

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO	
RAD: 14-156307- -7	FECHA: 2016-06-27 10:12:56
DEP: 2020 DIRECCION DE NUEVAS CREACIONES	EVE: 379 FASE NACIONAL INCLUIDO CAPITULO II
TRA: 11 PCT-PATENTE DE INVENCION CAPITULOS I Y II	FOLIOS: 6
ACT: 519 TRASLADOINFORME	

DIRECCIÓN DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado(a)/Señor(a)
LUZ CLEMENCIA DE PÁEZ

Asunto: Radicación: 14-156307- -7
Trámite: 11
Evento: 379
Actuación: 519
Oficio: 8296
Folios: 6

Patente de Invención	X			Patente de Modelo de Utilidad	
Vía Nacional					
Vía PCT (Fase Nacional)	X	Capítulo I		Capítulo II	X
No. Solicitud Internacional	PCT/SE2011/051551				
Fecha de Presentación Internacional	21/12/2011				

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 comunica:

1. Documentos estudiados

Descripción:	Radicado N° 14-156307-00000-0000	18/Julio/2014
Reivindicaciones:	Radicado N° 14-156307-00000-0000	18/Julio/2014
	Radicado N° 14-156307-00006-0000	27/Enero/2016
Dibujos:	Radicado N° 14-156307-00000-0000	18/Julio/2014

2. Objeto de la invención

De acuerdo con lo establecido en el numeral 1.2.2.2 del capítulo primero del Título X de la Circular Única para efectos del examen de patentabilidad, se tendrá en cuenta la tasa pagada por la solicitante al momento de comenzar el examen para las reivindicaciones adicionales; esto es que cuando la solicitud contenga más de diez (10) reivindicaciones y no se haya pagado la tasa complementaria, sólo se estudiarán las cubiertas por la tasa pagada. En el presente caso, se estudiarán las reivindicaciones 1 a 10 del capítulo reivindicatorio (Radicado N° 14-156307-00006-0000).

Título de la solicitud: “Método para medir la absorción de fluido en un producto absorbente” (Ver página 1 del radicado N° 14-156307-00000-0000).

El problema planteado en esta solicitud consiste en la necesidad de proporcionar a un usuario compresas para incontinencia, las cuales se adapten a las necesidades individuales del usuario. Esto significa que la compresa para incontinencia la cual puede utilizarse debería tener la capacidad de absorción suficiente y adecuada con respecto al fluido. Los usuarios de productos para incontinencia algunas veces pueden tener dificultades al seleccionar el tipo correcto de producto en el mercado de productos para incontinencia, es decir seleccionar el producto que se adecúe mejor a las necesidades individuales del usuario. Esto se enfatiza por el hecho de que los usuarios de productos para incontinencia a menudo son personas de edad avanzada o discapacitados. Por esta razón, existe una necesidad para métodos y dispositivos para ayudar a tales usuarios a encontrar y utilizar el producto correcto adaptado para sus propias necesidades.

Para resolver este problema técnico, la solicitud en estudio proporciona un método y un dispositivo el cual puede utilizarse para ayudar al usuario de un producto absorbente con el fin de encontrar un producto adecuado el cual puede considerarse como basado en las necesidades individuales del usuario. En particular, proporcionar información clara y precisa con respecto a productos adecuados para su uso. Esto se logra por un método para medir la absorción de fluido en un producto absorbente, que comprende ciertas etapas las cuales se realizan por un dispositivo móvil que comprende un dispositivo de captura de imágenes.

El objeto de la presente solicitud se relaciona con la Clasificación Internacional de Patentes (CIP): A61F 13/15; G06T 7/00.

3. De la solicitud de patente

Reivindicaciones (Art 30 D 486, Art 22 PCT)

Las reivindicaciones 6 y 7 no son claras porque la frase: “...*pluralidad de imágenes...*”, y en general el término “...*pluralidad de...*” son imprecisos, se sugiere sustituirlos por términos precisos o rangos concretos.

La reivindicación 10 presenta el siguiente término: “...*medio de almacenamiento...*”, el cual es de carácter general, y por lo tanto, sugiere de forma imprecisa que la protección se extiende a otras posibles variaciones o modificaciones.

