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E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

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Trámite : 011

Evento : 379

Actuación: 329

Referencia : Expediente No. 04.129.791
Asunto : Solicitud de patente para **LIQUIDOS Y ARTICULO
ABSORBENTE QUE LA INCORPORA.**
Solicitante : **CARL FREUDENBERG KG**
Fecha de solicitud : 29 de diciembre de 2004

Yo, Emilio FERRERO, obrando como apoderado del solicitante en el asunto antes identificado, atentamente presento junto con este memorial el siguiente documento:

Cesión de Inventores: Presento junto con este escrito el documento en que consta la cesión del derecho a la patente otorgado por los inventores al solicitante, debidamente notariado y legalizado.

Atentamente solicito que se continúe con la tramitación de la solicitud.

Señora Jefe,



EMILIO FERRERO

T.P.A. No. 31.929

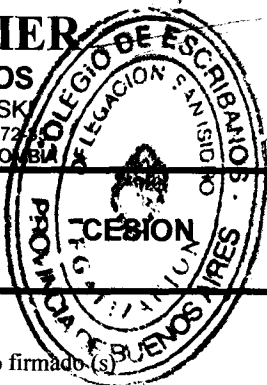
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Cns M-2007-00003934

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374



Yo, (nosotros) abajo firmado(s)

1. Claudio Miguel SUAREZ

domiciliado(s) en Calle El truco 400, Las
Heras, Pcia Bs.As., Argentina

declaro(amos) bajo juramento ser único(s) y verdadero(s)
inventor(es)

de la invención: CAPA DE TRANSFERENCIA DE FLUIDOS

LÍQUIDOS Y ARTICULO ABSORBENTE QUE LA
INCORPORA

declaro(amos) así mismo que cedo(emos) y transfiero(erimos),

patentación, a favor de la sociedad CARL FREUNDERBERG KG

constituida y existente de conformidad con las leyes de
República Federal de Alemania

domiciliada en Höhnerweg 2-4, D-69469 Weinheim,
Alemania

todos los derechos inherentes a dicha invención y que la citada
Compañía queda facultada para solicitar en su nombre la patente
de invención correspondiente en la República de Colombia.

ASSIGNMENT

I (we), the undersigned

1. Claudio Miguel SUAREZ

of Calle El truco 400, Las
Heras, Pcia Bs.As., Argentina

state(s) under oath to be sole and true inventor(s) of the invention:

TRANSFER LAYER OF LIQUID FLUIDS AND AN
ABSORBENT

ARTICLE INCORPORATING THE SAME

state as well, that assign, without reservations or limitations in
favour

of CARL FREUNDERBERG KG

a corporation constituted and existing in conformity with the laws of
Federal Republic of Germany

domiciled in Höhnerweg 2-4, D-69469 Weinheim,
Germany

all rights inherent to said invention and that the above mentioned
company hereby is enabled to apply, in its name, for the
corresponding patent invention, in the Republic of Colombia

Dado y firmado hoy/Given and signed this

en/in

por/by

Firma/Signature

CLAUDIO MIGUEL SUAREZ



CAA03543146

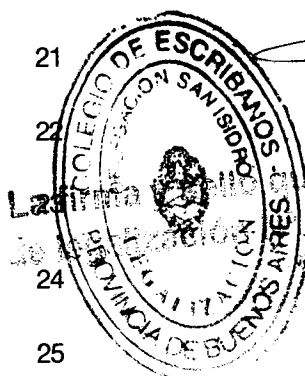


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CERTIFICACION NOTARIAL DE FIRMAS E IMPRESIONES DIGITALES

Decreto-Ley 9020 - Art. 172 - Inc. 4

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5 Libro de Requerimientos Nº 24 Acta Nº 164 Fº 164
6 SILVIA ROSA ENSEÑAT en mi carácter de notario
7 ADSCRIPTA del Registro número 95 del Partido de
8 VICENTE LOPEZ CERTIFICO que la firma
9 citada al pie que obra en el documento que
10 antecede, es auténtica y fue puesta en mi presencia, con
11 fecha siete de febrero de dos mil siete por la siguiente persona
12 de mi conocimiento, de lo que doy fe:
13 Claudio Miguel Suarez, argentino, nacido el 30 de marzo de
14 1965, casado, con Documento Nacional de Identidad 17.318.901 y
15 Cédula de Identidad de la Policía Federal 9.795.237,
16 domiciliado en El Truco 400, Las Heras.- La certificación se
17 formaliza en Cesión.- Florida, Partido de Vicente López siete de
18 febrero de dos mil siete.-



Los antecedentes se legalizan en el
Lapso 2600 285 que se agota
08 FEB 2007

NOTARIO J. M. BERRO MADERO
DELEGACION SAN ISIDRO

83



FAA02600285



83

LEGALIZACIONES

Decreto - Ley 9020 (Artículos 117/118)

EL COLEGIO DE ESCRIBANOS DE LA PROVINCIA DE BUENOS AIRES República Argentina,
en virtud de la facultad que le confiere la Ley Orgánica del Notariado, legaliza la firma y el sello
del notario D ENSEÑAT SILVIA ROSA

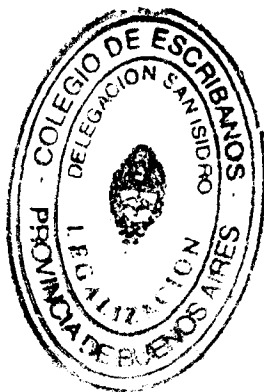
obrantes en el Documento N° CAA 03543146

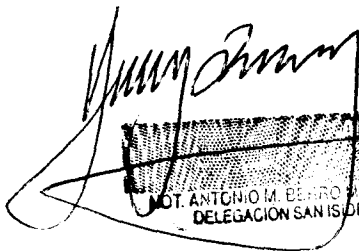
La presente legalización no juzga sobre el contenido y forma del documento.

