuo. Estos métodos también hacen difícil diseñar conexiones audibles y resellables tal como una conexión a prueba de niños.

Es un objeto de la presente invención hacer disponible un método para la producción de pantalones de pañal desechables o de unos pantaloncitos sanitarios del tipo desechable con paneles laterales abribles y resellables, dicho método requiere menos precisión que en los métodos conocidos previamente cuando se aplican los paneles laterales a un rollo blancos de pantalones de pañal continuo dispuestos en sucesión, y cuando subsecuentemente se cortan los blancos de pantalón de pañal individuales del rollo. Un objeto adicional es el de permitir la aplicación de conexiones a prueba de niños de una manera simple.

RESUMEN DE LA INVENCION

De acuerdo con la invención, estos objetos se logran por medio de un método para la producción de pantalones de pañal desechables o de un pantaloncito sanitario del tipo desechable con paneles laterales abribles y resellables, caracterizados por las siguientes etapas:

a) Un rollo de blancos de pantalones de pañal interconectados, en el cual cada uno comprende un cuerpo de absorción encerrado entre una lámina de cubierta interior de material permeable a los líquidos y una lámina de cubierta exterior de material impermeable a los líquidos y tiene una porción frontal o delantera y una porción trasera y una porción de entrepierna intermedia, está formado por medio de una fila de cuerpos de absorción que son aplicados sobre un rollo continuo de material de lámina de cubierta interior o exterior de modo que las porciones delanteras y las porciones traseras de los blancos de pantalones de pañal adyacentes en el rollo de blancos de pantalones de pañal interconectados están dirigidos uno hacia el otro, después de lo cual un rollo continuo de material de láminas de cubierta exterior o interior es aplicado al rollo con los cuerpos de absorción y asegurado a este en aquellas partes del mismo que descansan por fuera de los cuerpos de absorción,

b) paneles separados conectados unos a los otros son asegurados a las porciones laterales de cada una de las porciones delanteras adyacentes o cada una de las

porciones traseras adyacentes de los blancos de pantalones de pañal, cada panel lateral comprende dos partes que son conectadas una a otra por medio de una conexión liberable y resellable.

c) blancos de pantalones de pañal individuales provistos con paneles laterales son cortados del rollo de blancos de pantalones de pañal interconectados.

d) cada blanco de pantalones de pañal es doblado al rededor de un eje transversal en la porción de entrepierna de modo que los bordes delantero y trasero del blanco descansan uno contra el otro,

e) después de lo cual los paneles laterales de cada blanco de pantalones de pañal son doblados hacia adentro hacia aquellas porciones laterales sea la porción trasera o de la porción delantera que no tienen panel lateral y que se aseguran a ella.

Por virtud del hecho de que los blancos de pantalones de pantalones de pañal están dispuestos de modo que la porción delantera de un blanco es adyacente a la porción delantera del precedente o del blanco subsecuente y la

porción trasera de un blanco queda junta o adyacente a la porción trasera del blanco subsecuente o precedente, los blancos tienen el mismo ancho en las localizaciones para la división. Esto significa que los requerimientos de precisión para la división son reducidos comparados con la situación en donde partes con diferentes anchos deben ser divididas. Los requerimientos de precisión para la aplicación de paneles laterales también quedan reducidos. Más aún, la aplicación de paneles laterales de dos partes significa que la conexión entre las dos partes puede ser hecha a prueba de niños antes de la aplicación de los paneles laterales a la tela de los blancos de pantalones de pañal.

En una modalidad preferida, los paneles laterales son asegurados a las láminas de cubierta exterior o interior de los blancos de pantalones de pañal. Alternativamente, los paneles laterales son colocados entre las láminas de cubierta exterior e interior del rollo de blancos de pantalones de pañal y son aseguradas a ambas de estas láminas. Los paneles laterales consisten preferiblemente de por lo menos parcialmente de material elástico, y las conexiones liberables y resellables, las cuales conectan las dos partes de cada panel lateral una a otra, consiste

de una conexión a prueba de niños. En una variante, en adición a la conexión liberable y resellable, cada panel lateral comprende también una segunda conexión liberable a prueba de niños, que es destruida cuando el panel lateral es abierto la primera vez.

La invención también se relaciona con pantalones de pañal desechables o con un pantaloncito sanitario del tipo desechable con una porción delantera, una porción trasera y una porción de entrepierna intermedia, que comprende un cuerpo de absorción encerrado entre una lámina de cubierta interior de material permeable a los líquidos y una lámina de cubierta exterior impermeable al material impermeable y paneles laterales separados que, sobre ambos lados del cuerpo de absorción, se extienden hacia fuera de las láminas de cubierta interior y exterior y conectan las porciones delantera y trasera de los pantalones de pañal una con la otra, de modo que los pantalones de pañal adquieren una configuración similar a pantaloncito con una abertura de cintura y dos aberturas de pierna, caracterizado en que cada panel lateral es elástico y comprende dos partes que están conectadas una a otra por medio de un miembro de conexión liberable y resellable.