Las reivindicaciones 1 y 6 no están caracterizadas por sus características esenciales sino por resultados a alcanzar definidos por los términos: “(...) *para el producto (9) basado en información de imagen en la imagen capturada (...)*” (Reiv. 1), “(...) *que capturan diferentes partes del producto (...)*” (Reiv. 6), “(...) *que almacena programas de computadora ejecutables por el procesador (...)*”, “(...) *cuando se ejecuta por un procesador de un dispositivo móvil (...)* que provoca que el dispositivo móvil realice el método (...)” (Reiv. 10). Es así que estos términos no definen características estructurales esenciales, puesto que la reivindicación incluiría no sólo la solución propuesta por la solicitante, sino todas las alternativas presentes o futuras que lleguen a esos resultados. Se sugiere reemplazarlos por las características esenciales estructurales que contribuyen a la obtención de esos efectos.

Las reivindicaciones 1, 5 y 7 no son claras porque el término “*al menos*” (Reiv. 1, 5 a 7), es impreciso, por lo cual no permite distinguir la invención del estado de la técnica. Se sugiere sustituirlo por términos precisos o rango concreto, ya que solo se esta definiendo un límite inferior y no superior.

La reivindicación 1 no es clara porque la frase “(...) *el uso del producto absorbente seleccionado usado basado en ambos de la medida de absorción de flujo y la*

información de capacidad en el dispositivo móvil (...)” no se encuentra bien redactada, y por tanto no permite distinguir la invención a proteger.

Las reivindicaciones 1 y 10, no son claras porque los términos “dispositivo móvil”, “producto absorbente” (Reiv. 1), “un procesador”, “medio de almacenamiento”, “programa de computador” (Reiv. 10), son generales, por lo tanto no permiten establecer la diferencia y el aporte realizado por la invención frente al estado de la técnica.

La reivindicación 2 no es clara porque no está redactada como un paso del método o una característica técnica, sino como una forma de presentar la información. Es importante recordarle que la forma de presentar la información no es patentable.

La reivindicación 10 no es clara porque presenta una falsa dependencia, al hacer referencia a las anteriores reivindicaciones de método. Al ser la reivindicación 10 una reivindicación de producto, no puede heredar las características de la reivindicación 1, ya que métodos y productos se definen de forma diferente. Se sugiere definirlo por sus características esenciales, estructurales o funcionales.

4. Determinación del Estado de la Técnica

El estado de la técnica se determinó con base en la fecha de presentación de la solicitud internacional: diciembre 21 de 2011, y se encontraron los siguientes documentos que anticipan el objeto de esta solicitud:

Ítem	Documento	Título	Fecha de Publicación
D2	JP 2004/212060	“Testing method and device for absorption characteristic of body fluid absorbent article”	29/Julio/2004
D3	US 2007/0270774	“Incontinence management system and diaper”	22/Noviembre/2007

El documento D1¹ divulga un método y aparato de prueba de las características de absorción de un artículo absorbente (Fl. 2, Pág. 2, Párr. 0001).

El documento D2² divulga sistemas, dispositivos y métodos de control de la humedad en los artículos absorbentes tales como pañales, prendas de incontinencia, apósitos y las pastillas, que resultan de eventos de humedad causada, por ejemplo, incontinencia urinaria y/o fecal. También se refiere a un pañal para su uso con un sistema de este tipo (Fl. 1, Resumen).

5. Examen de Patentabilidad (Art 14 D486)

Novedad (Art 16 D486)

La reivindicación 10 consiste en “Un dispositivo móvil (1) para medir la absorción de fluido en un producto absorbente (9), caracterizado porque...” (Ver página 9 del radicado N°. 14-156307-00006-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D2
Un dispositivo móvil.	Un dispositivo de procesamiento (6) con el que se toma una imagen de la cámara (5) (Fl. 1, Resumen). Es preciso indicar que un dispositivo móvil puede ser cualquier dispositivo que pueda ser transportable ³ .

