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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

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Señora Jefe de la
DIVISION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

Trámite :002

Evento :001

Actuación:444

Referencia : Expediente No. 03049608

Asunto : Solicitud de patente para: UN ARTICULO ABSORBENTE
TAL COMO UNA TOALLA SANITARIA, UN PAÑAL, UNA
GUARDA DE INCONTINENCIA, O UNA CUBIERTA
INTERIOR DE PANTALONCITO

Solicitante : SCA HYGIENE PRODUCTS AB

1. Yo, Emilio FERRERO, obrando como apoderado del solicitante en el asunto antes identificado, me refiero al Oficio No. 132209 notificado por fijación en lista del 17 de Noviembre de 2006.

2. Mediante el Oficio No. 132209 se puso en conocimiento del solicitante el informe del examen de fondo que contiene las observaciones hechas por su Despacho sobre la presente solicitud de patente. Atiendo a las observaciones de la manera siguiente:

3. Claridad de la solicitud:

3.1 Con relación a la reivindicación 1, su Despacho enuncia que dicha reivindicación plantea el preámbulo como: "Un saliente tal como una toalla sanitaria, una guarda....", en la cual no se comprende la expresión saliente.

Se menciona que la definición de la reivindicación 1 parece demasiado amplia pues el estado de la técnica ya contiene productos con miembros elásticos y elevaciones.

Así mismo, se enuncia que la expresión "primera para (15)" no es comprensible.

3.2 Con el fin de atender a las anteriores observaciones y de acuerdo al artículo 34 de la Decisión 486, se presenta un nuevo capítulo reivindicatorio como sustituto del anteriormente presentado, donde se corrigió errores de traducción y redacción.

- Por ejemplo, el preámbulo de la reivindicación 1 se cambió: "Un saliente tal como una toalla sanitaria, una guarda....", por "Un artículo absorbente que tiene una forma sustancialmente alargada..."
- La palabra "lomo (26)" se cambió por "protuberancia (26)".
- La expresión "una elevación similar a lomo (20) se cambió por " una elevación (20)".
- En la reivindicación 4, la expresión "en una primera para (15) se cambió por "en una primera pata (15)".

Con las anteriores modificaciones se subsana las objeciones en cuanto a la claridad del capítulo reivindicatorio.

4. **Evaluación de la novedad y del nivel Inventivo:**

Su Despacho establece que el documento D1 WO9925282 podría afectar la novedad de la presente invención, ya que D1 divulga un artículo absorbente con una porción central que incluye unos miembros elásticos que se extienden longitudinalmente y que permiten la formación de una porción elevada para mejorar la fijación anatómica del producto al cuerpo de la usuaria.

Con relación al nivel inventivo, su Despacho establece en forma resumida lo siguiente:

"En el documento ES2196322 (D2), se encuentran enseñanzas que motivarían a un técnico a realizar un artículo absorbente que también posea una porción elevada o protuberancia central. De hecho, la disposición y las dimensiones de ancho, largo, y altura de la protuberancia ya se encuentran sugeridas explícitamente en D2.

Ahora bien, la propuesta de la solicitud presenta una diferencia con respecto a D2 y es que en la propuesta se forma el lomo (o protuberancia) incluyendo unos miembros elásticos dispuestos longitudinalmente alrededor de dicho lomo, cosa que no está enseñada en D2. No obstante, dicha posibilidad de incluir elásticos para elevar porciones en la parte central del artículo absorbente es algo que se enseña en D1".

5. **Argumentos en favor de la novedad y del nivel inventivo de la invención en estudio:**

En primer lugar, es importante resaltar que las dos anterioridades citadas por su Despacho D1 (WO 99/25282) y D2 (ES2196322) son solicitudes del mismo

solicitante de la presente invención, **SCA Hygiene Products AB**, por lo que el solicitante conoce perfectamente las diferencias existentes de dichas anterioridades con la presente invención.

5.1 En segundo lugar, se tiene que la presente invención enseña un artículo absorbente que comprende una protuberancia formada en cooperación por un elemento de formación y por unos miembros elásticos.

5.2 En lo que concierne a D1, dicho documento enseña el uso de elementos elásticos en el artículo absorbente para formar una especie de elevación. Sin embargo, D1 no enseña una protuberancia formada en cooperación por un elemento de formación y por miembros elásticos, tal como se caracteriza en la reivindicación 1, el producto absorbente de la presente solicitud.

Por lo que el documento D1 no afecta la novedad de la presente invención, ya que no incluye todas las características técnicas de la solicitud en estudio.

5.3 D2 por su parte, enseña el uso de una protuberancia de forma permanente, en la dirección transversal tanto en el estado seco como en el estado húmedo. Debido a que la protuberancia es de forma permanente, por definición, los miembros elásticos no cooperan en su formación.

5.4 En consecuencia, los documentos D1 y D2 solos o combinados no afectan el nivel inventivo de la presente invención porque en dichos documentos no se enseña ni se sugiere la formación de una protuberancia a través de un elemento de formación y miembros elásticos ni tampoco se enseña o se sugiere cómo obtener la protuberancia a través de los medios revelados por la presente invención.

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5.5 Por otro lado, se informa a su Despacho que el nuevo capítulo reivindicatorio se presenta de conformidad con el capítulo reivindicatorio, de la solicitud Estadounidense equivalente a la solicitud Colombiana, dicho capítulo reivindicatorio fue otorgado por la Oficina de Patentes Estadounidense, con No. US 6,740,069 B2. Se anexa copia de dicha patente para su información.

Teniendo en cuenta las modificaciones hechas al capítulo reivindicatorio así como los anteriores argumentos, se puede concluir que la presente invención es novedosa y posee altura inventiva frente a los documentos D1 y D2 citados por su Despacho.

Puesto que se han atendido a cabalidad las observaciones hechas por su Despacho sobre la presente solicitud de patente, respetuosamente solicito se continúe con su tramitación.

6. Anexos:

- Nuevo pliego reivindicatorio.
- Formulario para modificaciones.
- Recibo por valor de \$99.000 por concepto de modificaciones en solicitud pendiente.
- Copia de la patente US 6, 740,069 B2

Señora Jefe,



EMILIO FERRERO

T.P.A. No. 31.929

**Industria y Comercio**

SUPERINTENDENCIA

Espacio reservado para el adhesivo de radicación

FORMULARIO UNICO DE CORRECCIONES Y MODIFICACIONES

1		SOLICITUD DE:	
☐ Corrección de Error Material		☒ Modificación a una solicitud	
2 SOLICITANTE	Nombre: SCA HYGIENE PRODUCTS AB	IDENTIFICACION C.C. ☐ NIT ☐ C.E. ☐ Otro ☐ Número: _____	
	Dirección: S-405 03 Göteborg Suecia Nacionalidad o Domicilio: Göteborg, Suecia Lugar de Constitución: Suecia		
	Teléfono: 546 09 70 Fax: 249 40 70 E-mail: clientes@camyp.com		
3 REPRESENTANTE O APODERADO	Nombre: Emilio FERRERO	IDENTIFICACION C.C. ☒ NIT ☐ C.E. ☐ Otro ☐ Número: <u>438.019</u> TP <u>31.929</u>	
	Dirección: Carrera 4ª No. 72-35 Teléfono: 347 36 11 Fax: 217 92 11 E-mail: cavelier@cavelier.com		
4 Número de expediente: <u>03 049608</u>			
5 Descripción de la corrección o modificación solicitada: Presento un nuevo capítulo reivindicatorio como sustituto del anteriormente presentado, con el fin de dar cumplimiento a las observaciones del examen de fondo, el nuevo capítulo reivindicatorio, comprende 16 reivindicaciones. _____ _____ _____			
6 Comprobante de pago No. 07 8,073 Fecha: 29 de Enero de 2007			
7 Anexos ☒ Comprobante de pago de la tasa ☐ Poderes, si fuere el caso ☐ Documento que acredita la existencia y representación legal de las partes, cuando sean personas jurídicas.			
8 NOMBRE: EMILIO FERRERO FIRMA: C.C. 438.019 de Usaquén T.P.A. 31.929			

REIVINDICACIONES

1. Un artículo absorbente que tiene una forma sustancialmente alargada con una dirección longitudinal y una dirección transversal y exhibe dos bordes laterales (9, 10), un borde delantero (11) y un borde trasero (12), una porción delantera (6) y una porción trasera (7), y una porción central (8) situada entre la porción delantera (6) y la porción trasera (7), dicho artículo además comprende una capa de cubierta permeable a los líquidos (2) y una capa de cubierta impermeable a los líquidos (3) y un cuerpo absorbente (4) y una protuberancia (26) que se extiende en la dirección longitudinal y que tiene dos lados que se extienden longitudinalmente, dicho artículo comprende adicionalmente miembros elásticos (19), caracterizado en que la protuberancia (26) comprende un elemento de formación (27) que se extiende en la dirección longitudinal y tiene dos lados que se extienden longitudinalmente y que los miembros elásticos (19) están dispuestos a lo largo tanto del lado que se extiende longitudinalmente del elemento de formación (27) en donde el elemento de formación (27) y los miembros elásticos (19) cooperan en formar la protuberancia (26).

2. El artículo absorbente de acuerdo con la reivindicación 1, caracterizado en que el elemento de formación (27) esta localizado entre la capa de cubierta impermeable a los líquidos (3) y el cuerpo absorbente (4).