SAN ISIDRO, 8

de Febrero

de 2007




NOT. ANTONIO M. BERRO PADERO
DELEGACION SAN ISIDRO

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APOSTILLE

REPUBLICA
ARGENTINA

(Convention de La Haye du 5 octobre 1961)

A 00075360

1. PAÍS: REPUBLICA ARGENTINA

El presente documento público DE LEGALIZACIÓN

2. Ha sido firmado por BERRO MADERO ANTONIO MIGUEL

3. Quien actúa en calidad de NOTARIO LEGALIZANTE

FAA 000002600285

4. Lleva el sello / timbre de

5. En SAN ISIDRO

6. El día 8 DE FEBRERO DE 2007

7. Por EL COLEGIO DE ESCRIBANOS DE LA PROVINCIA DE BUENOS AIRES

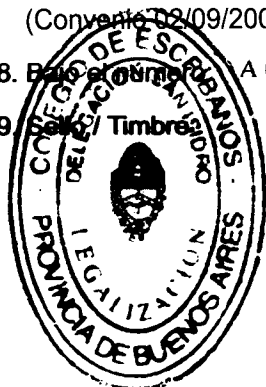
MINISTERIO DE RELACIONES EXTERIORES, COMERCIO INTERNACIONAL Y CULTO

(Convenio 08/09/2003)

8. Bajo el número A 000000075360

9. Sello / Timbre

10. Firma



NOT. BARRA CRISTINA IGLESIA
DELEGACION SAN ISIDRO

DIVISION DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No 04-129791

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **551** DE

FECHA **29** DE **ABRIL DE 2005** EL TERMINO HABIL SEÑALADO POR LA LEY

EXPIRA EL **29** DE **JULIO DEL 2005**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO **X**



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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			(43) International Publication Date: 10 June 1999 (10.06.99)
(21) International Application Number: PCT/SE98/02214 (22) International Filing Date: 3 December 1998 (03.12.98) (30) Priority Data: 9704484-6 3 December 1997 (03.12.97) SE 9802427-6 6 July 1998 (06.07.98) SE (71) Applicant (for all designated States except US): SCA HYGIENE PRODUCTS AB [SE/SE]; S-405 03 Göteborg (SE). (72) Inventors; and (75) Inventors/Applicants (for US only): ROXENDAL, Sofia [SE/SE]; Rådavägen 28, S-435 43 Pixbo (SE). RÖNNBERG, Peter [SE/SE]; Råvekärrsgatan 265, S-431 33 Mölndal (SE). HANSSON, Roy [SE/SE]; Ålegårdsgatan 112, S-431 50 Mölndal (SE). (74) Agent: GÖTEBORGS PATENTBYRÅ AB; Sjöporten 4, S-417 64 Göteborg (SE).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>	
(54) Title: ABSORBENT ARTICLE			
(57) Abstract			
An absorbent article, such as a diaper, pant diaper, incontinence guard, sanitary napkin, wound dressing and the like, comprising a layer of continuous fibres, so-called tow, which have been bonded together in points, lines or spots in a bonding pattern (10), but otherwise are substantially unbonded to each other, and which layer comprises at least two zones (5a-e), as seen in the cross-sectional direction of the layer, which zones are different with respect to one or several properties such as basis weight, density, pore size, hydrophilicity/hydrophobicity and/or other absorption properties and/or properties affecting skin condition. Said layer can either be used as a liquid acquisition layer (5) in the article underneath a topsheet (2), as a topsheet (12), or as a combined topsheet and liquid acquisition layer (22).			

5 **Absorbent article***Technical field*

The present invention relates to an absorbent article, such as a diaper, pant diaper, incontinence guard, sanitary napkin, wound dressing and the like, of the kind comprising
10 a liquid pervious topsheet, a liquid impervious backsheet and an absorbent body arranged therebetween.

Background of the invention

Absorbent articles of the above mentioned kind are intended for absorption of body fluids, such as urine and blood. As a liquid pervious topsheet which is facing the wearer during
15 use, they usually exhibit a nonwoven material, for example of spunbond-type. It is also previously known to arrange a liquid acquisition layer between the topsheet layer and the absorbent body, said liquid acquisition layer having the ability to quickly receive large quantities of liquid, and to distribute the liquid and temporarily store it before it is
20 absorbed by the underlying absorbent body. This is of great importance, especially in the thin compressed absorbent bodies of today, often comprising a high content of so called superabsorbents, which certainly have a high absorption capacity but in many cases a too low absorption rate in order to instantaneously be able to absorb the large quantity of liquid which can be discharged in a few seconds during urination. A porous, relatively thick
25 acquisition layer, for example in the form of a fibrous wadding, a carded fibrous web, or another type of fibrous material, has a high instantaneous liquid-receiving capacity and is able to store the liquid temporarily until it has been absorbed by the absorbent body. The same applies for porous foam materials. The liquid is thereafter drained successively into the underlying absorbent body, after which the acquisition layer once again has the
30 capacity to receive liquid from a repeated wetting.