En una modalidad preferida, la conexión liberable y resellable, consiste de un miembro de conexión a prueba de niños, y los paneles laterales elásticos incluyen partes de material no elástico en aquellas secciones a las cuales las partes de los miembros de conexión quedan aseguradas. En una variante, en adición a la conexión liberable y resellable, cada panel lateral comprende una segunda conexión liberable a prueba de niños, que es destruida luego de la abertura del panel lateral la primera vez. La fuerza necesaria para abrir la conexión a prueba de niños es mayor a 4 N, preferiblemente mayor a 6 N más preferiblemente 8 N, y mucho más preferiblemente 10 N pero menos de 20 N, preferiblemente 15 N.

DESCRIPCIÓN DE LAS FIGURAS

La invención será ahora descrita con referencia a las figuras adjuntas de las cuales:

Las figuras 1 y 2 son representaciones diagramáticas, en una vista lateral y una vista de planta respectivamente, de una disposición para producir pantalones de pañal de acuerdo con una primera modalidad de la invención,

La figura 3 muestra una vista en perspectiva diagramática de pantalones de pañal producidos en una disposición de acuerdo con las figuras 1 Y 2,

La figura 4 es una vista en corte de sección transversal a lo largo de la línea 4-4 en la figura 3, y

La figura 5 es una representación diagramática de un método para ensayar la naturaleza a prueba de niños de una conexión.

DESCRIPCIÓN DE LAS MODALIDADES

Las figuras 1 y 2 son representaciones diagramáticas de una disposición para producir pantalones de pañal de acuerdo con la figura 3. Los pantalones de pañal mostrados en la figura 3 comprenden un cuerpo de absorción 1 encerrado entre una lámina de cubierta interior 2 de un material permeable a los líquidos y una lámina de cubierta exterior 3 de un material impermeable a los líquidos. Las láminas de cubierta 2 y 3 están conectadas una a otra por un pegado adhesivo o soldado en las partes que descansan por fuera del cuerpo de

absorción. La unidad 7 formada por las láminas de cubierta y el cuerpo de absorción tiene una porción delantera 4, una porción trasera 5 y una porción de entrepierna intermedia más angosta 6. Los pantalones de pañal 3 también comprenden paneles laterales 8, 9 que se extienden entre las porciones delantera y trasera de la unidad 7 descansando en los mismos lados del cuerpo de absorción y conecta estas porciones una a la otra de modo que los pantalones de pañal adquieren una forma similar a interiores.

Los paneles laterales 8,9 comprenden dos partes 10, 11 y 12, 13, respectivamente, dicha partes se sobreponen unas a otras y están conectadas una a otra por medio de una conexión mecánica liberable y resellable 14 en las porciones que se sobreponen. En el ejemplo mostrado, la conexión 14 es del tipo velero, es decir una parte 10 está provista con un elemento de sujeción 15, o elemento macho, que tiene un número de ganchos que se proyectan hacia fuera desde la superficie del elemento sujetador, y la otra parte 11 está provista con elementos de solución 16, o elementos hembra, que tienen un número de anillos o agujeros en los cuales los ganchos enganchan. En la modalidad ilustrativa mostrada, algunos de los ganchos

del elemento macho están también conectados firmemente a los elementos hembra, por ejemplo soldados firmemente en el elemento hembra por soldadura de punto. De esta manera es posible obtener una conexión que es difícil o imposible para un niño de abrirse pero es fácil para que un adulto la abra. Esto por supuesto se ha encontrado que los niños les gusta manipular sus pantalones de pañal, y por esta razón existe la necesidad de una conexión a prueba de niños. El número de puntos de soldadura debe ser escogido de modo que la fuerza necesaria para abrir tal conexión sea mayor a 4 N, preferiblemente mayor a 6 N, más preferiblemente mayor a 8 N, y mucho mas preferiblemente mayor a 10 N pero menos a 20 N, preferiblemente menor a 15 N, para poder asegurar que sea a prueba de niños y todavía hacer la conexión fácil para que un adulto la abra. La fuerza de apertura puede ser medida fácilmente, en la manera mostrada diagramáticamente en la figura 5, por medio de acoplar un peso a aquella parte de las dos partes de la conexión que se sobrepone, y después mantener la parte agarrada de la parte sobrepuesta y entonces levantar la conexión. Si el peso permanece suspendido de la conexión por más de 30 segundos sin que la conexión se abra, la conexión se considera suficiente para mantener el peso.

Otro factor que influencia el aspecto de prueba contra niños es la longitud de la lengüeta de agarre, es decir la longitud a (ver figura 5) de aquella parte del panel lateral sobre puesto que se proyecta más allá de la conexión. Se ha encontrado que si las lengüetas de agarre son más cortas de 7 mm, es muy difícil para los niños mismos abrir la conexión. Por esta razón, la longitud de la lengüeta de agarre debe descansar entre 3 y 7 mm, preferiblemente entre 4 y 6 mm.