3. El artículo absorbente de acuerdo con la reivindicación 2, caracterizado en que los miembros elásticos (19) que corren sobre cada lado del elemento de formación (27), ejercen una fuerza lateral sobre el elemento de formación (27) curvando así

el elemento de formación (27) convexamente hacia arriba, el cual eleva las capas que descansan por encima (2, 4) en la forma de una protuberancia longitudinal (26) en la porción central (8) de dicho artículo.

4. El artículo absorbente de acuerdo con la reivindicación 1, caracterizado en que la porción trasera (7) del cuerpo absorbente (4) comprende una capa (17) que esta dividida en una primera pata (15) y una segunda pata (16) con un espacio entre las patas (15, 16) en donde un ángulo α esta definido entre la primera pata (15) y la segunda pata (16), y que el miembro elástico (19) también esta colocado entre la primera pata (15) y la segunda pata (16), dicho miembro elástico (19) se extiende esencialmente en la dirección longitudinal.

5. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que los miembros elásticos (19) que corren también en la porción trasera (7) doblan la porción trasera (7) en una forma algo parabólica, deformando las partes del artículo absorbente que están entre la primera pata (15) y (16), formando así una elevación (20) entre la primera pata (15) y la segunda pata (16).

6. El artículo absorbente de acuerdo con la reivindicación 5, caracterizado en que los miembros elásticos (19) corren juntamente principalmente a lo largo de una línea centro (23) del artículo absorbente, desde un punto en la vecindad en donde la línea centro (23) se encuentra con el borde trasero (12), hasta un punto en la vecindad del elemento de formación (27).

7. El artículo absorbente de acuerdo con la reivindicación 5, caracterizado en que los miembros elásticos (19) corren principalmente a lo largo de la línea centro (23) por todo el artículo absorbente, excepto por la parte en donde los miembros elásticos (19) son divididos y están dispuestos a lo largo del lado que se extiende longitudinalmente del elemento de formación (27).

8. El artículo absorbente de acuerdo con la reivindicación 7, caracterizado en que los miembros elásticos (19) están divididos en por lo menos dos partes elásticas en la porción delantera (6).

9. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que los miembros elásticos (19) pueden estar colocados en, o entre cualquiera de las capas que construyen el artículo absorbente 1.

10. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que el ángulo α está entre 10° - 120° .

11. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que la longitud de las patas (15, 16) es de 20 a 350 mm.

12. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que la longitud de la elevación es de por lo menos 10 mm.

13. El artículo absorbente de acuerdo con la reivindicación 4, caracterizado en que la elevación tiene una porción

superior que constituye una parte superior de la elevación y que el ancho de la elevación (20) es de 0,1 a 20 mm, en la porción superior de la elevación (20).

14. El artículo absorbente de acuerdo con la reivindicación 1, caracterizado en que el ancho de la protuberancia es menor que el ancho del cuerpo absorbente (4).

15. El artículo absorbente de acuerdo con la reivindicación 1, caracterizado en que la longitud de la protuberancia es de 20 a 120 mm.

16. El artículo absorbente de acuerdo con la reivindicación 1, caracterizado en que la altura de la protuberancia es de máximo 50 mm.

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US006740069B2

(12) **United States Patent**
Drevik

(10) Patent No.: **US 6,740,069 B2**
(45) Date of Patent: **May 25, 2004**

(34) **ABSORBENT ARTICLE SUCH AS A
SANITARY NAPKIN, A DIAPER, AN
INCONTINENCE GUARD, OR A PANTY-
LINER**

(75) Inventor: **Salgus Drevik, MSclycke (SE)**

(73) Assignee: **SCA Hygiene Products AB,
Gothenburg (SE)**

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 231 days.

(21) Appl. No.: **10/015,500**

(22) Filed: **Dec. 17, 2001**

(65) **Prior Publication Data**

US 2002/0077617 A1 Jan. 20, 2002

Related U.S. Application Data

(60) Provisional application No. 60/253,388, filed on Dec. 15,
2000.

(51) Int. Cl.⁷ **A61F 13/15**

(52) U.S. Cl. **604/385.01**

(58) Field of Search **604/385.01, 385.17,
604/385.22, 385.24, 385.27**

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* cited by examiner

Primary Examiner—Weihun Lo

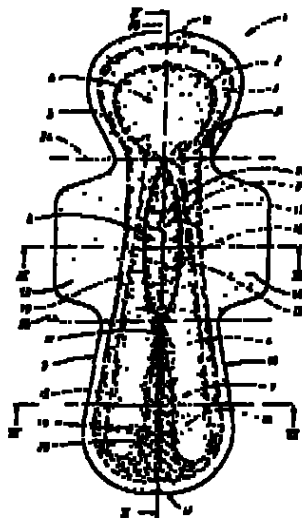
Assistant Examiner—Michael Bogart

(74) **Attorney Agent, or Firm—Young & Thompson**

(57) **ABSTRACT**

An absorbent article such as a sanitary napkin, an incontinence guard, a diaper, or a panty-liner, has a substantially elongated shape with a longitudinal direction and a transverse direction and exhibits two side edges (9,10), a front edge (11) and a rear edge (12), a front portion (6) and a rear portion (7), and a central portion (8) situated between the front portion (6) and the rear portion (7). The article furthermore includes a liquid-permeable cover layer (2) and a liquid-impermeable cover layer (3) and an absorbent body (4), a hump (26) extending in the longitudinal direction and having two longitudinally extending sides, and elastic members (19). The article is characterized in that the hump (26) includes a formation element (27) and the elastic members (19) are arranged along either longitudinally extending side of the hump, wherein the formation element (27) and the elastic members (19) cooperate in shaping the hump (26).

16 Claims, 3 Drawing Sheets



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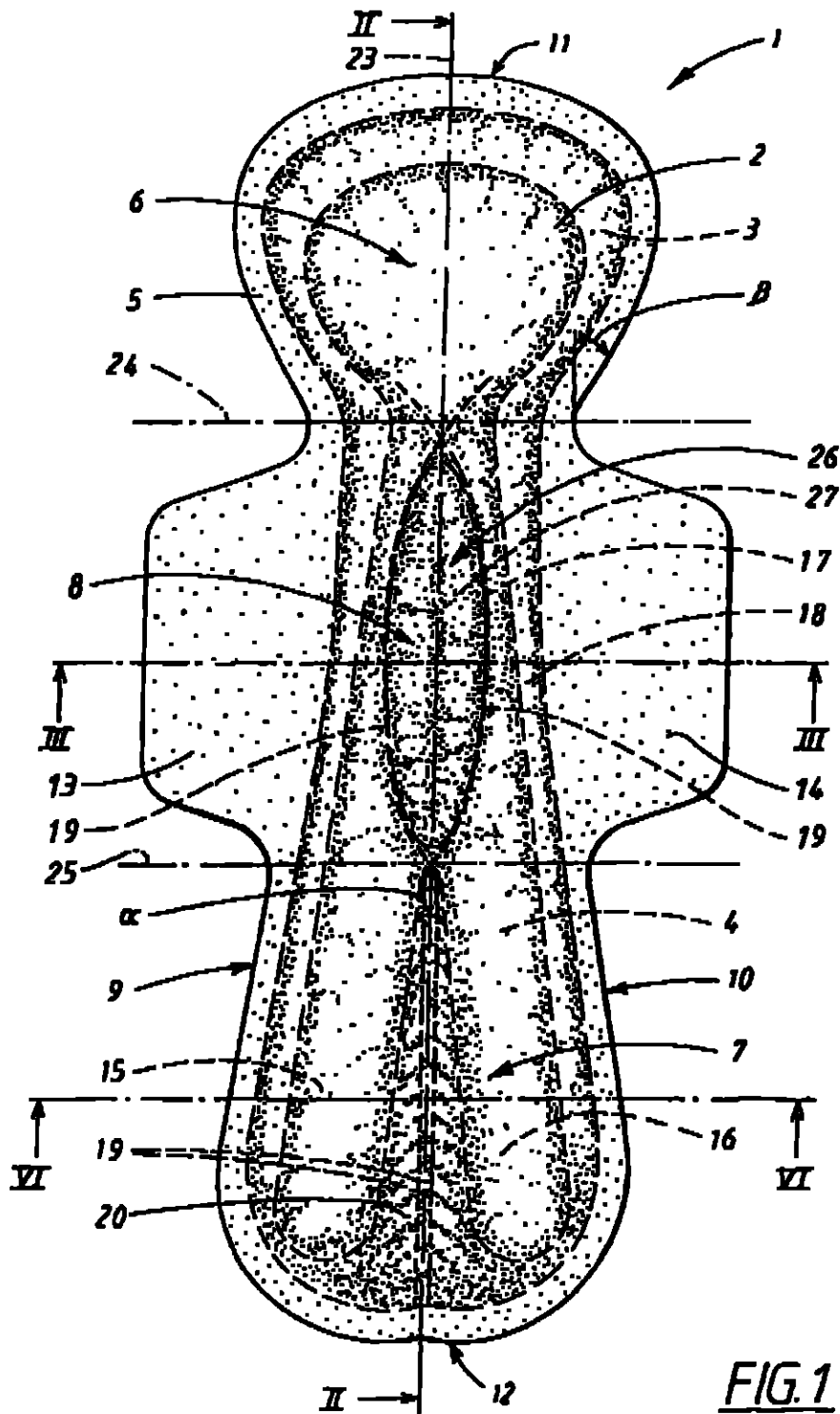