Examples of absorbent articles comprising such porous acquisition layers are, for example, disclosed in US-A-3,371,667, EP-A-0,312,118 and EP-A-0,474,777.

**CONFIRMATION
COPY**

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The materials used today as acquisition layers in absorbent articles are mostly functioning well, but are relatively expensive and can sometimes exhibit an insufficient acquisition rate, especially in the second and third wettings, if large quantities of liquid are involved.

- 5 It is previously known through EP-A-0,391,814 and GB-B-2,209,672 to use continuous, unbonded synthetic fibres, so-called tow, in absorbent articles for distributing liquid in the longitudinal direction of the article.

- 10 Another problem is that conventional liquid pervious topsheet materials used for absorbent articles of this kind, usually a nonwoven material of synthetic fibres, e.g. a spunbond material, often have a lower acquisition rate for liquid than the acquisition layer, wherein liquid can leak out from the article before it reaches the acquisition layer. This problem can of course be solved by using a topsheet material which is very open and therefore has a high liquid permeability. Such an open topsheet material may, however, cause problems
- 15 with too low strength and sharp fibre ends from the acquisition layer which penetrate the open topsheet material and irritate the user.

Object and most important features of the invention

- 20 The object of the present invention is to provide a material which exhibits a high acquisition rate for liquid also in repeated wettings, exhibits a high strength and wear resistance, high comfort, high processability and has a relatively low price. Furthermore, it should be possible to combine different wishes, concerning the function of the material and the absorption properties, in the same material. According to the invention, this has been achieved by means of a layer of continuous fibres, so-called tow, which are bonded
- 25 in points, lines or spots in a bonding pattern, but otherwise are substantially unbonded to each other, and which layer comprises at least two different zones, as seen in the cross-sectional direction of the layer, which zones are different from each other with respect to one or several properties, such as basis weight, density, pore size, hydrophilicity/hydrophobicity and/or other absorption properties and/or properties
- 30 affecting skin condition.

Herein, "cross-sectional direction of the layer" means a plane which is transverse to the fibre direction.

According to one embodiment, the layer exhibits different basis weight and/or density in
5 its central portion than in its, in relation to the fibre direction, longitudinal edge portions,

According to another embodiment, the layer comprises at least two different fibre types
or fibre grades, which constitute said different zones. Thereby, the different fibre types can
exhibit different thickness, fibre cross-section, crimp and/or elasticity modulus.
10 Furthermore, they can be of different polymeric materials and/or exhibit different surface
treatments.

The different fibre types can either constitute different layers in the z-direction of the layer,
or different zones in the y-direction, or a combination of both.
15

The different fibre types can constitute different discrete zones in the article, or be partially
integrated with each other.

The layer can be used as a liquid acquisition layer underneath a topsheet, as a topsheet
20 material, or as an integrated topsheet/liquid acquisition layer.

Further features of the invention are evident from the following description and from the
claims.

25 *Description of the drawings*

In the following, the invention will be described in greater detail with reference to
embodiments shown in the accompanying drawings.

Fig. 1 is a plan view of an embodiment of an absorbent article according to the invention
in the form of an incontinence guard.

30 Fig. 2 is a section along the line II-II in Fig. 1.

Fig. 3 shows, in plan view, an absorbent article in the form of a diaper.

Fig. 4 schematically shows a portion of a fibrous layer according to the invention.

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during use, a back portion 7b intended to be facing backwards on the user during use, and a narrower crotch portion 8, located between the front and the back portions, which is intended to be applied in the crotch region between the legs of the user. In order to enable the diaper to be put together in the desired pant shape, tape tabs 6' are arranged close to the rearwardly facing waist edge of the diaper, whereby the diaper 15 is kept together around the waist of the user. Other fastening means, such as hook and loop means, hooks, etc., are of course conceivable.

It should be noted that the incontinence guard and the diaper shown in the drawings and described above, only are two non-limiting examples of an absorbent article. Accordingly, the shape of the article, as well as its design otherwise, can be varied. The absorbent article can also be constituted of a pant diaper, a sanitary napkin, a wound dressing, or the like. The absorbent article can be either of a disposable or a reusable type. For products of reusable type, however, other materials than the above-described are relevant as a liquid pervious topsheet and as an absorbent body, respectively.

A porous and resilient acquisition layer 5, having the ability to quickly receive large amounts of liquid and to distribute the liquid and store it temporarily before it is absorbed by the underlying absorbent body 4, is arranged between the liquid pervious top layer 2 and the absorbent body 4. This ability should essentially be maintained also after wetting of the material. The acquisition layer 5 can cover either the entire absorbent body 4, extend outside it, or cover only the central portions of the absorbent body.

According to the invention, the acquisition layer consists of a layer 5 of continuous fibres 9, so-called tow, which have been bonded together in points, lines or spots of a bonding pattern 10, but otherwise are substantially unbonded to each other. In the embodiment shown in Fig. 1, the bonding pattern 10 is constituted of a line pattern with short lines arranged in a zigzag configuration. The bonding pattern is achieved by means of, for example, ultrasonic welding or other thermal bonding with simultaneous compression. Examples of other suitable thermal bonding methods are pattern calendering, laser bonding etc. A prerequisite for this is that at least some of the fibres in the tow are thermoplastic. Examples of thermoplastic fibres are polyolefines, polylactides, polyamides, polyester and

the like. Also so-called bi-component fibres are included. As an alternative to thermal bonding, bonding can be achieved by means of a binding agent, using so-called print-bonding or dot-bonding, or mechanically by means of so-called entanglement, using needling or water jets. The choice of bonding type is primarily decided by the type of fibres which are used in the tow.