La característica de prueba contra niños puede ser obtenida de otra manera por medio del hecho de que, por fuera de la conexión mecánica 14, las porciones sobrepuestas de las dos partes 10, 11 y 12, 13 respectivamente, de los paneles laterales están conectadas una a la otra por medio de una segunda conexión abrible pero no resellable, por ejemplo una conexión de soldadura o conexión adhesiva, con una fuerza de apertura de acuerdo con la anterior. Una segunda conexión de esta clase es destruida cuando los paneles laterales son abiertos la primera vez. La parte de borde más externa de la parte sobrepuesta de las dos partes 10, 11 y 12, 13 respectivamente, puede también estar conectada

firmemente a la parte subyacente del panel lateral, en cuyo caso la apertura es obtenida por medio de una línea de debilidad en la parte sobrepuesta situada entre la conexión 14 y la parte de borde más exterior conectada firmemente.

Los paneles laterales de dos partes 8, 9 son elásticos y preferiblemente hechos de material elástico, excepto en aquellas partes que incluyen los elementos de aseguramiento 15, 16, dichas partes están hechas preferiblemente de material no elástico. El material elástico puede consistir de elásticos hechos de copolímeros de bloque tales como poliuretanos, ésteres de copoliéter, copolímeros de bloque poliamidas-poliéter, acetatos de etileno-vinilo (EVA) y similares, incluyendo poliuretanos disponibles de E. I. Du Pont de Nemours Co. USA, bajo el nombre LYCRA® (también conocido como "spandex"); copolímeros elastoméricos de estireno-butadieno, que incluyen aquellos tales como KRATON®, que esta dispone de Shell Chemical Company of Houston, Texas, USA; copolímeros tetra-bloque que incluye copolímeros de bloque elastoméricos de estireno-poli(etilenpropleno) disponibles de Shell Chemical

Company of Houston, Texas, USA, bajo la marca registrada KRATON®; poliamidas que incluye amidas de bloque de poliéster disponibles de Ato Chemical Company, USA, bajo la marca PEBAX®, poliésteres tales como aquellos disponibles de E. I. d.C. Pore de Nemours Co. Bajo la marca registrada HYTREL®; polímeros de sitio único catalizados con metaloceno, que incluyen poliolefinas de sitio único o catalizadas por metaloceno con una densidad de menos de cerca de 0,89 gramos/cm³ de Dow Chemical Co; USA bajo la marca registrada AFFINITY ®; y cauchos naturales y sintéticos. El material no elástico puede consistir de un material no tejido, por ejemplo un no tejido hilado, un no tejido cardado, un no tejido soplado por fusión, o un laminado no tejido, por ejemplo un hilado-soplado por fusión, hilado (SMS) como enlaminado. Las fibras usadas para construir los materiales no tejidos pueden consistir de fibras de poliolefinas, por ejemplo polietileno o polipropileno, o de poliéster. Más aún, el material no tejido puede consistir de una mezcla de varios tipos diferentes de fibras, o de fibras que consisten de varios polímeros diferentes, llamados copolímeros. También es posible para el material no elástico ser una película plástica. En la modalidad

preferida, por lo tanto, por o menos la partes 11 y 13 de las dos 10, 11 y 12, 13, respectivamente de las cuales los paneles laterales 8, 9 consisten, son a su vez hechas de por lo menos dos partes. Para asunto de simplicidad, sin embargo, las partes 10, 11 y 12, 13, respectivamente, son mostradas como piezas de material únicas en las figuras.

El propósito de los paneles laterales elásticos es darle a los pantalones de pañal un buen ajuste. Los paneles laterales están dimensionados para dar la fuerza elástica necesaria, pero no más. Por lo tanto es concebible que los paneles laterales también tengan partes de materiales no elásticos en localizaciones distintas de aquellas en los elementos de seguridad.

Tal como el material para los paneles laterales, también es concebible usar dos láminas no tejidas entre las cuales las bandas elásticas de material elástico o hilos elásticos son asegurados en estado estirado. Con tal material, las partes elásticas y no elásticas de los paneles laterales consisten de porciones con y sin tal material elástico.

Para mejorar el acceso a las conexiones liberables y resellables 14, las partes 11 y 13 tienen un grado considerablemente mayor en la dirección circunferencial que las partes 10 y 11, respectivamente, cooperando con ellos. De esta manera las conexiones 14 estarán situadas en la parte delantera de los pantalones de pañal, lo que los hace más fácil de acceder para un pariente que desea abrir o retirar los pantalones de pañal de un infante que está acostado sobre su espalda. En la modalidad mostrada en la figura 3, las partes 10 y 12 que tienen un grado pequeño en la dirección circunferencial están ventajosamente hechas en su totalidad de material no elástico, por ejemplo un no tejido.

Por supuesto también es posible para las partes 11 y 13 tener sustancialmente en la misma extensión en la dirección circunferencial como las partes 10 y 12. En tal diseño, las conexiones 14 quedan situadas sobre el lado del usuario y por lo tanto un poco más difícil de manejar. Sin embargo, tal diseño suministra una mejor comodidad para el usuario y reduce el riesgo de rapado.