FIG. 1

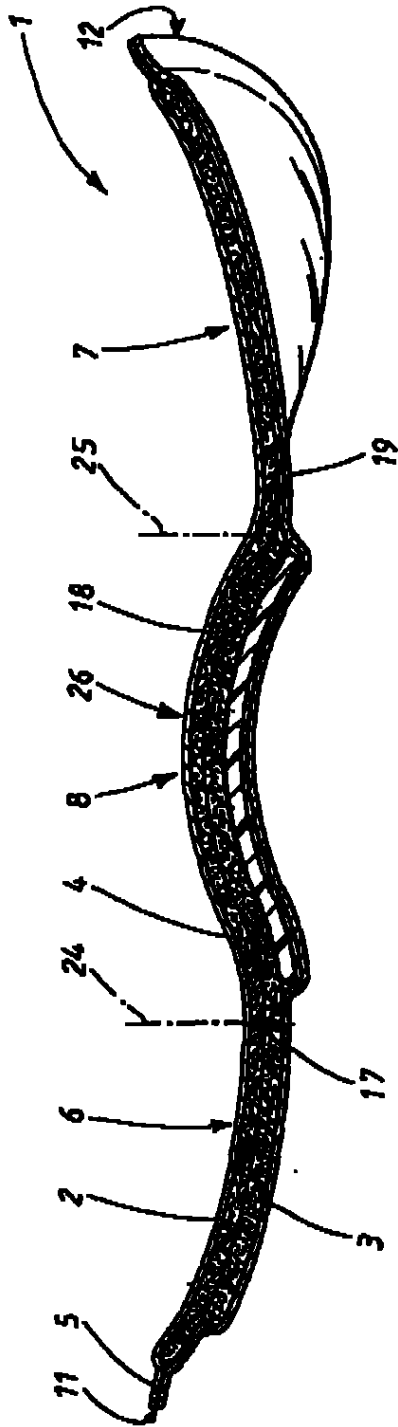


FIG. 2

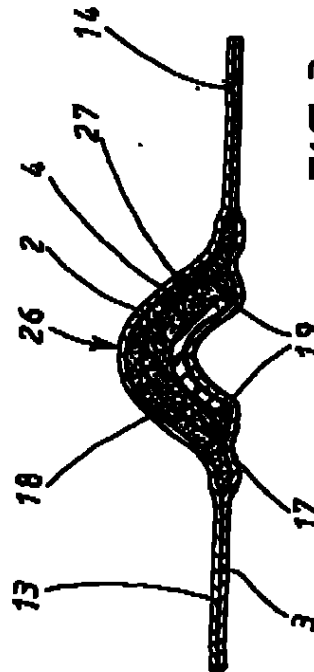


FIG. 3

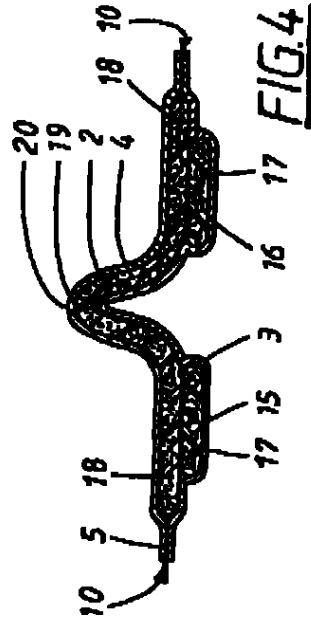


FIG. 4

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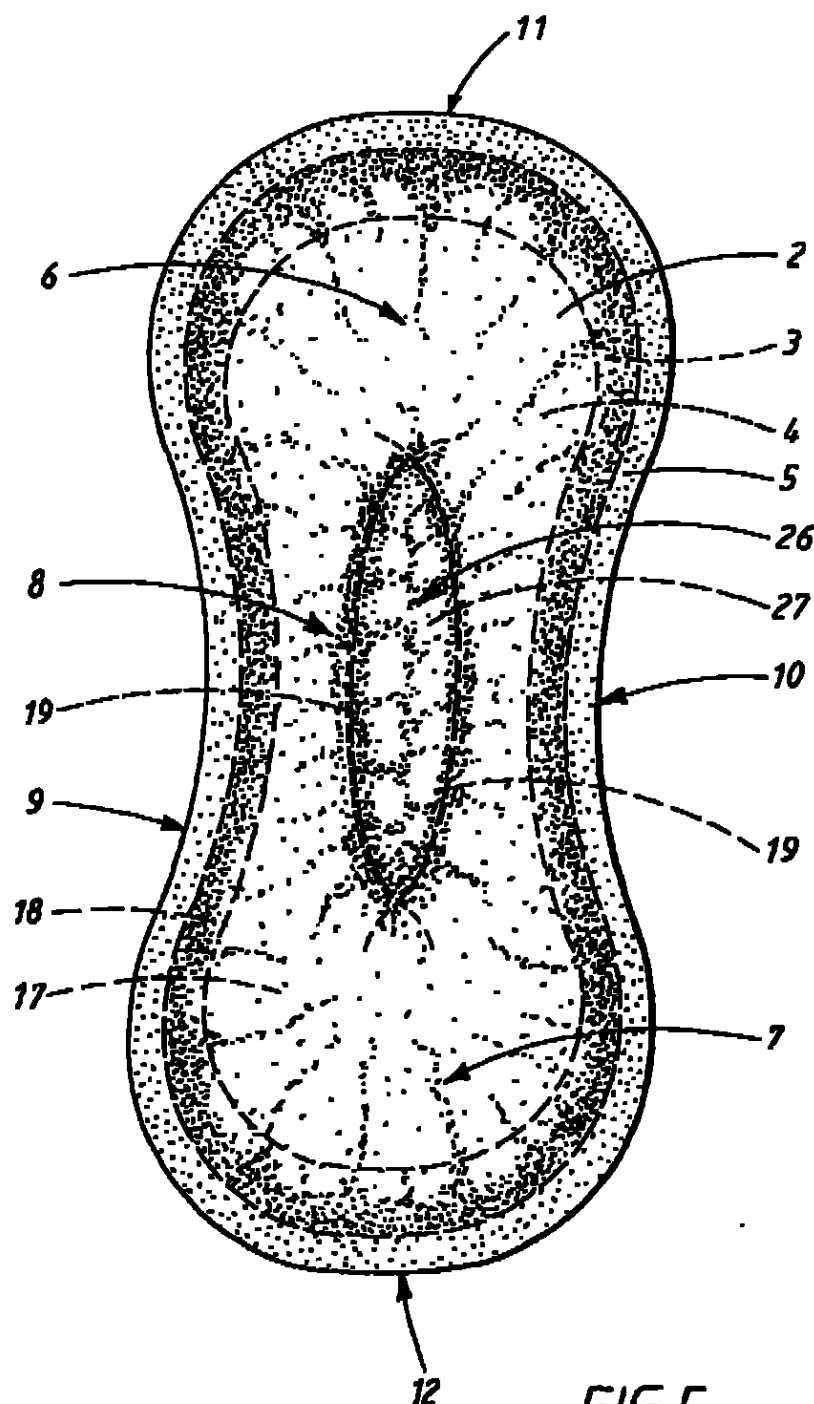


FIG. 5

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**ABSORBENT ARTICLE SUCH AS A
SANITARY NAPKIN, A DIAPER, AN
INCONTINENCE GUARD, OR A PANTY-
LINER**

TECHNICAL FIELD

The invention relates to an absorbent article such as a sanitary napkin, an incontinence guard, a diaper, or a panty-liner, which article has a substantially elongated shape with a longitudinal direction and a lateral direction and exhibits two side edges, a front edge and a rear edge, a front portion and a rear portion, and a central portion situated between the front portion and the rear portion, which article further exhibits a liquid-pervious surface layer and a liquid-imperious surface layer and an absorbent body, and a hump extending in the longitudinal direction having two longitudinally extending sides, which article furthermore comprises elastic members.

BACKGROUND ART

Conventional absorbent articles of the type mentioned above usually have a flat shape. Since the female pubic region does not have a corresponding flat appearance, problems can occur when applying and wearing such articles. The contact of the article against the body is not optimum, and when a gap develops there is a great risk of leakage. In order to solve this problem, it has been proposed to make the absorbent articles cup-shaped rather than flat. This shape may provide a better fit to the contour of the body. The cup shape is produced, for example, by arranging an elastic member in the longitudinal edges of the article, or the article is moulded in a cup shape in a more or less stiff material.

A problem with articles of the above-mentioned type is that they do not adapt to the anatomy of the user particularly well, but simply have a general cup-shaped appearance. An article shaped in this way does not provide a good fit against the body. In addition, a gap can easily occur between the user's body and the user's briefs since most women, during menstruation, wear briefs which are of poor quality from the outset or are of poor quality because they are old and worn. Unless either the absorbent article or the briefs are able to maintain a good contact with the user's body, there is a great risk of menstruation fluid leaking past both the absorbent article and the briefs.