The design of the bonding pattern 10 can of course vary within wide limits. The pattern can be in the form of points, spots or preferably lines. The lines can be straight, as well as curved, and the length can vary from a few millimetres, to the lines extending transversely or diagonally across the entire article. Preferably, the lines extend transversely or obliquely across the longitudinal direction of the fibres 9, so that a plurality of fibres are bonded to each other by each bonding line. It is also an advantage if different bonding lines overlap each other, as seen in the cross-direction of the article, so that a main part of the fibres are bonded at least along a part of their length.

The bonding pattern can be the same across the entire layer 5, or be different in different parts thereof. Accordingly, the bonding pattern can be more sparse in the wetting area and be more dense outside the wetting area. It is also possible to design the bonding pattern in such a way that the layer 5 obtains different thickness in different portions of the article, for example thinner in the central portions and thicker in the surrounding edge portions in order to create a bowl-shape which provides a liquid receiving volume.

Fibre-tow is supplied in bags or in the form of bales or rolls of continuous fibres, which either are straight, crimped or curled. Crimped or curled fibres are preferred in this case, since they result in a very open and lofty structure. The bales or the like are opened in special converting devices, wherein the fibres are separated from each other, stretched and spread out into an essentially uniformly thick layer. The layer 5 is bonded in the desired bonding pattern, as described above, and is cut into suitable lengths. Alternatively, the bonding can take place after the cutting. Tow is a relatively cheap delivery form for fibres, in comparison with nonwoven, waddings, or the like, which normally are used as acquisition materials.

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In Figs. 4 and 5, a portion of a layer 5 of fibre-tow, which has been bonded in a simple bonding pattern 10 with transverse, short lines. The fibres 9 are unbonded to each other, except at the bonding points.

5 The fibres in the tow can be of any suitable material, such as polyethylene, polypropylene, polyamide, polyester, polylactide, polyvinyl acetate, cellulose acetate, regenerated cellulosic fibres such as viscose and rayon, or of bi-component type with a shell of a polymer having a lower melting point and a core of a polymer having a higher melting point. Fibres which exhibit a high resiliency, for example polyester, co-polyester and
10 polypropylene, are particularly preferred.

The fibre thickness may vary, but is suitably within the interval 0.5-50 dtex, preferably 1.5-25, and most preferably 2-15 dtex, if the material is to be used as an acquisition material. The open, lofty structure in combination with the relatively coarse fibre
15 dimension provides a very rapid liquid acquisition. In addition, the material is strong due to the longitudinal continuous fibres, which provide strength in the longitudinal direction, and the bonding pattern, which provides strength in the transverse direction.

In the above-disclosed example, the material layer 5 has been used as an acquisition layer
20 5 underneath a liquid pervious top layer 2. This is also shown in Fig. 6. In this case, the basis weight of the bonded fibre-tow should be within the interval 10-200 g/m², preferably 30-150, and most preferably 30-100 g/m². The top layer 2 can be of any optional type, but preferably exhibits a relatively open structure which permits a rapid liquid acquisition. The top layer 2 may be bonded to the acquisition layer 5 in bonding points 10.

25 In Fig. 7, an alternative embodiment is shown, wherein the material layer 5 according to the invention has been used as a liquid pervious top layer 12. In this case, the basis weight should be within the interval 5-200 g/m², preferably 5-50 g/m² and the fibre thickness within the interval 0.5-50 dtex, preferably 1.5-25, and most preferably 2-15 dtex. In other
30 respects, the material can be the same as described above. Underneath the material layer 5, applied as a top layer, an acquisition layer 15 which can be of any optional type is

arranged. The absorbent article according to Fig. 7 further comprises an absorbent body 4 and a liquid impervious back layer 13.

5 In the embodiment according to Figure 8, the material layer 5 according to the invention has been used as a combined top layer and acquisition layer 22. In this case, the basis weight should be within the interval 10-200 g/m², preferably 30-150, and most preferably 30-100 g/m², and the fibre thickness within the interval 0.5-50 dtex, preferably 1.5-25, and most preferably 2-15 dtex. In a conventional way, the absorbent article according to Fig. 8 further comprises an absorbent body 4 and a liquid impervious back layer 3.

10

The embodiment according to Fig. 9 differs from what is shown in Fig. 8 by the fact that a carrier material 22, e.g. in the form of a nonwoven, has been integrated on the underside of the combined top layer/acquisition layer 5. Such a carrier material can of course, alternatively or also, be integrated with the upper side of the layer 5 or with the layer 5
15 according to Fig. 6 or Fig. 7.

15

In the embodiments according to Figs 7-9, the bonded fibre- tow according to the invention will be directly contacting the skin of the wearer. In this case, extraordinary high demands are made on the comfort and softness of the material. Since the material consists of
20 continuous fibres, there are no sharp fibre ends which protrude and may irritate the skin, but the material is very soft and pliable. In addition, it exhibits a sufficient strength and wear resistance due to the longitudinal continuous fibres 9, which provide strength in the longitudinal direction, and the bonding pattern, which provides strength in the transverse direction. In case part of the bonding pattern would break, the remaining parts of the
25 pattern still exist.