Como puede verse en la figura 3, la unidad 7 también comprende elásticos de pierna que consisten de no o más

hilos elásticos que están dispuestos entre las láminas de cubierta 2 y 3 y están asegurados a estas, en el estado estirado, sobre ambos lados del cuerpo de absorción 1.

La lámina de cubierta permeable a los líquidos 2 consiste, por ejemplo, de un polipropileno hilado no tejido. Otros materiales que son usados para láminas de cubierta permeables a los líquidos, las llamadas láminas superiores, de los artículos absorbentes, tales como no tejidos de fibras naturales o sintéticas, láminas de plástico perforadas o laminados de tales materiales pueden por supuesto también ser usados como la lámina de cubierta 2.

La lámina de cubierta impermeable a los líquidos 3 puede consistir de una lámina plástica, preferiblemente del tipo respirable, o de un laminado de lámina plástica y un no tejido. Todos los materiales usados como láminas de respaldo para artículos absorbentes pueden ser usados.

El cuerpo de absorción 1 comprende preferiblemente una capa de fibras de celulosa con o sin mezcla de súper absorbentes y/o fibras aglomerantes. Otros materiales tales como material espumado también pueden ser usados.

El cuerpo de absorción también puede ser hecho de diversas capas y ventajosamente comprende una capa de material con una alta permeabilidad, por ejemplo una almohadilla.

Una modalidad de un método para la producción de pantalones de pañal de acuerdo con la figura 3 será ahora descrita con referencia a las figuras 1 y 2. Para simplificar una comparación con los pantalones de pañal en la figura 3, los componentes en las figuras 1 y 2 han dado los mismos números de referencia que corresponden a los componentes de los pantalones de pañal terminados en la figura 3. Por ejemplo, el rollo de material permeable a los líquidos en las figuras 1 y 2 se le ha dado el mismo número de referencia de la lámina de cubierta de 2 de los pantalones de pañal terminados.

Los pantalones de pañal de acuerdo con la figura 3 son producidos de la siguiente manera.

Los cuerpos de absorción 1 son colocados sobre un rollo de material que corre 2 de material permeable con la ayuda de una rueda de transferencia 17 sobre la cual los cuerpos de absorción 1 formados en una rueda formadora de

tela (no mostrada) han sido depositados. Si los cuerpos de absorción 1 pueden ser formados en sincronización con el avance del rollo de material 2, la rueda de transferencia puede ser omitida y la rueda 17 puede consistir de una rueda formadora de la tela. Los moldes de la rueda formadora de tela están diseñados expeditamente de modo que los cuerpos de absorción que dejan la rueda formadora de tela tienen extremos delanteros y extremos traseros dirigidos uno hacia el otro. Si este no es el caso, la transferencia desde la rueda formadora de tela tiene lugar de tal manera que cada segundo cuerpo de absorción es volteado 180° antes de que los cuerpos de absorción sean colocados sobre la rueda de transferencia 17. Los cuerpos de absorción 1 están entonces colocados sobre el rollo de material 2 en una fila con porciones delanteras y porciones traseras de cuerpos de absorción adyacentes dirigidas una hacia la otra.

Un rollo de material 3 de material impermeable es entonces colocado sobre la pila de cuerpos de absorción 1. El rollo de material 3 pasa por una unidad de pegado 18 inmediatamente antes de la aplicación y es asegurada, con la ayuda de un par de rodillos 19, al material 2 en

las partes que descansan por fuera de los cuerpos de absorción 1. Si es apropiado, el rollo de material 3 está también asegurado a la parte trasera de cada cuerpo de absorción 1. Hilos elásticos o bandas elásticas 20 son insertados con la ayuda de una unidad de alimentación (no mostrada) entre las láminas 2 y 3 y son aseguradas a estas con la ayuda de un par de rodillos 19. Elementos elásticos transversales elementos elásticos de cintura, también son aplicados expeditamente entre las láminas 2 y 3 antes de que estas pasen por el par de rodillos 19. Para efectos de claridad, este elástico no se muestra en las figuras. Debe notarse que las etapas de producción descritas anteriormente son convencionales y bien conocidas para las personas versadas en la materia.

La lámina combinada 1, 2, 3 de blancos de pantalón de pañal continuos entonces corre y pasa por unidad 21 en la cual los paneles laterales 8, 9 son acoplados a cada blanco de pantalón de pañal. En la modalidad mostrada, los paneles laterales 8,9 son asegurados a las porciones delanteras 4 de los blancos de pantalones de pañal, pero igualmente pueden ser aseguradas a las porciones traseras en su lugar. Los paneles laterales 8, 9 de dos blancos de pantalones de pañal adyacente son contiguos uno con el

otro luego de la aplicación y difieren de los paneles laterales mostrados en la figura 3 por ser rectangulares. Cada panel lateral 8,9 consiste de dos partes 10, 11 y 12, 13, respectivamente, están conectadas una a otra por una conexión 14 (no mostrada en las figura 1 y 2) la cual está descrita con referencia las figuras 3 y 4. La unidad 21 puede estar dispuesta de tal manera que, sobre ambos lados de la lámina de blancos de pantalones de pañal continuo, pueda suministrarse y luego asegurar los paneles laterales rectangulares 8, 9 desde un almacén de estos, o la unidad también puede estar dispuesta para separar paneles laterales rectangulares de un rodillo de almacenamiento y entonces suministrarlos y asegurarlos al rollo de blancos de pantalón de pañal continuos. Los paneles laterales están sujetos por pegado adhesivo o soldadura, y la unidad 21 comprende así también, en el caso del pegado por adhesivo, una unidad de pegado y una de estampado o similar y, en el caso de soldadura, un dispositivo de soldadura, por ejemplo un dispositivo de soldadura ultrasónico.