EP 985396-A2 discloses an absorbent article having two longitudinally extending elasticated means producing a cup-shaped product, by bending the whole absorbent article. The article further comprising a longitudinal upper absorbent core, placed in the central portion of the article, and a lower absorbent core, which is wider than the upper absorbent core. The two elasticated means run through the entire article on either side of the upper absorbent core and longitudinally curves the absorbent article convexly downward. The product has a generally curved shape in the longitudinal direction and is sized to provide improved body contact in the central area of the product, thereby reducing the risk of side leakage, as well as a more rapid transport of menstrual fluid from the upper absorbent core to the lower absorbent core.

Even though the longitudinal upper absorbent core provides improved body contact with the body, a problem with a construction of the type mentioned is that the upper absorbent core becomes curved convexly downward in the central portion of the article, which may reduce the body contact in the genital area where the discharge of fluids

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occur. Another problem is that the upper absorbent core is separated from the lower absorbent core, which may result in that the upper absorbent core and/or the lower absorbent core slide too much in a lateral direction, thereby causing a bad fit and/or inadequate absorbent behaviour.

It is also known absorbent articles comprising a hump being part of the absorbent core as a separate component of the core. The hump may be made from a separate material with special features, placed in or on the absorbent core, or the absorbent core may be manufactured with an additional amount of material, thereby forming the hump as a part of the absorbent core.

A problem with this construction is that the absorbent core is hard to preserve in a desired shape, which means that the hump needs to be manufactured in a special way in order to assume a correct form during use. For instance, if the hump is too soft, it deforms and may flatten out, thereby losing its intended function, and if the hump is too hard the sanitary napkin may be uncomfortable.

It is also known from WO 99/25282 an absorbent article where an elastic member is arranged in the article and gives the article a cup-shaped part at one end portion and a ridge-like elevation at the other end portion. The elastic member may be arranged in a loop in the front portion, which has a cup-shaped part, and where the elastic member in a loop contributes to giving the front portion its cup shape. The elastic member may also be arranged as a continuous thread or band running through the entire article, and in order to further improve the anatomical fit against the user's body for an article with a ridge-like elevation which extends across both the central portion of the article and across the rear portion thereof, the ridge-like elevation in the end portion has a steeper inclination towards the centre line of the article than does the ridge-like elevation in the central portion, as seen from a long side of the article. The cup shape of the front portion will surround the mons pubis during use, and the ridge-like elevation of the rear portion will fit in the cleft between the user's buttocks.

Even though the ridge-like elevation which extends across both the central portion of the article and across the rear portion thereof provides improved body contact in the central portion and the rear portion of the article, a problem with a construction of the type mentioned is that the elastic member bends the entire absorbent body. If the absorbent body is too soft, the elastic member bends the article too much, which may result in a bad fit, and if the absorbent body is too stiff the central portion may become bulky and uncomfortable for the user. A bulky or wrinkled ridge-like elevation may not be high enough and/or thin enough to provide sufficient protection for leakage of body fluids between the buttocks of the user when the user is lying down on his back. Another problem is that the ridge-like elevation consists of the thick and relatively stiff absorbent body, which give the ridge-like elevation a triangular shape, which makes the ridge-like elevation relatively wide and thereby hard to fit between the buttocks of a user.

Whilst previously known absorbent articles provide relatively good leakage protection and relatively good fit, a need still exists for an absorbent article which further increases the comfort by being small and flexible, and also further reduces the risk of leakage of body fluids by improved contact between the article and the body of the user, especially in the genital area, i.e. an article that has an anatomically correct shape in the wetting area, and that the article still is easy and cheap to manufacture. It is therefore an object of the present invention to provide an absorbent article that meets these requirements.

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DISCLOSURE OF INVENTION

The object of the invention is to remedy the above mentioned problems and to make available an absorbent article which provides a good fit against the user's body and has an anatomically correct shape in the wearing area, and which article is comfortable to use and that reduces the leakage of body fluids.

The absorbent article may be a sanitary napkin, an incontinence guard, a diaper, or a panty-liner, which article has a substantially elongated shape with a longitudinal direction and a transverse direction and exhibits two side edges, a front edge and a rear edge. The absorbent article also has a front portion and a rear portion, and a central portion situated between the front portion and the rear portion. The article furthermore exhibits a liquid-permeable cover layer and a liquid-impermeable cover layer and an absorbent body, and a hump extending in the longitudinal direction having two longitudinally extending sides. The absorbent article also comprises elastic members.

The invention is characterized in that the hump comprises a formation element extending in the longitudinal direction and having two longitudinally extending sides, and that the elastic members are arranged along either longitudinally extending side of this formation element, wherein the formation element and the elastic members cooperate in shaping the hump. The formation element is advantageously placed between the liquid-impermeable cover layer and the absorbent body and the elastic members that run on either side of the formation element, exert a lateral force on the formation element, thereby curving the formation element convexly upward, which elevates the above lying layers into the shape of the longitudinal hump in the central portion of the article.

In one embodiment of the invention the rear portion of the absorbent body comprises a layer that is split in a first leg and a second leg with a gap between the legs where an angle α is defined between the first leg and the second leg, and that the elastic member also is placed between the first leg and the second leg extending essentially in the longitudinal direction. The elastic members that run in the rear portion bend the rear portion in a somewhat parabolic shape, deforming parts of the absorbent article that lies between the first leg and, thereby forming a ridge-like elevation between the first leg and the second leg.

Further descriptions of the invention will be presented in the subsequent text.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 shows a top view of an absorbent article according to one embodiment of the invention.

FIG. 2 shows a cross sectional side view of the absorbent article in FIG. 1 taken along a line II—II in FIG. 1.

FIG. 3 shows a cross sectional backside view of the absorbent article in FIGS. 1 and 2 taken along a line III—III in FIG. 1.

FIG. 4 shows a cross sectional backside view of the absorbent article in FIGS. 1-3 taken along a line IV—IV in FIG. 1.

FIG. 5 shows a top view of an absorbent article according to a second embodiment of the invention.

MODES FOR CARRYING OUT THE INVENTION

The absorbent article according to a first embodiment of the invention is shown in FIGS. 1, 2, 3 and 4, and will be

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described hereupon. The embodiments presented shall not be seen as limiting for the invention, but merely as descriptions for facilitating the understanding of the invention.

The absorbent article 1 comprises a liquid-permeable cover layer 2 arranged on the side of the absorbent article 1 which, during use, is intended to face the user, a liquid-impermeable cover layer 3 arranged on the side of the absorbent article 1 which, during use, is intended to be facing away from the user, and an absorbent body 4 enclosed between the two cover layers 2, 3.

The absorbent article 1 is substantially hourglass-shaped and thereby exhibits a front portion 6, intended to be directed forward on the user during use, a rear portion 7, intended to be directed backwards on the user during use, and an intermediate, narrower central portion 8 intended to be applied in the groin area of the user. Furthermore, the absorbent article 1 has two concavely-curved side edges 9, 10, a convexly-curved front edge 11, and a similarly convexly-curved rear edge 12.

The segmentation of the absorbent article into a front portion 6, a rear portion 7, and a central portion 8, should not be understood as implying that there are sharp limits between the different portions 6-8, but is primarily intended to facilitate the description of the absorbent article with reference to the differences which are present between the different portions 6-8 depending on how they are intended to be placed in relation to the body of a user. Thus, the transition between the different portions 6-8 does not take place at fixed transverse lines, but rather within transitional areas situated at a distance of approximately one third of the length of the absorbent article from the front edge 11 and the rear edge 12 of the absorbent article, respectively. But, when using longer products the ratio between the central portion and the front portion may be two to five, which may be true also for the ratio between the central portion and the rear portion. In this manner, the central portion 8 constitutes the part of the absorbent article which, in use, is intended to receive and absorb the major part of the liquid which during use is emitted to the absorbent article.

The two cover layers 2, 3 are mutually connected outside the absorbent body 4 and form a protruding edge 5 around the entire periphery of the absorbent article. The joining of the cover layers may take place in any suitable way, such as by means of gluing, sewing, or welding either with heat or ultrasonically.

The absorbent article 1 according to the invention is designed with a front portion 6 which is wider than the central portion 8, and with a central portion 8 which is narrower than both the front portion and the rear portion. In order to obtain an absorbent article that has a good fit and that feels comfortable for the user, it is essential that the napkin has a shape which to a very high degree is adapted to the anatomy of the user. Thus, it is of particularly great importance that the width of the front absorbent layer 17, at least in the front part of the central portion 8, does not exceed approx. 40 mm. One reason why the front portion 6 is wider than the central portion 8 is that the wider front portion 6 together with the narrower central portion 8 forms around the body of the user, and somewhat "hooks" the absorbent article against the legs of the user, thus makes the absorbent article able to stay in place against the body of the user. The wider front portion 6 is preferably in a somewhat oval shape. One reason for this is that the oval shaped front portion 6, when in use, is bent inwardly forming a cup-shaped bowl, i.e. the upwards bending of the front portion 6, in relation to the central portion 8, does not occur along a

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sharp folding line, but instead the curvature is continuous in the longitudinal direction of the absorbent article. In this manner, the front portion 6 forms a softly rounded bowl, which conforms very well to the anatomy of the user. Furthermore, the oval shape of the front portion 6 also gives a large absorption area/volume for the absorption body 4.