25

As mentioned above, it is particularly advantageous if crimped or curled fibres are used in the tow, since they provide a particularly open and lofty structure. It is also possible to use a combination of straight and crimped or curled fibres.

30

It is also possible to use different fibre types or different fibre thicknesses in different portions of the material, i.e. in different layers or zones thereof. This in order to create the

desired absorption pattern. In this way, gradients of different hydrophilicity and pore size can be created. This will be described in greater detail below, with reference to Figs. 10 and 11. An admixture of superabsorbent fibres into the tow is also conceivable.

5 By means of utilizing tow when manufacturing the material according to the invention, it is easy from a processability point of view to create zones 5a-e, as seen in the cross-sectional direction of the material, which are different with respect to one or several properties such as basis weight, density, pore size, hydrophilicity/hydrophobicity and/or other absorption-influencing properties. The feeding of the material to the bonding station,
10 where the bonding of the fibres in a desired bonding pattern takes place, can for example be done in such a way that more fibres are fed in along the edges, or alternatively along the central portion, whereby different basis weights are obtained in the edge portions and in the central portion, 5a,c and 5 b, respectively. Varying basis weight can also be created by means of folding the opened and spread-out fibre-tow in the longitudinal direction in a
15 suitable way before feeding it into the bonding station. Another method is to combine two or several tow webs into one web by means of placing the different webs on top of each other, overlapping in such a way that different basis weights are created in different portions.

20 A higher density in different portions of the layer 5 can be created by means of compressing this non-uniformly across the y-direction.

The layer 5 can also contain at least two different types of fibres 9, which constitute the different zones 5a-e. Thereby, the different types of fibres 9 can exhibit different thickness,
25 fibre cross-section, crimp and/or elasticity modulus. They may, furthermore or alternatively, be of different polymeric materials and/or exhibit different surface treatments, wherein they for example can have different hydrophilicity/hydrophobicity. The different fibre types may either constitute different layers 5d,e in the z-direction of the layer 5 (Fig. 11) or constitute different zones 5a-c in the y-direction of the layer 9 (Fig. 10).
30 A combination of these two alternatives is of course also possible, for example by means of the upper layer 5d in its turn being divided into different zones in the y-direction. The

different fibre types may either form substantially discreet zones, or be partially integrated with each other.

Herein, the "x-direction" of the layer 5 means the direction in which the continuous fibres 9 extend, whereas the "y-direction" means the direction substantially transverse to the fibre-direction. The "z-direction" means the thickness-direction of the layer. The layer 5 can of course be arranged in the article either in the longitudinal direction or in the transverse direction of the article, i.e. the continuous fibres 9 in the layer 5 either extend in the longitudinal or in the transverse direction of the article.

The manufacture of a layer with different fibre types in different zones can easily be accomplished by means of fibre-tow of the different fibre types being opened, being spread-out and combined into a mutual fibre web which thereafter is bonded in the desired bonding pattern.

By means of utilizing fibres with different thickness in the different zones, the layer obtains different absorption and distributing properties in the different zones. Accordingly, fibres of a higher thickness can be used in an upper layer 5d and thinner fibres in the lower layer 5e, whereby a pore size gradient is created in the z-direction of the layer which facilitates the liquid transport in the z-direction. It is also possible that the central zone 5b of the layer consists of thicker fibres than in the edge portions 5a,c, in order to create a rapid liquid acquisition in the central zone 5b.

By means of utilizing fibres with differently-shaped fibre cross-sections in the different zones, pore size differences or other differences in distributing ability between the different zones can also be created. This is also the case when utilizing different crimp degrees of the fibres in the different zones.

Fibres of different polymer types, as well as with different surface treatments, result in different hydrophilicity/hydrophobicity properties. For instance, hydrophilic fibres can be used in the central zone 5b and hydrophobic fibres in the edge portions 5a and c, in order to create side barriers against liquid spreading out towards the edges. It is also conceivable

to create several narrow longitudinal, hydrophobic streaks of hydrophobic fibres in an otherwise hydrophilic layer. These hydrophobic streaks create lateral micro-barriers. Furthermore, they provide a better surface dryness. If the continuous fibres 9 in the layer 5 are positioned in the transverse direction of the absorbent article, streaks can be created in the transverse direction of the article in a corresponding way.

In a corresponding way, narrow streaks can be formed in the longitudinal or transverse direction of the article by means of fibres which have been treated with for example a skin-friendly lotion, smell-inhibitor, bactericides, fungicides or another substance affecting the skin condition. Examples of such substances are zeolites, active carbon, aloe vera, metal salts, organic acids or salts thereof, and other substances known and used for these purposes.

It is also possible to create a hydrophilicity gradient in the z-direction of the layer 5 by means of arranging fibres with increasing hydrophilicity from the upper 5d towards the lower layer 5e.

The invention is of course not limited to what has been disclosed above or has been shown in the drawings, but a plurality of variations are conceivable within the scope of the claims. Accordingly, the number of zones in the y- or z-direction can of course vary from two and upwards. The zones can also consist of a mixture of, for example, hydrophilic/hydrophobic fibres, straight/crippled fibres, thick/thin fibres, etc.. However, there should be at least two zones which are different in some of the above-mentioned respects.