1<http://worldwide.espacenet.com/publicationDetails/biblio?CC=JP&NR=2004212060A&KC=A&FT=D>

2[http://worldwide.espacenet.com/publicationDetails/biblio?](http://worldwide.espacenet.com/publicationDetails/biblio?CC=US&NR=2007270774A1&KC=A1&FT=D&ND=3&date=20071122&DB=EPODOC&locale=en_EP)

http://worldwide.espacenet.com/publicationDetails/biblio?CC=US&NR=2007270774A1&KC=A1&FT=D&ND=3&date=20071122&DB=EPODOC&locale=en_EP

Dispositivo de captura de imágenes (2), un procesador (3), y un medio de almacenamiento (4).	Un procesador (6), Una cámara (5) y un almacenamiento (7) (Fl. 9, Fig. 1).
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De acuerdo con la tabla anterior, las características esenciales del dispositivo de la reivindicación 10 habían sido divulgadas previamente en el documento D2, por lo tanto, la materia reivindicada no es nueva.

Nivel inventivo (Art 18 D486)

La reivindicación 1 consiste en: *“Un método para medir la absorción de fluido en un producto absorbente (9), caracterizado porque comprende al menos las siguientes etapas, realizadas por un dispositivo móvil (1) que comprende un dispositivo de captura de imágenes (2):...”* (Ver página 7 del radicado N°. 14-156307-00006-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D2	D3
Un método para medir la absorción de fluido en un producto absorbente (9)	Un método y aparato de prueba de las características de absorción de un artículo absorbente (Fl. 2, Pág. 2, Párr. 0001).	Métodos de control de la humedad en los artículos absorbentes tales como pañales, prendas de incontinencia, apósitos y las pastillas (Fl. 1, Resumen).
Un dispositivo móvil (1) que comprende un dispositivo de captura de imágenes (2).	Un dispositivo de procesamiento (6) con el que se toma una imagen de la cámara (5) (Fl. 1, Resumen). Es preciso indicar que un dispositivo móvil puede ser cualquier dispositivo que pueda ser transportable ⁴ .	No menciona.
Obtener información de capacidad relacionada con una capacidad de absorción del producto absorbente (9) anterior a su uso al recuperar automáticamente la información desde una base de datos del producto.	No menciona.	El procesador también puede ser programado con, o puede interrogar a una base de datos de "eventos" o modelos que caracterizan a ciertos eventos de humedad y correlacionar las señales de los sensores con dichos eventos/modelos para caracterizar los eventos de humedad que se detecten. Los modelos pueden ser incluidos en cualquier forma, incluyendo modelos matemáticos como se ha descrito anteriormente, gráficos o tablas de consulta (Fl. 21, Pág. 9, Párr. 0106).
Captura al menos una imagen del producto absorbente (9) después que ha sido usado.	Captura del área de absorción del espécimen por la cámara (5) que va al procesador (6), tanto cuando no ha absorbido líquido como en tres estados de absorción (Fl. 1, Resumen).	No menciona.
Determinar una medida de absorción de fluido para el producto (9) basado en información de imagen en la imagen capturada.	El método de verificación de las características de absorción del producto, se caracteriza porque las imágenes se utilizan para determinar la absorción (Fl. 2, Pág. 2, Reiv. 2).	No menciona.
Estimar, a partir de la medida de absorción de fluido, una cantidad estimada del fluido absorbido por el producto absorbente utilizado (9).	El umbral S1, es menor que el umbral S2 y el umbral S3 de la imagen que representa la característica de humedad (Fl. 2, Pág. 2, Reiv. 2).	Correlacionar las señales de los sensores con dichos eventos/modelos para caracterizar los eventos de humedad que se detecten. Los

3 Un dispositivomóvilpuede sercualquierdispositivoque pueda ser transportable.
https://es.wikipedia.org/wiki/Dispositivo_m%C3%B3vil

4 Ibidem.

Comparar la cantidad estimada de fluido absorbido con la capacidad de absorción obtenida del producto.	Una señal de imagen de una superficie absorbente de fluido corporal, mediante el tratamiento de binarización para evaluar objetivamente las características de absorción, y así comparar y verificar si es posible desarrollar fácilmente un mejor artículo absorbente de fluidos corporales (Fl. 4, Pág. 4, Párr. 0012).	modelos pueden ser incluidos en cualquier forma, incluyendo modelos matemáticos como se ha descrito anteriormente, gráficos o tablas de consulta (Fl. 21, Pág. 9, Párr. 0106).
Mostrar información relacionada con el uso del producto absorbente seleccionado usado basado en ambos de la medida de absorción de fluido y la información de capacidad en el dispositivo móvil (1) en donde la información se basa en dicha comparación.		