Furthermore, the absorbent article 1 exhibits two longitudinal side edges 9, 10, a transverse concavely-curved front edge 11 and a transverse convexly-curved rear edge 12. The absorbent article is designed in such a way that, in the front portion of the central portion 8, there is a first cross-sectional line 24, extending in the transversal direction of the absorbent article, which intersects the side edges 9, 10 of the absorbent article. At the first cross-sectional line 24, the side edges 9, 10 change inclination in relation to the longitudinal centre line 23, whereby the width of the absorbent article increases in a direction towards the front edge 11, whereby the front portion 6 exhibits a maximum width, which exceeds the width of the central portion 8 at the first cross-sectional line 24. The maximum width of the front portion 6 is suitably at least twice the width of the central portion 8 at the first cross-sectional line 24. The inclination of the side edges 9, 10 at the front portion 6 is defined by an angle β between each respective side edge 9, 10 and a longitudinal line parallel to the centre line 23, whereby β is between 30° and 90° and whereby the width of the central portion 8 of the first absorbent layer 17 at the first cross-sectional line 24, is between 15 and 45 mm and preferably between 20 and 40 mm. All data mentioned above is mentioned as being valid for the whole absorbent article, but that is only true if the contour of the absorbent article closely follows the contour of the first absorbent layer 17.

The absorbent article according to the invention has a longitudinal hump 26, with two longitudinal extending sides, which is created in the central portion 8 of the article, by using a formation element 27, with two longitudinally extending sides, placed under the absorbent body 4, together with two elastic members 19. The two elastic members 19 run jointly through the rear portion 7, and are split into two separate elastic members 19 before the formation element 27 and placed on either side of the formation element 27, after which formation element 27 the two elastic members 19 are joined together in at least one point. Advantageously the elastic members 19 may be crossed both before and after the formation element 27. The formation element 27 is formed in such way that the two elastic members 19 stress the formation element 27 with lateral forces, thereby curving the formation element 27 convexly upward, which elevates the above lying layers, i.e. the absorbent body 4 and the liquid-imperious cover layer 2 into the shape of the longitudinal hump 26 in the central portion 8 of the article. Thus, the two elastic members 19 complement the pre-formed formation element 27 in shaping the longitudinal hump 26. The two elastic members 19 are preferably pre-stressed before attached to the absorbent article, preferably fastened to the liquid-imperious cover layer 3 in close contact with either side of the formation element 27. The elastic members may be placed in, or between, or/and against any one of the layers that build the absorbent article, dependent on desired features of the absorbent article, but from a fastening and manufacturing point of view, they are advantageously fastened on the liquid-imperious layer. Advantageously, the longitudinal hump 26 has an oval shape in a direction from the front portion 6 to the rear portion 7, as seen from the above (FIG. 1), and a form that may be described as a soft cornered parallelepiped, as seen from the side (FIG. 2), and a soft cornered triangle, as seen from the rear (FIG. 3). Thus,

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the longitudinal hump 26 narrows towards the rear portion 7 of the absorbent article.

The formation of the longitudinal hump in the central portion enhances the contact between the genital area of the user and the absorbent article, thereby reducing the risk of leakage outside the napkin. The elastic members support the formation of the longitudinal hump also during use, thereby reducing the risk of a wrongly deformed sanitary napkin in the central portion, thereby forming an absorbent article that has the right form in the wetting area.

Dependent on desired features of the hump, the shape of the formation element may be in another shape as the one described above, for instance oval or rectangular as seen from either the rear or from the side.

Wadding, foam, cross-linked cellulose fibres, or a mixture of the mentioned fibres may advantageously primarily constitute the formation element 27, which preferably have the ability of springing back in both dry and wet conditions. Examples of other useful materials are fluff pulp, unbound fibre, or formed materials in layers that are rolled so as to form the formation element 27.

Further characteristics of the formation element 27 are that it may be of a resilient material, an absorbent material or a non-absorbent material. The formation element may also have a longitudinally bending indication line along the centre line, in order to more easily get the desired shape of a soft cornered triangle, as seen from the rear (FIG. 3).

The width of the hump is less than the width of the absorbent body (4), and the length of the hump is 20-120 mm, and the height of the hump is maximum 30 mm, preferably 5-20 mm.

The absorbent body 4 may advantageously comprise different layers of different types of absorbent material. FIG. 1 shows an absorbent body 4 comprising two different layers of absorbent material, a first absorbent layer 17 and a second absorbent layer 18. The first absorbent layer 17 is arranged between the liquid-imperious cover layer 3 and the second absorbent layer 18, and the second absorbent layer 18 is arranged between the first absorbent layer 17 and the liquid-imperious cover layer 2. Advantageously, the second absorbent layer 18 is a fast material that transports fluids well, and the first absorbent layer 17 has a good capacity for storing fluids.

According to the described embodiment of the invention the first absorbent layer 17 is more rigid than the second absorbent layer 18. But, the material of the first absorbent layer 17 need not be more rigid than the second absorbent layer 18 per se, i.e. the first absorbent layer 17 may be manufactured in such way that it becomes more rigid than the second absorbent layer 18, for instance by glue lamination of several layers of the same or different material or another suitable choice of manufacturing. The first absorbent layer 17 serves as a formation portion, whereby the area of the first absorbent layer 17 that lies substantially within the area of the rear portion 7 is split into a first leg 15 and a second leg 16 from a point in the vicinity of a second cross-sectional line 25. Said second cross-sectional line 25 extends in the transversal direction of the absorbent article, intersecting the side edges 9, 10 of the absorbent article. The legs 15, 16 form an angle α in the point where the legs are split. The angle α between the legs 15, 16 is between 10° - 120° preferably 15° - 40° , and the length of the legs are between 20-350 mm, preferably 50-150 mm. The second cross-sectional line 25 is placed in the imaginary area where the rear portion 7 meets the central portion 8.

The elastic members 19 are placed between the first leg 15 and the second leg 16, as continuous threads or a band

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running mainly along the centre line 23, from a point in the vicinity of where the centre line 23 meets the protruding edge 5 on the rear edge 12 to a point beyond the point where the absorbent body (4) is split into the two legs 15, 16, and before the point where the longitudinal hump starts. The elastic members 19 are advantageously fastened to the liquid-impervious cover layer 3, either entirely or partially. The two legs 15, 16 consist of the more rigid first absorbent layer 17 and is covered with the second absorbent layer 18. The part where the elastic members 19 run in the rear portion 7 consists of the less rigid second absorbent layer 18. Both the absorbent layers 17, 18 are enclosed by the liquid-impervious cover layer 2 and the liquid-impervious cover layer 3.

If the article lacks a protruding edge 5, the elastic members 19 are placed between the first leg 15 and the second leg 16, as continuous threads or a band that runs mainly along the centre line 23, from a point in the vicinity of where the centre line 23 meets the rear edge 12, to a point beyond the point where the absorbent body (4) is split into the two legs 15, 16.

The elastic members 19 bend the rear portion 7 in a somewhat parabolic shape, which further improves the anatomical fit against the user's body. When the elastic members 19 bend the rear portion 7, the second absorbent layer 18 and the liquid-impervious cover layer 2 will be somewhat deformed in such way so as to give rise to the forming of a ridge-like elevation 20 between the first leg 15 and the second leg 16. Since the second absorbent layer 18 is less rigid than the first absorbent layer 17, the rigid legs 15, 16 will be drawn together and will not deform significantly in the lateral direction, which enhances the deformation of the less rigid second absorbent layer 18 and the liquid-impervious cover layer 2, thereby giving rise to a well-defined high and relatively narrow ridge-like elevation 20 in the rear portion 7 of the absorbent article 1. The lack of lateral deformation of the legs 15, 16 also gives rise to a unique shape of the ridge-like elevation 20, where the ridge-like elevation 20 starts from the inside edges of the relatively flat legs 15, 16, seen from the cross sectional backside view in FIG. 4. The ridge-like elevation 20 rises from the inside edges of the legs 15, 16 in a steep upward inclination towards the centre line 23. The ridge-like elevation together with the relatively flat legs 15, 16 may be described as being somewhat in the shape of a cross section of a "Wizard's hat" with a cone shaped top standing on a flat brim, which clearly can be seen in FIG. 4. Since the legs 15, 16 are relatively flat in the lateral direction, the ridge-like elevation 20 becomes narrow and high. The ridge-like elevation 20 will therefore fit snugly in the cleft between the buttocks of the user and will effectively stop and absorb any body fluids that flows between the buttocks, especially advantageous for a user lying down on her back. The relatively flat legs 15, 16 of the absorbent article 20 will serve as a stop against the buttocks of the user, thereby preventing that more of the absorbent article 1 deforms and slides in between the buttocks of the user. The shape of the ridge-like elevation 20 in the rear portion 7 has a steep inclination towards the centre line 23 of the article 1, as seen from a long side of the article. The inclination towards the centre line 23 improves the anatomical fit against the user's body for an article with a ridge-like elevation, which extends across the rear portion thereof.

As is clear from the description above and FIGS. 1-4, the ridge-like elevation 20 transitions into the narrow part of the longitudinal hump 24, thereby combining all the advantages with the longitudinal hump 24 and the ridge-like elevation 20 respectively mentioned above.