Luego de la aplicación de los paneles laterales, el rollo de blancos de pantalones de pañal continuo corre por un dispositivo cortador 22 en el cual los blancos de

pantalón de pañal individuales son cortados. En la modalidad mostrada, el dispositivo cortador es un rodillo de cuchilla que también corta las aberturas de pierna de los blancos de pantalones de pañal. En la modalidad ilustrada de los pantalones de pañal de acuerdo con la invención, la parte de las aberturas de pierna está incluida en los paneles laterales 8, 9. Por supuesto es posible cortar las aberturas de pierna en el rollo de blancos de pantalones de pañal continuo antes de la aplicación de los paneles laterales, especialmente si los pantalones de pañal están diseñados de modo que aquella parte de los paneles laterales incluida en las aberturas de pierna puedan ser rectas. En lugar de paneles laterales rectangulares, también es posible por supuesto aplicar paneles laterales que tengan los cortes para las piernas. Sin embargo, esto no es preferido por que incrementa considerablemente los requisitos de precisión para la aplicación de los paneles laterales. Los recesos o cortes de pierna son por lo tanto cortados preferiblemente después de que los paneles laterales han sido asegurados al rollo de blancos de pantalón de pañales continuos. En la modalidad mostrada, el mismo rodillo de cuchilla es usado para cortar las aberturas de pierna y para dividir el rollo de blancos de pantalones

de pañal continuo en blancos de pantalones de pañal individuales, pero por supuesto también es posible cortar las aberturas de pierna antes de la división usando un dispositivo de corte cerrado.

Después de la división de los blancos de pantalones de pañal continuos en el rollo, los blancos de pantalones de pañal individuales son alimentados a un dispositivo desdoblado 23 por medio de una disposición de guías (no mostrada), por ejemplo un riel de guía y un transportador de función. En la modalidad mostrada, el dispositivo 23 comprende un par de rodillos 24 y un miembro 25 que ejecuta un movimiento recíproco y que acciona la porción de entrepierna del blanco de los pantalones de pañal en el borde constante del par de rodillos 24 cuando los blancos de pantalones de pañal están situados en el borde cortante. De esta manera, los blancos de pantalones de pañal se doblan de modo que el borde delantero queda situado a nivel con el borde trasero.

Para obtener pantalones de pañal terminados de los blancos de pantalones de pañal, todo lo que queda por hacer es doblar los paneles laterales al través de la porción trasera de los blancos de pantalón de pañal y

asegurar los paneles laterales a estos. Es más simple asegurar los paneles laterales a la porción trasera por pegado. Cada segundo blanco de pantalones de pañal con doblez doble que deja el dispositivo de doblado 23 tendrá la porción delantera más arriba, y cada tercero tendrá la porción delantera más arriba. Esto significa que para cada segundo blanco de pantalones de pañal con doble doblado, el pegado será aplicado desde encima a lo largo de los bordes de los extremos libres de los paneles laterales, y para cada tercer blanco de pantalones de pañal empegado será aplicado por debajo. Para este propósito, dos rociadores de pegante 25, 26 están disgustos para uso alternativo. Similarmente, cada otro par de paneles laterales 8, 9 son doblados hacia arriba y cada otro par de paneles laterales hacia abajo, y dos dispositivos 27, 28 se suministran para doblar d manera alternativa los paneles laterales al través de las porciones traseras y asegurarlos a estas. Los dispositivos 27, 28 pueden cada uno comprender un brazo pivotante o similar que, con la ayuda de un vacío, agarre los extremos libres de los paneles laterales sobre su lado no engomado y entonces doble los paneles laterales a través de las porciones traseras y presione el lado engomado de los extremos libres de los paneles laterales

contra las áreas laterales de las porciones traseras. Los dispositivos 27, 28 también comprenden una porción de soporte movable contra lo cual el brazo de pivote presiona. Los blancos de pantalones de pañal son alimentados expeditamente e intermitentemente después de los rociadores de engomado 25, 26 y los dispositivos 27, 28 y deja los dispositivos 27, 28 como pantalones de pañal terminados.

En la modalidad descrita, el rollo 3 de material impermeable es colocado sobre la parte superior del rollo 2 de material permeable a los líquidos después de que los cuerpos de absorción han sido colocados sobre este último. Por supuesto es posible invertir los rollos de modo que los cuerpos de absorción quedan colocados sobre el rollo de material impermeable a los líquidos, y el rollo de material permeable a los líquidos es aplicado de últimas.