El documento D2 se considera el estado de la técnica más cercano a la invención definida en la reivindicación 1 porque divulga un método y aparato de prueba de las características de absorción de un artículo absorbente (Fl. 2, Pág. 2, Párr. 0001).

La diferencia entre la invención, definida en la reivindicación 1 y el método divulgado en D2 consiste en que no menciona el obtener información de capacidad relacionada con una capacidad de absorción del producto absorbente anterior a su uso al recuperar automáticamente la información desde una base de datos del producto.

El efecto que logra el incluir la consulta en una base de datos sobre la capacidad de absorción del producto, es que permite comparar con los datos obtenidos en pruebas previas, la información que se recolecte del producto absorbente a evaluar.

Por lo tanto, el problema técnico objetivo que pretende resolver esta invención se puede formular así: “¿cómo modificar el método conocido en D2 para que se puedan comparar los datos obtenidos en pruebas previas, con la información que se recolecte del producto absorbente a evaluar?”.

Sin embargo, la consulta en una base de datos sobre la capacidad de absorción del producto, ya está divulgada en el documento D3 que divulga un procesador también puede ser programado con, o puede interrogar a una base de datos de "eventos" o modelos que caracterizan a ciertos eventos de humedad y correlacionar las señales de los sensores con dichos eventos/modelos para caracterizar los eventos de humedad que se detecten. Los modelos pueden ser incluidos en cualquier forma, incluyendo modelos matemáticos como se ha descrito anteriormente, gráficos o tablas de consulta (Fl. 21, Pág. 9, Párr. 0106).

En consecuencia, la persona del oficio normalmente versada en la materia, incluiría la consulta de bases de datos del documento D3 en el método divulgado en el documento D2 para llegar así al objeto de la reivindicación 1 de la solicitud. Por lo cual se considera obvia.

Asimismo, el documento D3, divulga las características de las reivindicaciones dependientes:

- Reivindicaciones 2 y 3: La interfaz del usuario (108) permite el ingreso de datos sobre el paciente y datos médicos (Fl. 18, Pág. 6, Párr. 0077). Y puede informar los eventos de humedad y las condiciones del producto absorbente (Fl. 18, Pág. 6, Párr. 0079).
- Reivindicación 9: Métodos de control de la humedad en los artículos absorbentes tales como pañales, prendas de incontinencia, apósitos y las pastillas (Fl. 1, Resumen).

De acuerdo con el análisis anterior, las reivindicaciones dependientes 2, 3 y 9 no mencionan alguna característica que le dé nivel inventivo al método de la reivindicación 1, por lo cual, se considera que no tienen nivel inventivo.

6. Conclusión

Los requisitos de Patentabilidad de la presente solicitud están afectados así:

Ítem	Documento	Reivindicaciones afectadas	Requisito que afecta
D2	JP 2004/212060	1 a 3 y 9 10	Nivel inventivo Novedad/Nivel inventivo
D3	US 2007/0270774	1 a 3 y 9	Nivel Inventivo

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 sesenta (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.

Si como respuesta a este requerimiento el solicitante llegara a modificar: i) el capítulo reivindicatorio, ii) la descripción de la invención a proteger, iii) o presente un nuevo capítulo reivindicatorio, y desee que se realice un nuevo examen de patentabilidad a esta modificación, no deberá pagar la tasa de modificación voluntaria pero sí la correspondiente a la tasa de examen de patentabilidad. En todo caso, el número de requerimientos por no patentabilidad estará supeditado a que el término del estudio de patentabilidad no sea superior a 18 meses, contados desde la publicación de la solicitud de patente de invención. Adicionalmente, se le recuerda al solicitante que si como respuesta a este requerimiento llegara a modificar el capítulo reivindicatorio y éste contenga más de diez (10) reivindicaciones deberá pagar la tasa por reivindicación adicional.

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 No. 10 de 2001.