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One important feature of the described embodiment of the invention is that the area between the legs 15, 16 of the absorbent article 1 is less rigid than the areas surrounding that area, i.e. the legs 15, 16. The absorbent article 1 may be manufactured in a number of different ways dependent on the use and/or user demands. To change the features of the sanitary napkin it is possible to work with a number of parameters, for instance the tension of the elastic members 19, where and how the elastic members 19 are fastened, the angle α between the legs 15, 16 and the relative difference in stiffness between the area situated between the legs and the area surrounding that area. All the mentioned parameters give rise to a number of ridge-like elevations according to the present invention, but in different heights, lengths, widths, inclinations and angles, all dependent on the wanted features. However, independent of how the parameters are changed, the shape of the absorbent core together with the elastic members 19 and the relative difference in stiffness between the area between the legs 15, 16 and the areas surrounding that area, give rise to the narrow ridge-like elevation 20 in the unique shape of a "Wizard's hat" according to the embodiment, as shown in FIG. 4. It is more important that the ridge-like elevation is narrow than that it is high, due to the fact that the most important area to fit the ridge-like elevation into, is the area between the buttocks of a user, in close vicinity to the vaginal area of the user.

The ridge like elevation may be described as having a top portion constituting an upper part of the ridge like elevation and that the width of the ridge-like elevation 20 is 0.1-20 mm, preferably 1-6 mm, at the top portion of the ridge-like elevation (20), and that the length of the ridge-like elevation is at least 10 mm. The width of the ridge-like elevation 20 at the top portion corresponds to the dimension of the elastic members and the dimension of the absorbent layer that covers the elastic member, i.e. the second absorbent layer in the described embodiment.

The material of the liquid-impervious cover layer 2 may, for instance, be a perforated plastic film, a plastic scrim or a textile material, a fibrous wadding, a nonwoven material or a laminate of, for instance, a perforated plastic film and a nonwoven sheet. The laminate may be made of any materials suitable for the chosen purpose. The plastic material is typically thermoplastic, such as polyethylene or polypropylene. The expression "nonwoven material" refers to a nonwoven fibrous web. Suitable nonwoven materials may consist of natural fibres, such as cellulose or cotton, or synthetic fibres such as polyethylene, polypropylene, polyester, polyurethane, nylon or regenerated cellulose. Naturally, it is also possible to use nonwoven materials made from fibre blends.

The liquid-impervious cover layer 2 is intended to receive and conduct the liquid into the absorbent body 4. Furthermore, the cover layer 2 should be soft and pleasant against the body of the user, as well as being able to prevent so-called rewetting, i.e. that absorbed body exudate forces its way back towards the skin of the user. For reasons of comfort, and in order to avoid skin irritation, it is important that the surface on the portion of the absorbent article which contacts the skin of the user be maintained as dry as possible during use. Furthermore, a dry surface on the absorbent article is perceived by the user as being cooler and more pleasant during use, and is both from a purely visual aspect, and when handling the absorbent article when this is to be changed, more attractive than a soiled, wet surface. But, in order to avoid irritation of the mucous membranes in the genital parts, the parts of the absorbent article that are in contact with the mucous membranes preferably may be

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somewhat moist, for instance parts of the ridge-like elevation 28. The parts of the absorbent article that are in contact with the mucous membranes may be constituted of a hydrophilic material, either partly or entirely.

It is not necessary for all embodiments of the invention that the liquid-perVIOUS cover layer 2 does in fact constitute a separate material layer. The liquid-perVIOUS cover layer may, for instance, constitute an integral part of an absorbent body. Thus, it is conceivable that the liquid-perVIOUS cover layer be omitted should the absorbent body comprise an absorbent foam layer or another absorbent material being sufficiently coherent not to disintegrate during use. Furthermore, an absorbent nonwoven material may be utilized, which may be a component of an absorbent body and at the same time constitute a liquid-perVIOUS cover layer.

The liquid-imperVIOUS cover layer 3 consists of a liquid-imperVIOUS material. Thin, liquid-imperVIOUS plastic films are suitable for the purpose. It is, however, also possible to use materials which are originally liquid-perVIOUS but which have been provided with a coating of plastic, resin, or other liquid-imperVIOUS material. In this manner, leakage of liquid from the bottom side of the absorbent article is prevented. The liquid-imperVIOUS cover layer 3 may accordingly consist of any material which is skin-friendly and which fulfils the criteria of liquid-imperVIOUSability. Examples of materials, which are suitable as barrier layers, are plastic films, nonwoven materials and different types of laminates. Useful plastic films are, for instance, those that consist of polyethylene, polypropylene, or polyester. Alternatively, the liquid-imperVIOUS cover layer 3 may consist of a laminate of a liquid-imperVIOUS plastic layer facing the absorbent body and a nonwoven sheet facing the underclothing of the user. Such a construction provides a leakage-proof barrier layer with a tactile feel.

As with the liquid-perVIOUS cover layer 2, it is not necessary that the liquid-imperVIOUS cover layer 3 is constituted by a separate layer. Accordingly, it is conceivable that the liquid-imperVIOUS cover layer 3 constitutes an integral part of an absorbent material, for instance an absorbent foam layer with a liquid-imperVIOUS surface.

The absorbent body 4 may advantageously be primarily constituted by cellulose fluff pulp. The fluff may be present in the form of rods, holes or sheets which are dry shredded or wet formed and transformed in a fluffed state into a pulp mat, with or without the admixture of so-called super-absorbents, which are polymers with an ability to absorb several times their own weight of water or body exudate. Examples of other useful materials are different types of natural fibres such as cotton fibres, peat, or the like. It is, of course, also possible to utilize absorbent synthetic fibres, or blends of natural fibres and synthetic fibres. The absorption material may furthermore include further components, such as liquid-distributing members or blockers such as e.g. thermoplastic fibres which have been heat-treated in order to bind short fibres and particles into a coherent unit. It is also possible to utilize different types of absorbent foam materials in the absorbent body 4.

FIG. 4 shows the legs 15, 16, consisting of the first absorbent layer 17, as lying under the second absorbent layer 18, each leg forming a protruding part towards the liquid-imperVIOUS cover layer 3, with a relatively flat lateral liquid-perVIOUS cover layer 2 surface in the area. This is due to the manufacturing process, which was used to produce the article. Another choice of manufacturing process could give rise to protruding parts, formed by the legs 15, 16, and the second absorbent layer 18, towards the liquid-perVIOUS

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cover layer 2, with a relatively flat lateral liquid-imperVIOUS cover layer 3 surface in the area, i.e. the opposite of what is shown in FIG. 4, regarding the areas that include the legs.

Regarding the materials in the absorbent article, an example is drawn from the testing of the present invention and will be prescribed in the following text. The material in the first absorbent layer 17 expediently consists of a single layer of High Density Air Laid (HDA) from domestic manufacturing with a stiffness of approx. 3.4 Newton. The second absorbent layer 18 expediently consists of a single layer of 100 g Low Density Air Laid (LDA) with a stiffness of approx. 1.15 Newton. The stiffness is measured according to the CIRCULAR BEND PROCEDURE which is described in HP-A-0 336 578, which publication is hereby included as a reference. This described method is a modification of ASTM D 4032-82 and involves simultaneous deformation of a material in several directions, one of the surfaces of the specimen becoming concave and the opposite surface becoming convex. The method thus gives a force value which is a measure of the flexural resistance, or the average stiffness in all directions. In this exemplified embodiment, the relative difference in stiffness between the second absorbent layer 18 and the first absorbent layer 17 gives a ratio of 1.15/3.4, which is the same as approx. 21%. This shall only be seen as an illustration, and shall not be seen as limiting for the invention. A change in the materials will of course give other results, which may advantageously be used in some cases, for instance the fact that the second absorbent layer 18 covers the first absorbent layer 17 also in the rear portion, enhances the difference in relative stiffness between the area between the legs 15, 16 and the area that constitute the legs 15, 16.

The elastic members 19 is pre-stressed before it is attached to the absorbent article 1, with a force between 0.05-0.4 Newton, preferably between 0.1-0.3 Newton.

A second embodiment of the invention is shown in FIG. 5, where the elastic members 19 are placed only in the central portion 8 on either side of the formation element 27 in order to achieve the same function as described above regarding the forming of the hump 26. The elastic members 19 may, both in front of and behind the formation element 27, run jointly a small distance in the longitudinal direction, and may advantageously be connected both in front of and behind the formation element 27. In the second embodiment the sanitary napkin has an oval shape and lacks the above-described legs 15, 16. FIGS. 2 and 3 are still valid for exemplifying the central portion in the second embodiment. In this embodiment as well as for absorbent articles of different shapes than the first described embodiment, the width of the first absorbent layer 17 in the front part of the central portion 8 may exceed approx. 40 mm.

In yet a further embodiment of the invention (not shown) the elastic members 19 may be substituted by a continuous elastic thread or band running through the entire absorbent article 1 in order to bend also the front portion and the central portion in a parabolic shape, which enhances the fit against the body of the user as well as enhancing the "hooking" of the front portion 6 against the legs of the user, which enhances the ability of the absorbent article to stay in place during use. The elastic thread or band is split in the same way as the elastic members 19, in order to achieve the same function as described above regarding the forming of the hump.

Depending on how the elastic members 19, or its substitute, are fastened in the absorbent article 1 and stretched in different parts of the absorbent article 1, the

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elastic members 19 may deform different parts of the central portion and thereby, for instance, create an extension of the ridge-like elevation 26 in the rear portion 7, into the central portion. This is in order to further improve the anatomical fit against the user's body for an article with a ridge-like elevation, which extends across both part of the central portion of the article and across the rear portion thereof. The ridge-like elevation in the end portion preferably has a steeper inclination towards the centre line of the article than does the ridge-like elevation in the central portion, when seen from a long side of the article. To enhance the ridge-like elevation in the central portion, the absorbent core 4 may be all or either entirely or partially.