Por virtud del hecho de que los paneles laterales de dos partes conectados de manera liberable y resellable son aplicados al rollo de blancos de pantalones de pañal continuos en el estado sellado, los requerimientos de posición cuando se disponen los paneles laterales sobre

el rollo de blancos de pantalón de pañal continuo se reducen comparado con la situación si las partes de de los paneles laterales fueran cada una aplicada individualmente, debido a una desviación de la posición deseada de los paneles laterales, por ejemplo la dirección longitudinal, no conllevaría un desplazamiento de las posiciones mutuas de las partes incluidas en la conexión resellable. En el evento de tal desviación de un panel lateral cuyo extremo libre contenga un elemento macho que tiene el propósito de interactuar con un elemento hembra asegurado a la cubierta exterior de los pantalones de pañal, en los elementos macho y hembra de la disposición de aseguramiento quedarán desplazados en relación uno con el otro. Esto significa que la resistencia de apertura de la conexión es menor que la propuesta, los pantalones de pañal tienen una menor apariencia atractiva, y el ajuste después de abrir y resellar no es tan bueno como el propuesto, si uno asume que los elementos macho y hembra después de abrirse con unidos juntos de modo que se sobrepongan completamente uno sobre el otro.

La disposición de los blancos de pantalón de pañal de modo que las porciones delantera y trasera de los blancos

de pantalones de pañal adyacentes que estén dirigidas una hacia la otra también significa que dos paneles laterales puedan ser dispuestos como una sola pieza y luego divididos por un corte recto en conexión con el cortado de los blancos de pantalones de pañal individuales. Esto asegura que los bordes de cintura de los paneles laterales y la parte de los pantalones de pañal que contienen el cuerpo de absorción estén siempre al mismo nivel, lo que puede ser difícil de lograr luego de la aplicación de paneles laterales individuales. Debe notarse que en un rollo de blancos de pantalones de pañal continuo en el cual las porciones delanteras están dirigidas en el mismo sentido.

De modo que las porciones delanteras de un blanco de pantalones de pañal esta dirigido hacia la porción trasera del blanco de pantalones de pañal delantero más cercano, una gran precisión se requiere cuando se divide el rollo en blancos de pantalones de pañal individuales por medio de cortes rectos, de modo que se asegure aquella parte de la porción trasera que no termina en la porción delantera, o parte de la porción del extremo de porción delantera en la porción trasera. Si las porciones delantera y trasera tienen el mismo ancho y la misma

composición de material, esto no tiene un gran efecto, pero, si estas porciones tienen un ancho diferente o diferente composición de material, por supuesto es importante asegurar que el corte sea hecho en exactamente el lugar adecuado. Por medio del método descrito, las tolerancias para el posicionamiento de los paneles laterales son por lo tanto incrementadas, y al mismo tiempo la posición de los cortes de división requieren menos precisión en comparación con el método en el cual un panel lateral separado de cada porción delantera es aplicado.

En adición, la conexión a prueba de niños puede ser hecha con gran cuidado y precisión ya que esta es hecha en una etapa de la producción antes de la producción real del pañal. Por lo tanto es posible usar velocidades del rollo óptimas, lo que puede ser considerablemente más lento que las velocidades de rollo normalmente pertenecientes en líneas de proceso para producción de pañales. Un número de blancos de paneles laterales paralelos puede ser producido simultáneamente si el ancho del rollo es suficientemente grande. De esta manera, un gran número de paneles laterales pueden ser prefabricados por unidad de tiempo sin que la velocidad del rollo sea muy alta.

El método descrito puede por supuesto ser modificado dentro del alcance de la invención. Por ejemplo, los paneles laterales 8, 9 pueden ser aplicados al rollo de material 2 antes de que se aplique el rollo de material 3, de modo que los paneles laterales están dispuestos entre los rollos de material 2 y 3 y están asegurados a ambos de estos rollos. Los paneles laterales también pueden estar asegurados a la lámina de cubierta permeable a los líquidos. Los cuerpos de absorción 1 pueden ser completados con capas adicionales, tales como capas que son aplicadas en la parte superior de los cuerpos 1 por medio de transferencia por ruedas formadoras de tela adicionales que son agregadas a la disposición mostrada en las figuras 1 y 2. Más aún, los miembros para suministrar barreras contra líquidos, los llamados acumuladores, pueden ser agregados a la disposición. El elástico de cintura, que se extiende preferiblemente a lo largo del borde delantero y borde trasero de los pantalones de pañal no requiere estar dispuesto entre los rollos de material 2 y 3 y puede en su lugar ser aplicado sobre uno de estos rollos. Los cuerpos de absorción pueden tener una forma distinta a aquella mostrada, por ejemplo ellos pueden ser rectangulares o en forma de

reloj de arena. Los tipos de elementos de aseguramiento distintos a miembros veleros pueden también ser usados, por ejemplo diferentes tipos de conexiones de ajuste rápido, que pueden también ser hechos a prueba de niños. También es concesible para los paneles laterales ser hechos de dos partes con la misma dimensión en la dirección circunferencial. Los componentes incluidos en la disposición descrita son de un tipo generalmente usado en la producción de pañales, pantalones de pañal y artículos similares y pueden ser reemplazados por otros componentes con la misma función, por ejemplo, los rodillos de cuchilla pueden ser reemplazados por un dispositivo de prensado. La invención por lo tanto está limitada solamente por el contenido de las reivindicaciones de patente adjuntas.