JOSÉ LUIS SALAZAR LÓPEZ
Director de Nuevas Creaciones (c)

El anterior requerimiento fue notificado por fijación en lista, de fecha 2016-06-28

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DESCRIPTION JP2004212060

The present invention is a visual and texture, etc. to objectively evaluate the absorption characteristics that could not be confirmed, to be able to compare verification. Against An absorbing surface of the sample stand 3 to fixed the specimen 2 2u, a test solution of colored and supplied by pipette 4 from above, capturing the area area including the supply area by the CCD camera 5, the video capturing an image signal to the signal processor 6, for equal reference threshold to the luminance value of the image in a liquid non-absorbing state of the absorbing surface, set the predetermined threshold S1, S2, S3 smaller than this, the threshold value S 1 , S2, S3 original image signal binarized on the basis of, generates a binary image representing the existing area and the non-existence region of a test solution in a predetermined absorption process, the liquid on the basis of the binary image to obtain the time-dependent changes in the area of the existing area, by the characteristic value which is determined on the basis of this change over time or to it, to determine the absorption characteristics of the specimen. .FIELD 1

【課題】目視や手触り等では確認できなかった吸収特性を客観的に評価し、比較検証できるようにする。【解決手段】サンプルスタンド3に固定した供試体2の吸収面2uに対して、その上方からピペット4により有色の試験液を供給し、その供給領域を含む面積領域をCCDカメラ5により撮像し、その動画画像信号を信号処理装置6に取り込み、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値に対して、これより小さい所定の閾値S1, S2, S3を設定し、この閾値S1, S2, S3を基準として原画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す二値画像を生成し、この二値画像に基づいて液の存在領域の面積の経時変化を得て、この経時変化またはそれに基づいて求まる特徴値により、供試体の吸収特性を判断する。【選択図】図1

Test methods and apparatus of absorption properties of the body fluid absorbent article

体液吸収性物品の吸収特性の試験方法および装置

[0001] [Field of the Invention] The present invention relates to a test method and apparatus for the absorption characteristics of the body fluid absorbent article. [0002] Background of the Invention Traditionally, if you want to evaluate the absorption characteristics of the body fluid absorbent article of disposable diapers and the like, for example, the behavior at the time of body fluid absorption such as urine (diffusion and osmosis, etc.), the following method has been known. [0003] In other words, the characteristics of when the body fluid to penetrate to the interior goods transmitted through the absorbing surface (hereinafter also referred to as penetration characteristic), or touch by hand the residual liquid of the absorbing surface surface, have been evaluated by blotting with a filter paper (see Patent Document 1 No. 0001 paragraph). [0004] Further, characteristics when the body fluid is moved along through the article to the absorption surface (hereinafter, referred to as the diffusion characteristic), a colored test liquid is supplied to the absorbing surface, it was evaluated by measuring the colored range ruler (see Patent Document 2 No. 0002 paragraph). [Patent Document 1] JP 2001-157694 JP [Patent Document 2] JP 2001-258932 JP [0005] An object of the invention is to provide a However, such a conventional method, there is a place which depends on the subjectivity of the test person, there is a problem that it is difficult using the comparative verification. [0006] Therefore, a main object of the present invention, the body fluid absorption characteristics of the body fluid absorbent article objectively be evaluated to provide a test method capable of performing the comparison verification easy-accurately. [0007] In order to solve the problem] The present invention which solves the above-mentioned problems are as follows: Symbol. <Invention of claim 1, wherein> To the absorption surface of the specimen by supplying a test liquid colored from above, imaging the area region including the supply area, it captures the image signal to the signal processor, For equal reference threshold to the luminance value of the image in a liquid non-absorbing state of the absorbing surface, which smaller sets a predetermined threshold value, the image signal the threshold as a reference binarized at a predetermined absorption process generating an image indicative of the presence area and the non-existence region of a test solution, The method of testing the absorption characteristics of the body fluid absorbent article is characterized in that the image and the criteria for absorption characteristics. [0008] <The second aspect of the present invention> To the absorption surface of the specimen by supplying a test liquid colored from above, capturing a video of the area region including the supply area, it captures the image signal to the signal processor, With respect to the absorption surface of the liquid unabsorbed equal reference threshold to the luminance value of the image in the state, than a small threshold S1 this, this smaller than, the threshold value is set S2 and threshold S3,

【 0 0 0 1 】 【 発明の属する技術分野 】 本発明は、体液吸収性物品の吸収特性の試験方法およびその装置に関する。 【 0 0 0 2 】 【 従来の技術 】 従来、紙おむつ等の体液吸収性物品の吸収特性、例えば尿等の体液吸収時の挙動（拡散・浸透等）を評価する場合、次のような方法が知られている。 【 0 0 0 3 】 すなわち、体液が吸収面を透過して物品内部に浸透する際の特徴（以下