25

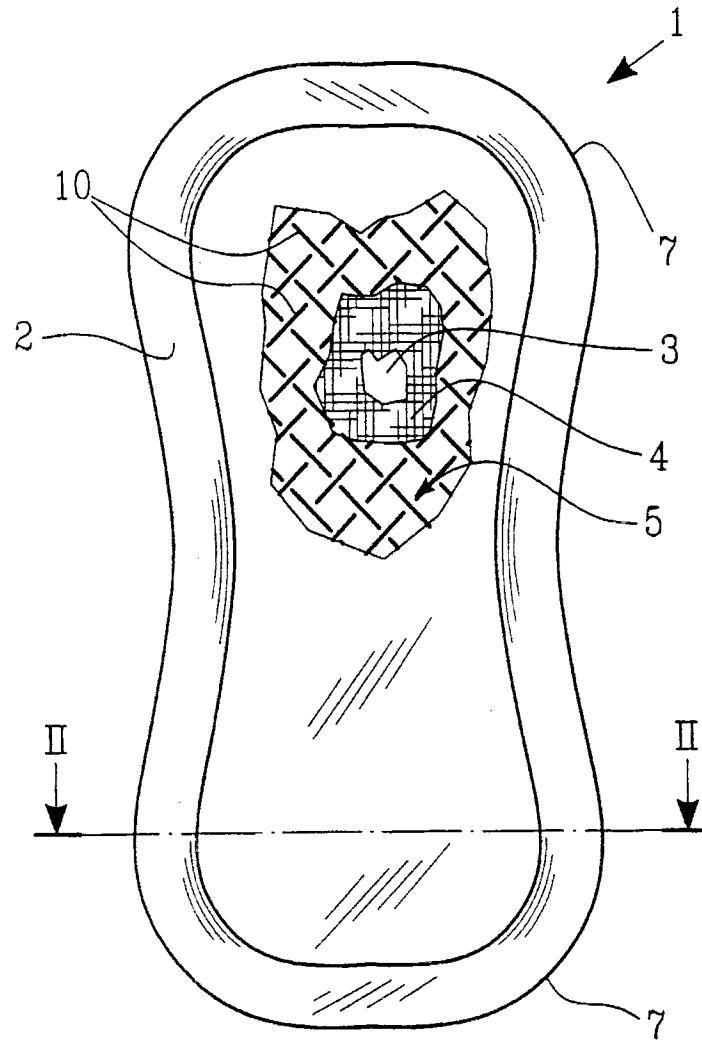


FIG. 1

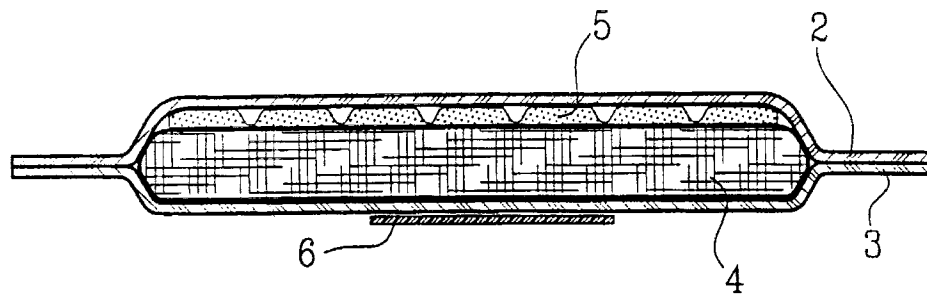


FIG. 2

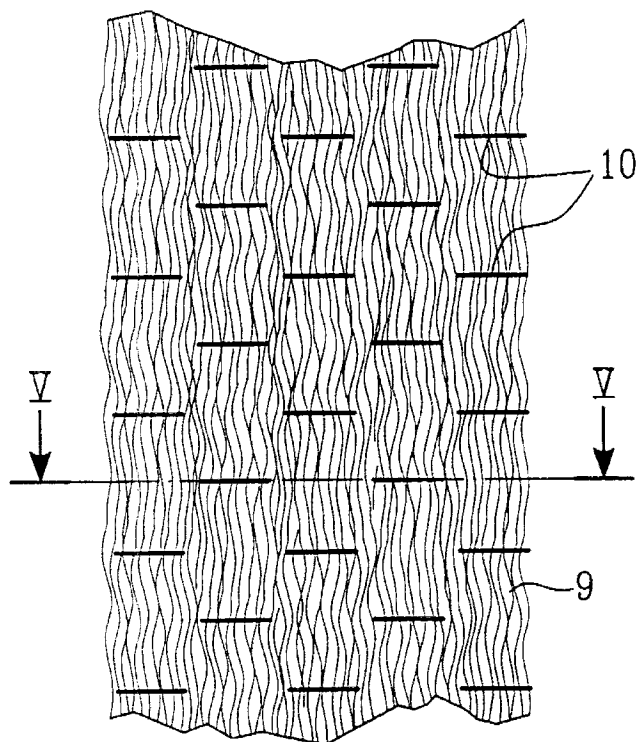


FIG. 4

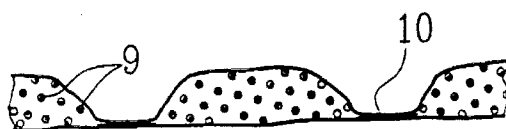


FIG. 5

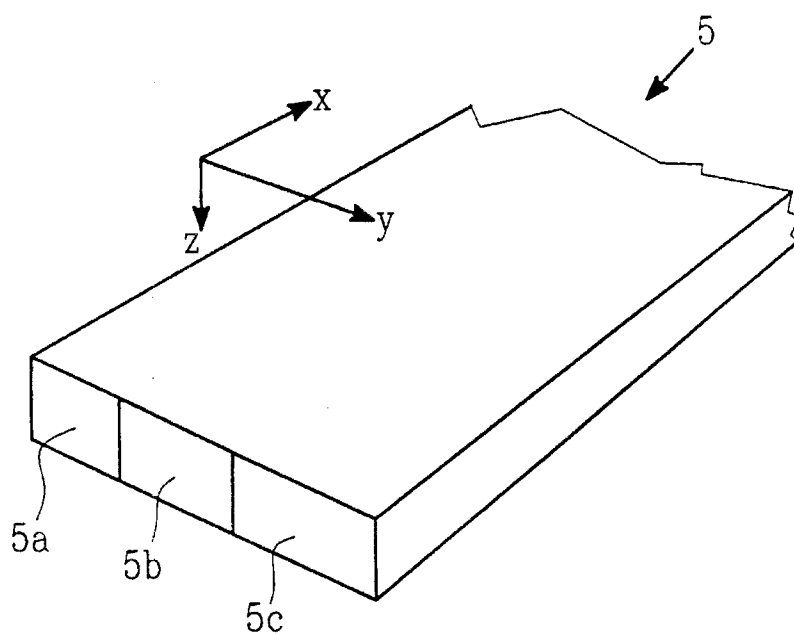


FIG. 10

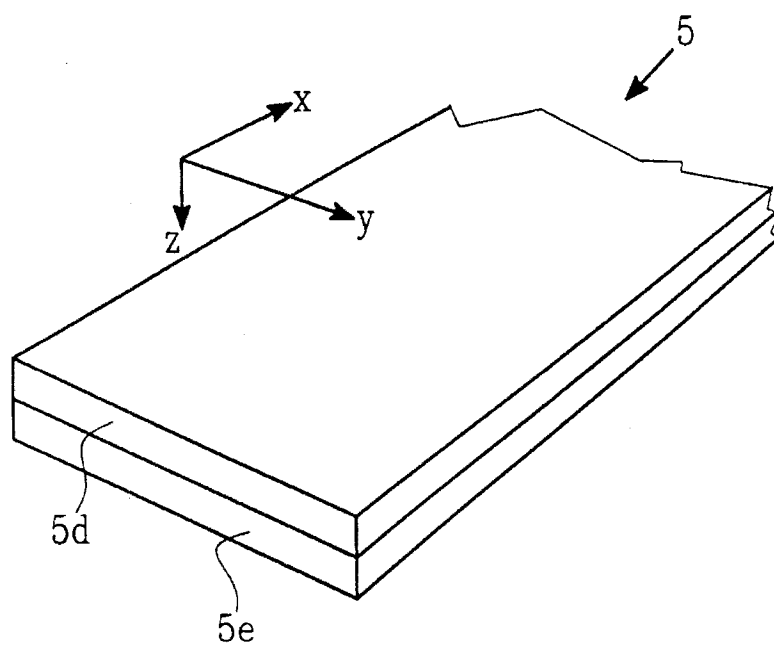


FIG. 11

100
700

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

2020

Bogotá, D.C., 28 de febrero de 2008

Abogado

EMILIO FERRERO

ASUNTO

Radicación	04-129791
Trámite	011
Evento	379
Actuación	430
Oficio	3548
Folios	018

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

Patente de Invención ☒ Patente de Modelo de Utilidad ☐

Vía Nacional ☐

Vía PCT (fase nacional) ☒ Cap. I ☐ Cap. II ☒

No. Sol. Internacional: PCT/EP2003/05848

Fecha de Presentación Internacional: 04 de junio de 2003

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

1. Documentos estudiados

- 1.1. Descripción: Folios: 45 a 65
- 1.2. Reivindicaciones: Folios: 66 a 69
- 1.3. Dibujos: Folios: 73 a 74
- 1.4. Prioridad: 11 de junio de 2002, AR No. P020102203

2. Objeto de la invención

- La Invención se titula “**CAPA DE TRANSFERENCIA DE FLUIDOS LÍQUIDOS Y ARTÍCULO ABSORBENTE QUE LA INCORPORA**” (folio 1)

La **reivindicación independiente 1** define “una capa de transferencia de fluidos líquidos...”

La **reivindicación independiente 9** define “un artículo para la absorción y retención de fluidos líquidos, tal como un pañal, una toalla higiénica o similar, que incluye una capa de transferencia de fluidos...”

- ~~101~~ 101
- El problema planteado en esta solicitud consiste en desarrollar una capa de transferencia que mejore la velocidad de captación y distribución de los fluidos, disminuya el riesgo de derrames y reduzca la humedad superficial.

La solicitud en estudio presenta una capa de transferencia con una superficie superior acanalada que comprende una capa superior hidrofóbica y una capa inferior hidrofílica. La solicitud también comprende un artículo absorbente que incluye una capa de transferencia en su estructura.