REIVINDICACIONES

1. Método para la producción de pantalones de pañal desechables o de un pantaloncito sanitario del tipo desechable con paneles laterales abribles y resellables (8, 9), caracterizado por las siguientes etapas:
 - a) Un rollo (1, 2, 3) de blancos de pantalones de pañal interconectados, con cada uno de ellos que comprende un cuerpo de absorción (1) encerrado entre una lámina de cubierta interior (2) de material permeable a los líquidos y una lámina de cubierta exterior (3) de material impermeable a los líquidos y tiene una porción delantera (4) y una porción trasera (5) y una porción de entrepierna intermedio (6), está formado por medio de una pila de cuerpos de absorción (1) que son aplicados sobre un rollo continuo de material de lámina de cubierta interior o exterior (2 o 3) de modo que las porciones delanteras (4) y las porciones traseras (5) de blancos de pantalones de pañal adyacentes en el rollo de blancos de pantalones de pañal interconectados están

dirigidos uno hacia el otro, después de lo cual un rollo continuo de material de lámina de cubierta exterior interior es aplicado al rollo con los cuerpos de absorción y asegurado a este en aquellas partes del mismo que descansan por fuera de los cuerpos de absorción,

- b) paneles laterales separados (8, 9) conectados uno a otro son asegurados a las porciones laterales de cada uno de las porciones delanteras adyacentes o cada una de las porciones traseras adyacentes de los blancos de pantalones de pañal, cada panel lateral (8, 9) comprende dos partes (10, 11 y 12, 13 respectivamente) las cuales están conectadas una a la otra por medio de una conexión liberable y resellable (14),
- c) los blancos de pantalón de pañal individuales provistos con los paneles laterales (8, 9) son cortados del rollo de blancos de pantalones de pañal interconectados,
- d) cada blanco de pantalón de pañal es doblado alrededor de un eje transversal en la porción de entrepierna de modo que los bordes delantero y trasero del blanco descansan uno contra con el otro,

e) después de lo cual los paneles laterales de cada blanco de pantalón de pañal son doblados hacia adentro hacia aquellas porciones laterales de cualquiera de la porción trasera o porción delantera que no tienen panel lateral y son asegurados a esta.

2. El método de acuerdo con la reivindicación 1, caracterizado en que los paneles laterales (8, 9) están asegurados a las láminas de cubierta exterior (3) o interior (2) de los blancos de pantalones de pañal.

3. El método de acuerdo con la reivindicación 1, caracterizado en que los paneles laterales están colocados entre las láminas de cubierta exterior e interior del rollo de blancos de pantalones de pantalones de pañal conectados y son asegurados a ambas láminas.

4. El método de acuerdo con una cualquiera de las reivindicaciones 1 a 3, caracterizado en que los paneles laterales (8, 9) por lo menos parcialmente consisten de material elástico.

5. El método de acuerdo con una cualquiera de las reivindicaciones 1 a 4, caracterizado en que la conexión liberable y resellable (14), la cual conecta las dos partes (10, 11 y 12, 13 respectivamente) de cada panel lateral (8, 9) uno al otro, consiste de una conexión a prueba de niños.
6. El método de de acuerdo con una cualquiera de las reivindicaciones 1 a 4 caracterizado en que, en adición a la conexión liberable y resellable, cada panel lateral comprende también una segunda conexión a prueba de niños que es liberable y que es destruida cuando el panel lateral es abierto la primera vez.
7. Pantalones de pañal desechables o pantaloncitos sanitarios del tipo desechable con una porción delantera (4), una porción trasera (5) y una porción de entrepierna intermedia (6), la cual comprende un cuerpo de absorción (1) encerrado entre una lámina de cubierta interior (2) de material permeable a los líquidos y una lámina de

cubierta exterior (3) de material impermeable y paneles laterales separados (8, 9) los cuales, sobre ambos lados del cuerpo de absorción, se extienden hacia fuera de las láminas de cubierta interior y exterior y conectan las porciones delantera y trasera de los pantalones de pañal una a la otra. De modo que los pantalones de pañal adquieren una configuración similar a pantalones con una abertura de cintura y dos aberturas de pierna, caracterizados en que cada panel lateral (8, 9) es elástico y comprende dos partes 10, 11 y 12, 13 respectivamente las cuales están conectadas una a la otra por medio de un miembro de conexión liberable y resellable (14).

8. Los pantalones de pañal o los pantaloncitos sanitarios de acuerdo con la reivindicación 7, caracterizados en que la conexión liberable y resellable (14) consiste de un miembro de conexión a prueba de niños.
9. Los pantalones de pañal o pantaloncito sanitario de acuerdo con la reivindicación 7, caracterizado en que, en adición a la conexión liberable y

resellable, cada panel lateral también comprende una segunda conexión a prueba de niños, que es liberable y es destruida luego de la abertura del panel lateral la primera vez.