The invention should not be regarded as being limited to the herein-described embodiments. Indeed a number of further variants and modifications are conceivable within the scope of the claims. For instance, the invention comprises all types of absorbent articles, which are sized to be substantially accommodated in the groin area of a user. Furthermore, all conceivable combinations of the described embodiments are intended to be embraced by the invention.

The elastic members may comprise more than one elastic element, which together fulfil the same purpose as the two single elastic members described in the embodiments above.

The absorbent article may also include an elastic member that runs in the longitudinal direction through the entire article and that is split in at least two half circle shaped parts in the front portion, which split half circle shaped elastic parts give the article a cup-shaped part at the front portion of the absorbent article, a longitudinal hump in the central portion and a ridge-like elevation in at least the rear portion.

The elastic member may also be arranged in a loop in the front portion, which may or may not be pre-cup-shaped, and the arrangement of the elastic member in a loop contributes to give the front portion its cup shape.

The absorbent article may also include side elastics that run in the longitudinal direction, either partially or through the entire article.

Furthermore, all conceivable types of blends and combinations of material layers may be used.

The absorbent may be equipped with fastening means on both the liquid-imperious layer and the wings.

The absorbent article need not have a protruding edge nor does it need to have wings. The invention may thus be used on a number of different forms, for instance an oval shape or rectangular shape.

What is claimed is:

1. Absorbent article which has a substantially elongated shape with a longitudinal direction and a transverse direction and exhibits two side edges (9, 10), a front edge (11) and a rear edge (12), a front portion (6) and a rear portion (7), and a central portion (8) situated between the front portion (6) and the rear portion (7), which article furthermore comprises a liquid-pervious cover layer (2) and a liquid-imperious cover layer (3) and an absorbent body (4), and a hump (26) extending in the longitudinal direction and having two longitudinally extending sides, which article furthermore comprises elastic members (19), characterized in that the hump (26) comprises a formation element (27) extending in the longitudinal direction and having two longitudinally extending sides, and that the elastic members (19) are arranged along either longitudinally extending side of the

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formation element (27) wherein the formation element (27) and the elastic members (19) cooperate in shaping the hump (26).

2. Absorbent article according to claim 1, characterized in that the formation element (27) is placed between the liquid-imperious cover layer (3) and the absorbent body (4).

3. Absorbent article according to claim 2, characterized in that the elastic members (19) that run on either side of the formation element (27), exert a lateral force on the formation element (27), thereby curving the formation element (27) convexly upward, which elevates the above lying layers (2, 4) into the shape of the longitudinal hump (26) in the central portion (8) of the article.

4. Absorbent article according to claim 1, characterized in that the rear portion (7) of the absorbent body (4) comprises a layer (17) that is split in a first leg (15) and a second leg (16) with a gap between the legs (15, 16) where an angle α is defined between the first leg (15) and the second leg (16), and that the elastic member (19) also is placed between the first leg (15) and the second leg (16), which elastic member (19) essentially extends in the longitudinal direction.

5. Absorbent article according to claim 4, characterized in that the elastic members (19) that run also in the rear portion (7) bend the rear portion (7) in a parabolic shape, deforming parts of the absorbent article that lie between the first leg (15) and (16), thereby forming a ridge (28) between the first leg (15) and the second leg (16).

6. Absorbent article according to claim 5, characterized in that the elastic members (19) run jointly along a centre line (23) of the absorbent article, from a point in the vicinity of where the centre line (23) meets the rear edge (12), to a point in the vicinity of the formation element (27).

7. Absorbent article according to claim 5, characterized in that the elastic members (19) run along the centre line (23), through the entire absorbent article, except for the part where the elastic members (19) are split and are arranged along either longitudinally extending side of the formation element (27).

8. Absorbent article according to claim 7, characterized in that the elastic members (19) are split into at least two elastic parts in the front portion (6).

9. Absorbent article according to claim 4, characterized in that the elastic members (19) are placed in or between any of the layers that build the absorbent article 1.

10. Absorbent article according to claim 4, characterized in that the angle α is between 10°-120°.

11. Absorbent article according to claim 4, characterized in that the length of the legs (15, 16) is 20-350 mm.

12. Absorbent article according to claim 4, characterized in that the length of the ridge is at least 10 mm.

13. Absorbent article according to claim 4, characterized in that the ridge has a top portion constituting an upper part of the ridge that the width of the ridge (28) is 0.1-20 mm at the top portion of the ridge (28).

14. Absorbent article according to claim 1, characterized in that the width of the hump is less than the width of the absorbent body (4).

15. Absorbent article according to claim 1, characterized in that the length of the hump is 20-120 mm.

16. Absorbent article according to claim 1, characterized in that the height of the hump is at most 30 mm.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

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***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	55272339	29/01/2007	54,580,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-03	CAMBIO DE MODALIDAD Y MODIFICA	
		12 MARCAS Y LEHAS COMERCIALES	99,000.00
		TOTAL :	\$ 99,000.00

MON: NOVENTA Y NUEVE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

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

**Radicación No. 03-49608
Clasificación Internacional (IPC) A61F 13/15
Concepto Técnico No. 379
N . de Folios 08**

Como resultado del examen definitivo, realizado con fundamento en el artículo 48 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

- Para el presente estudio se tuvo en cuenta el capítulo descriptivo presentado inicialmente y comprendido en los folios 43 a 81, los dibujos de la invención que forman parte de los estudiados originalmente y que se encuentran en los folios 26 a 28 y el nuevo capítulo reivindicatorio estudiado que contiene dieciséis (16) reivindicaciones y se encuentra contenido en los folios 129 a 132.

El nuevo capítulo reivindicatorio citado fue anexado como respuesta al requerimiento de fondo y fue aceptado puesto que no implica una ampliación de la materia presentada originalmente, tal como lo establece el artículo 34 de la Decisión 486 de la Comisión de la Comunidad Andina: **"artículo 34. – El solicitante de una patente podrá pedir que se modifique la solicitud en cualquier momento del trámite. La modificación no podrá implicar una ampliación de la protección que correspondería a la divulgación contenida en la solicitud inicial. Del mismo modo, se podrá pedir la corrección de cualquier error material"**.

- Se considerará la prioridad reivindicada sobre la solicitud de Suecia No. 0004640-9 del 15 de diciembre de 2000.

2. Objeto de la Invención

- La presente solicitud se titula **"UN ARTICULO ABSORBENTE TAL COM UNA TOALLA SANITARIA, UN PAÑAL, UNA GUARDA DE INCONTINENCIA, O UNA CUBIERTA INTERIOR DE PANTALONCITO"**.
- La invención propuesta se relaciona con un artículo absorbente desechable con una forma particular.

En la reivindicación Independiente 1 se define un artículo absorbente que tiene una forma sustancialmente alargada con una dirección longitudinal y una dirección transversal y exhibe dos bordes laterales (9, 10), un borde delantero (11) y un borde trasero (12), una porción delantera (6) y una porción trasera (7), y una porción central (8) situada entre la porción delantera (6) y la porción trasera (7), dicho artículo comprende adicionalmente de una capa de cubierta permeable a los líquidos (2) y una capa de cubierta impermeable a los líquidos (3) y un cuerpo absorbente (4) y una protuberancia (26) que se extiende en la dirección longitudinal y que tiene dos lados que se extienden longitudinalmente, dicho artículo comprende adicionalmente miembros elásticos (19), caracterizado en que la protuberancia (26) comprende un elemento de formación (27) que se extiende en la dirección longitudinal y tiene dos lados que se extienden longitudinalmente y que los miembros elásticos (19) están dispuestos a lo largo tanto del lado que se extiende longitudinalmente del elemento de formación (27) en donde el elemento de formación (27) y los miembros elásticos (19) cooperan en formar la protuberancia (26) .

- Se afirma que un problema con los artículos planos o en forma de copa es que ellos no se adaptan a la anatomía del usuario particularmente bien, sino simplemente tienen una apariencia general con forma de copa. Un artículo conformado de esta manera no suministra buen ajuste contra el cuerpo. Además, se puede presentar fácilmente un espacio entre el cuerpo del usuario y los calzoncitos del usuario en razón a que la mayoría de las mujeres durante la menstruación portan calzoncitos que son de pobre calidad en el exterior o son de pobre calidad por que ellos son viejos y gastados. A menos que cualquiera del artículo absorbente o los calzoncitos sean capaces de mantener un buen contacto con el cuerpo del usuario, existe gran riesgo de que el fluido de menstruación chorree pasando tanto el artículo absorbente como los calzoncitos.

Se mencionan diversas alternativas para resolver el problema pero se afirma que mientras tales alternativas conocidas suministren una relativamente buena protección contra chorreadura y relativamente buen ajuste, subsiste la necesidad de un artículo absorbente que incremente adicionalmente la comodidad siendo pequeño y flexible y también reduzca adicionalmente el riesgo de chorreadura de los fluidos del cuerpo al mejorar el contacto entre el artículo y el cuerpo del usuario especialmente en el área genital, es decir un artículo una forma anatómicamente correcta en el área de humectación, y que el artículo aún sea fácil y barato de elaborar.