、浸透特性ともいう)は、吸収面表面の残留液を手で触ったり、ろ紙で吸い取ることにより評価していた(特許文献1第0001段落参照)。【0004】また、体液が物品内を吸収面に沿って移動する際の特性(以下、拡散特性という)は、有色試験液を吸収面に供給し、着色した範囲を定規で測定することにより評価していた(特許文献2第0002段落参照)。【特許文献1】特開2001-157694号公報【特許文献2】特開2001-258932号公報【0005】【発明が解決しようとする課題】しかしながら、かかる従来の手法では、試験者の主観に依存するところがあり、比較検証に用いにくいという問題点があった。【0006】そこで、本発明の主たる課題は、体液吸収性物品の体液吸収特性を客観的に評価でき、比較検証を容易・正確に行うことができる試験方法を提供することにある。【0007】【課題を解決するための手段】上記課題を解決した本発明は次記のとおりである。＜請求項1記載の発明＞供試体の吸収面に対して、その上方から有色の試験液を供給し、その供給領域を含む面積領域を撮像し、その画像信号を信号処理装置に取り込み、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値に対して、これより小さい所定の閾値を設定し、この閾値を基準として前記画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す画像を生成し、この画像を吸収特性の判断基準とすることを特徴とする体液吸収性物品の吸収特性の試験方法。【0008】＜請求項2記載の発明＞供試体の吸収面に対して、その上方から有色の試験液を供給し、その供給領域を含む面積領域の動画を撮像し、その画像信号を信号処理装置に取り込み、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値に対して、これより小さい閾値S1と、これよりさらに小さい、閾値S2及び閾値S3を設定し、

(B) the image signal the threshold value S3 as the reference binarized to generate the residual surface liquid image representing the existing area and the non-existence region of a surface residual liquid, (B) the threshold value S2 the image signal binarized as a reference to generate an osmotic diffusion liquid image representing the existing area and the non-existence region of a penetrant diffusion liquid, (C) the image signal the threshold value S1 as the reference binarized to produce a total liquid image representing all of the liquid existing region and the non-existing region, The method of testing the absorption characteristics of the body fluid absorbent article is characterized in that these images a criterion absorption characteristics. [0009] <Invention of claim 3, wherein> Until the absorption of the test solution after supplying at least the test solution with respect to the absorbing surface reaches equilibrium with the single test stage, it performs a plurality of times this, Upon the binarization processing in each step, a value obtained by multiplying the correction coefficient against a threshold before stage is used as the threshold in the stage, the absorption characteristics of the body fluid absorbent article according to claim 1 or 2, Test method. [0010] <Invention of claim 4, wherein> Obtains the time course of the area of the existing regions in each image the formed, which is a criterion of the absorption characteristics, the method of testing the absorption characteristics of the body fluid absorbent article according to any one of claims 1-3. [0011] <Invention of claim 5, wherein> With respect to the absorption surface of the specimen, and a means for supplying a test solution of colored from above, An imaging device for imaging an area region including the supply area of the test solution, And a signal processing device for processing an image signal obtained by the

imaging, The signal processing apparatus, the predetermined threshold liquid smaller than the equal reference threshold to the luminance value of the image in the non-absorbing state of the absorbing surface, the image signal binarized, the presence area of the test solution in a predetermined absorption process and it is configured to generate an image representing the non-presence area, Test equipment of the absorption characteristics of the body fluid absorbent article, characterized in that. [0012] (Operation and Effect) As described above, an image signal of a body fluid absorbent surface, by treating binarization based on appropriate threshold, by visual and touch like objectively evaluate the absorption characteristics which could not be confirmed, it will be able to compare verification, it is possible to easily develop better body fluid absorbent article. [0013] DETAILED DESCRIPTION OF THE INVENTION Hereinafter, embodiments of the present invention, further detail with reference to the accompanying drawings. Figure 1 shows a test apparatus in Example 1 according to the present invention, the apparatus 1 comprises a stand 3 having a flat upper surface for placing the specimen 2 of the specimen 2 which is disposed on the stand 3 process for absorbing surface 2u, a pipette 4 for supplying a test liquid colored from above, a moving image pickup device 5 such as a CCD camera for imaging an area region including the supply area of the test solution, a moving image signal captured a signal processing unit 6 (the so-called image processor, etc.), stores the signal processed image, in which and an electronic calculator 7 for calculating various characteristic values based on the stored image.