10. Los pantalones de pañal o pantaloncitos sanitarios de acuerdo con las reivindicaciones 7, 8 o 9, caracterizados en que los paneles laterales elásticos (8, 9) comprenden partes de material no elástico en aquellas secciones en las cuales las partes (15, 16) de la conexión liberable y resellable (14) están aseguradas.

11. Los pantalones de pañal o pantaloncitos sanitarios de acuerdo con las reivindicaciones 8 o 9, caracterizado en que la fuerza que se necesita para abrir la conexión a prueba de niños es mayor a 4 N, preferiblemente mayor a 6 N, más preferiblemente 8 N, y mucho más preferiblemente 10 N pero menos de 20 N, preferiblemente 15 N.

12. Los pantalones de pañal o pantaloncito sanitario de acuerdo con una cualquiera de las reivindicaciones 7 a 11, caracterizado en que la

sobre posición de las dos partes (10, 11 y 12, 13 respectivamente) de cada panel lateral (8, 9) y están conectados uno al otro por medio de un miembro de conexión liberable y resellable (14) protruye más allá del miembro de conexión y forma una lengüeta de agarre con una extensión (a) de 3 a 7 mm, preferiblemente 4 a 6 mm.

Expediente No		04099204	No de Folio
Item		No de unidades	
1	CD		
2	DVD		
3	REVISTA		
4	LIBRO		
5	PERIODICO		
6	DISQUETES		
7	SOBRE DE MANILA		
8	SOBRE BLANCO TAMAÑO CARTA		
9	SOBRE BLANCO TAMAÑO OFICIO	f	
10	OTROS:		

Observaciones: Site Final

86
2

SUPERINDUSTRIA Y COMERCIO
Radiacion : 04057204 00000000 Folios: 06
Fecha (AMB): 2004-09-29 17:22:33
Tramite : 011 PCT-PATENT 279 FASE NACI 411 PRESENTM
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

MIT : 800174089-2

RECIBO OFICIAL DE CAJA : 01 - 75,087
FECHA : SEPTIEMBRE 27 DE 2004

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	32758684	27/09/2004	39,426,000.00

***** CONCEPTO *****

CANT. FENISTICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	422,000.00
	TOTAL :	\$ 422,000.

SDM: CUATROCIENTOS VEINTIDOS MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

Cdo 11256-841-054-5

REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE

	USUARIO	RADICADOR
PATENTE DE INVENCION	()	()
Indicación de que se solicita la concesión de una patente.	()	()
Datos de identificación del solicitante o de la persona que se presenta la solicitud.	()	()
Descripción de la invención.	()	()
Dibujos de partes pertinentes.	()	()
Comprobante de pago de las tasas establecidas.	()	()

COMPLETA () INCOMPLETA ()

DISEÑO INDUSTRIAL ()

- Indicación de que se solicita el registro de Diseño Industrial () ()
- Datos de identificación del solicitante o de la persona que presenta la solicitud () ()
- Representación gráfica o fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño () ()
- Comprobante de pago de las tasas establecidas () ()

COMPLETA () INCOMPLETA ()

ESQUEMA DE TRAZADO ()

- Indicación de que solicita el registro de un Esquema de trazado. () ()
- Datos de identificación del solicitante o de la persona que presenta la solicitud () ()
- Representación gráfica del esquema de trazado () ()
- Comprobante de pago de las tasas establecidas () ()

COMPLETA () INCOMPLETA ()

Firma Responsable

Fecha

SUPERINDUSTRIA Y COMERCIO
 Radicación 04097204 00000000 Folios. 06
 Fecha (MM) 2004-09-29 17:22:13
 Trámite : 011 PCT-PATENT 279 FASE NACI 411 PRESENTAC
 Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

2020
Bogotá D C

Doctor(a)
EMILIO FERRERO
Apoderado(a)
SCA HYGIENE PRODUCTS AB

Oficio N° **CC590**

ASUNTO:

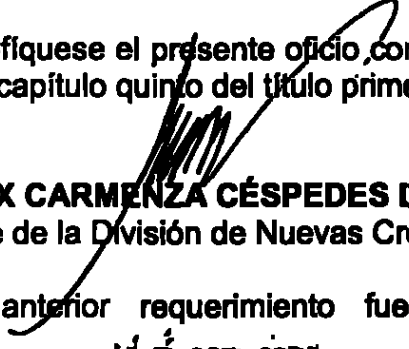
Radicación N°	04-97204
Solicitud internacional	PCT/SE03/00491
Fecha inicio fase nacional	02/11/2004
Trámite	011
Evento	379
Actuación	430
Folios	001

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- La solicitud no contiene copia del documento en que consta la cesión del derecho de patente del inventor al solicitante o a su causante (Art. 26-k Decisión 486).

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos 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 Única N° 10 de 2001.


ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones.

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

15 OCT. 2004

202044

Sede Centro: Carrera 13 No. 27-40 Pisos 2, 5, 7 y 10
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