- El objeto de la invención definido se catalogó como A61F 13/15, según la Clasificación Internacional de Patentes (IPC⁷).

3. Claridad de la solicitud

El artículo 28 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "La descripción deberá divulgar la invención de manera suficientemente clara y completa para su comprensión y para que una persona capacitada en la materia técnica correspondiente pueda ejecutarla. La descripción de la invención indicará el nombre de la invención e incluirá la siguiente información:

- a) El sector tecnológico al que se refiere o al cual se aplica la invención;
 - b) La tecnología anterior conocida por el solicitante que fuese útil para la comprensión y el examen de la invención, y las referencias a los documentos y publicaciones anteriores relativas a dicha tecnología;
 - c) Una descripción de la invención en términos que permitan la comprensión del problema técnico y de la solución aportada por la invención, exponiendo las diferencias y eventuales ventajas con respecto a la tecnología anterior;
 - d) Una reseña sobre los dibujos, cuando los hubiera;
 - e) Una descripción de la mejor manera conocida por el solicitante para ejecutar o llevar a la práctica la invención, utilizando ejemplos y referencias a los dibujos, de ser éstos pertinentes; y,
 - f) Una indicación de la manera en que la invención satisface la condición de ser susceptible de aplicación industrial, si ello no fuese evidente de la descripción o de la naturaleza de la invención"
- Se considera que la descripción divulga la invención de manera clara y completa tal como lo establece el artículo 28 de la Decisión 486 de la Comisión de la Comunidad Andina.

El artículo 30 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "Las reivindicaciones definirán la materia que se desea proteger mediante la patente. Deben ser claras y concisas y estar enteramente sustentadas por la descripción.

Las reivindicaciones podrán ser independientes o dependientes. Una reivindicación será independiente cuando defina la materia que se desea proteger sin referencia a otra reivindicación anterior. Una reivindicación será dependiente cuando defina la materia que se desea proteger refiriéndose a una reivindicación anterior. Una reivindicación que se refiera a dos o más reivindicaciones anteriores se considerará una reivindicación dependiente múltiple".

- Teniendo en cuenta las modificaciones realizadas al capítulo reivindicatorio que responden a las observaciones realizadas en el numeral 3 del concepto técnico No. 1742, se considera que las reivindicaciones son claras, concisas y están enteramente sustentadas por la descripción, de acuerdo con el artículo 28 de la Decisión 486 de la Comisión de la Comunidad Andina.

4. Evaluación de la unidad de invención

El artículo 25 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "La solicitud de patente sólo podrá comprender una invención o un grupo de invenciones relacionadas entre sí, de manera que conformen un único concepto inventivo."

- Teniendo en cuenta que el objeto de la solicitud en estudio se refiere a un artículo absorbente, tal como se define en el numeral 2 de esta comunicación, se establece que dicho objeto cumple con el artículo 25 de la Decisión 486 de la Comisión de la Comunidad Andina, y por consiguiente, tiene unidad de invención.

5. Es una invención

El artículo 15 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "No se consideran invenciones:

- a) Los descubrimientos, las teorías científicas y los métodos matemáticos;
 - b) El todo o parte de seres vivos tal como se encuentran en la naturaleza, los procesos biológicos naturales, el material biológico existente en la naturaleza o aquel que pueda ser aislado, inclusive genoma o germoplasma de cualquier ser vivo natural;
 - c) Las obras literarias y artísticas o cualquier otra protegida por el derecho de autor;
 - d) Los planes, reglas y métodos para el ejercicio de actividades intelectuales, juegos o actividades económico-comerciales;
 - e) Los programas de ordenadores o el soporte lógico, como tales; y,
 - f) Las formas de presentar información."
- Teniendo en cuenta que el objeto de la solicitud en estudio es el definido en el numeral 2 de esta comunicación, se establece que dicho objeto no se encuentra dentro del alcance de las excepciones señaladas en el artículo 15 de la Decisión 486 de la Comisión de la Comunidad Andina, y por consiguiente, la materia reclamada en esta solicitud puede considerarse una invención.

6. Excepciones a la Patentabilidad

El artículo 20 de la Decisión 486 se establece: "No serán patentables:

- a) Las invenciones cuya explotación comercial en el territorio del País Miembro respectivo deba impedirse necesariamente para proteger el orden público o la moral. A estos efectos la explotación comercial de una invención no se considerará contraria al orden público o a la moral solo debido a la existencia de una disposición legal o administrativa que prohíba o que regule dicha explotación;
- b) Las invenciones cuya explotación comercial en el País Miembro respectivo deba impedirse necesariamente para proteger la salud o la vida de las personas o de los animales, o para preservar los vegetales o el medio ambiente. A estos efectos la explotación comercial de una invención no se considerará contraria a la salud o la vida de las personas, de los animales, o para la preservación de los vegetales o del medio ambiente sólo por razón de existir una disposición legal o administrativa que prohíba o que regule dicha explotación;
- c) Las plantas, los animales y los procedimientos esencialmente biológicos para la producción de plantas o animales que no sean procedimientos no biológicos o microbiológicos;
- d) Los métodos terapéuticos o quirúrgicos para el tratamiento humano o animal, así como los métodos de diagnóstico aplicados a los seres humanos o a animales."
- Teniendo en cuenta que el objeto de la solicitud en estudio es la invención definida en el numeral 2 de esta comunicación, se establece que dicho objeto no se encuentra dentro del alcance de las excepciones de patentabilidad señaladas en el artículo 20 de la Decisión 486 de la Comisión de la Comunidad Andina, y por consiguiente, la invención reclamada en esta solicitud puede considerarse patentable.

7. Determinación del estado de la técnica

El artículo 16 de la Decisión 486 de la Comisión establece: "El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida.

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

- Se consultaron las principales bases de datos a las cuales tiene acceso la Oficina y se consideró el 15 de diciembre de 2000 como fecha para investigar el estado de la técnica.

8. Evaluación de los requisitos de patentabilidad

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial."

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

Evaluación de la Novedad:

El artículo 16 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "Una invención se considerará nueva cuando no está comprendida en el estado de la técnica." "El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida.

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

- Teniendo en cuenta el objeto de la invención definido en el numeral 2 se realizó la búsqueda de anterioridades pero no se encontraron documentos que formaran parte del estado de la técnica previo a la fecha de prioridad y evidenciaran la existencia de un artículo absorbente que presentara una protuberancia lograda por la acción conjunta de un elemento de formación y de miembros elásticos según la propuesta. Por consiguiente, se establece que no fueron encontradas pruebas que afecten el requisito de Novedad de la invención.
- En conclusión, se considera que la invención cumple con el requisito de Novedad definido en el artículo 16 de la Decisión 486.

Evaluación del Nivel Inventivo:

El artículo 18 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "Se considerará que una invención tiene nivel inventivo, si para una persona del oficio normalmente versada en la materia técnica correspondiente, esa invención no hubiese resultado obvia ni se hubiese derivado de manera evidente del estado de la técnica."

- Con base en el objeto de la invención definido en el numeral 2, se establece que aún cuando en el estado de la técnica se encuentran reportes de la existencia de artículos absorbentes desechables con protuberancias rígidas y artículos absorbentes desechables con miembros elásticos dentro de las estructuras absorbentes, no era posible que con dichos conocimientos se lograra derivar un artículo absorbente desechable que incluyera tanto miembros elásticos como elementos de formación no rígidos dentro de la estructura absorbente, de tal modo que permitiera obtener un artículo absorbente con una protuberancia formada por la tensión de los miembros

elásticos pero que fuera hasta tal punto que no se deformara el cuerpo absorbente debido a la incorporación de elementos de fijación que al flexibilizarse dan conformación al cuerpo de la usuaria.

- Debido al estudio realizado, se establece que no hubiese sido posible para un técnico de nivel medio versado en la materia obtener el artículo absorbente con todas las características de la solicitud y que tampoco se hubiese logrado derivar de manera evidente del estado de la técnica, lo cual permite concluir que el objeto de la solicitud se caracteriza por tener nivel inventivo, como se requiere de acuerdo con el artículo 18 de la Decisión 486 de la Comisión de la Comunidad Andina.

Evaluación de la Aplicación Industrial:

El artículo 19 de la Decisión 486 de la Comisión de la Comunidad Andina establece: "Se considerará que una invención es susceptible de aplicación industrial, cuando su objeto puede ser producido o utilizado en cualquier tipo de industria, entendiéndose por industria, la referida a cualquier actividad productiva, incluidos los servicios.

- Partiendo del hecho de que el objeto de la invención es el que se define en el numeral 2 y que la descripción estudiada es suficiente, se considera que dicho objeto puede ser producido en forma Industrial y por ende se afirma que dicha invención es susceptible de aplicación industrial según el artículo 19 de la Decisión 486.

9. Conclusiones

Por lo expuesto anteriormente, se recomienda **Conceder** el objeto reclamado en las reivindicaciones 1 a 16 de los folios 129 a 132 de la solicitud en estudio, toda vez que cumple con los requisitos de novedad, nivel inventivo y aplicación industrial establecidos por el artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina.

EXAMINADOR TECNICO Código No. 202042	JEFE DE DIVISION NUEVAS CREACIONES	FECHA 2007-03-05
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