- El objeto de la invención se catalogó como A61F 13/15, según la Clasificación Internacional de Patentes (IPC.).

3. De la solicitud de Patente

3.1. Reivindicaciones (artículo 30 D 486)

- La reivindicación independiente 1 define una capa de transferencia de fluidos líquidos que comprende "al menos una subcapa superior de material fibroso **predominantemente** hidrofóbico y al menos una subcapa inferior de material **predominantemente** hidrofílico" (Negrita Personal).

El término resaltado en negrita no confiere claridad ni precisión a la explicación dada de la invención.

- Las reivindicaciones 6 y 7 definen una capa de transferencia de fluidos por el resultado a alcanzar (hidrofobicidad) con la variación de espesor y diferencias de densidades de las fibras de las capas de material hidrofílico e hidrofóbico. No se aceptan reivindicaciones que señalen resultados, efectos o ventajas. Por lo anterior, dichas reivindicaciones deben ser eliminadas del capítulo en cuestión.

Por lo anterior, las reivindicaciones 16 a 18 de la presente solicitud no cumplen con el artículo 14 de la Decisión 486.

4. Determinación del Estado de la Técnica

Considerando que la fecha de presentación de la primera solicitud de patente de la cual se reivindica prioridad es: 11 de junio de 2002, se buscaron documentos del estado de la técnica relacionados, con fecha de publicación anterior a esta.

Nº	Documento	Título	Fecha de publicación
D1	WO 99/27879	"ABSORBENT ARTICLE"	10 de junio de 1999

5. Análisis de patentabilidad (según requisito) (artículo 14 D486)

5.1 Novedad (artículo 16 D486)

Reivindicaciones 1 y 9

Respecto a la solicitud en estudio

- La reivindicación independiente 1 define una capa de transferencia de fluidos líquidos que comprende al menos una subcapa superior de material fibroso hidrofóbico y al menos una subcapa inferior de material hidrofílico unidas entre sí en franjas que forman canales de distribución y transferencia de líquido, quedando definidos entre pares de canales adyacentes respectivas crestas donde ambas subcapas superpuestas presentan un espesor transversal mayor, mientras que cada canal conformado entre crestas adyacentes define un respectivo valle donde ambas subcapas presentan un espesor transversal menor.
- La reivindicación independiente 9 define un artículo absorbente que comprende una cobertura permeable a los fluidos y destinada a estar en contacto con la piel del usuario, una capa de transferencia de fluidos líquidos debajo de dicha cobertura que presenta canales de distribución y transferencia de líquidos mirando hacia la cobertura permeable y un núcleo absorbente y de retención de fluidos,

Respecto al estado de la técnica

- El documento WO 99/27879 (llamado D1 de aquí en adelante), divulga un artículo absorbente (1) que comprende:
 - una cubierta (2) permeable a los fluidos destinada a estar en contacto con la piel del usuario;
 - una capa de transferencia (5) localizada debajo de la cubierta permeable, constituida por una capa superior (5d) de material hidrofóbico y una capa inferior (5e) de material hidrofílico unidas entre sí por una pluralidad de regiones longitudinales de unión (10), las cuales forman una serie de canales (10) en las regiones de unión y una serie de crestas entre canales adyacentes, constituidas por la superposición de las dos capas (5e) y (5d), en donde el espesor transversal de las capas (5e) y (5d) es mayor en las crestas que en los canales (10). Dichos canales y crestas están localizados mirando hacia la cobertura permeable.
 - un núcleo absorbente (4).
(folio 87, líneas 7-11; folio 88, líneas 19-30; folio 89, líneas 19-20; folio 90, líneas 17 a folio 91, línea 14; folio 92, líneas 12-17; folio 93, línea 31 a folio 96, línea 5; folio 97, figura 2; folio 98, figura 5; folio 99, figura 11)

De acuerdo con lo anteriormente expuesto, todas las características técnicas de la capa de transferencia y artículo absorbente, señaladas en las reivindicaciones 1 y 9, respectivamente, ya eran conocidas en D1. Por lo cual, tales productos no pueden considerarse nuevos. Es importante mencionar que al encontrarse afectada la novedad de las reivindicaciones independientes, las cuales encierran el objeto de patentabilidad, sus correspondientes reivindicaciones dependientes también carecen de novedad.

En conclusión, la materia de invención de la solicitud en estudio se encuentra afectada en su novedad de acuerdo con el artículo 16 de la Ley de Patentes.

6 Conclusión:

Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

N°	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	WO 99/27879	1-10	Novedad

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de 60 días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto 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 División de Nuevas Creaciones

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

CONCEPTO TÉCNICO No.549	EXAMINADOR TÉCNICO Código No.202076
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ASD

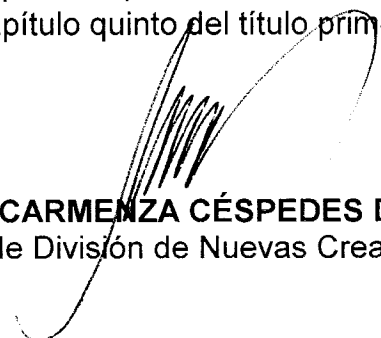
6 Conclusión:

Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

N°	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	WO 99/27879	1-10	Novedad

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de 60 días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto 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 División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista, de fecha
07 MAR. 2008

CONCEPTO TÉCNICO No.590	EXAMINADOR TÉCNICO Código No.202076
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