(イ) 閾値 S 3 を基準として前記画像信号を二値化処理し、表面残留液の存在領域および非存在領域を表す表面残留液画像を生成し、 (ロ) 閾値 S 2 を基準として前記画像信号を二値化処理し、浸透拡散液の存在領域および非存在領域を表す浸透拡散液画像を生成し、 (ハ) 閾値 S 1 を基準として前記画像信号を二値化処理し、全ての液存在領域および非存在領域を表す全液画像を生成し、これらの画像を吸収特性の判断基準とすることを特徴とする体液吸収性物品の吸収特性の試験方法。【0009】 <請求項3記載の発明> 少なくとも前記試験液を前記吸収面に対して供給してから試験液の吸収が平衡状態に至るまでを1回の試験段階とし、これを複数回行うとともに、各段階における前記二値化処理に際し、前段階の閾値に対して補正係数を乗じた値を当該段階における閾値として用いるようにする、請求項1または2に記載の体液吸収性物品の吸収特性の試験方法。【0010】 <請求項4記載の発明> 前記生成した各画像における前記存在領域の面積の経時変化を求め、これを吸収特性の判断基準とする、請求項1～3のいずれか1項に記載の体液吸収性物品の吸収特性の試験方法。【0011】 <請求項5記載の発明> 供試体の吸収面に対して、その上方から有色の試験液を供給する手段と、その試験液の供給領域を含む面積領域を撮像する撮像装置と、その撮像した画像信号を処理する信号処理装置とを備え、この信号処理装置は、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値より小さい所定の閾値により、前記画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す画像を生成するように構成されている、ことを特徴とする体液吸収性物品の吸収特性の試験装置。【0012】 (作用効果) 上記のように、体液吸収面の画像信号を、適切な閾値に基づき二値化処理することによって、目視や手触り等では確認できなかった吸収特性を客観的に評価し、比較検証できるようになり、より良い体液吸収性物品の開発を容易に行うことができるようになる。【0013】 【発明の実施の形態】 以下、本発明の実施の形態について、添

付図面を参照しながらさらに詳説する。図1は、本発明に係る試験装置例1を示しており、この装置1は、供試体2を配置するための平坦な上面を有するスタンド3と、スタンド3上に配置された供試体2の吸収面2uに対して、その上方から有色の試験液を供給するピペット4と、試験液の供給領域を含む面積領域を撮像するCCDカメラ等の動画撮像装置5と、撮像した動画画像信号を処理する信号処理装置6（いわゆるイメージプロセッサ等）と、信号処理済み画像を記憶し、記憶画像に基づいて各種の特性値を演算するための電子計算機7とを備えているものである。

[0014] Characteristically, the signal processing device 6, a predetermined threshold value less than the threshold equal to the luminance value of the image in a liquid non-absorbing state of the absorbing surface 2u is set as a reference the predetermined threshold value, an input image signal binarized to produce an image representing the existing area and the non-existence region of a test solution in a predetermined absorption process, and outputs the generated image to the computer 7. [0015] As the specimen 2 in the present invention, the body fluid absorbent article itself or those that have been cut out part or all of the absorber exists portion thereof, or trial piece or the like of the portion having the absorption surface, be used even What it can. The body fluid absorbent article is not particularly limited as long as it is an article having a function of absorbing and retaining body fluids, an absorbent core containing superabsorbent polymers mainly fluff pulp, a liquid-pervious topsheet and the liquid impervious back not only general absorbent article comprising by interposing between the sheets, can also be applied be of a special structure. [0016] As the test liquid is not particularly limited as long as it is absorbed by the specimen 2 in the colored, it is preferably used one having a color and absorption characteristics similar to the body fluid in question. For example as having a color and absorption characteristics similar to urine, and the like that colored so-called artificial urine with a stick tea juice. [0017] Threshold in the present invention can be appropriately determined based on the result of such preliminary tests. In a particularly preferred embodiment, with respect to the absorbing surface of the liquid unabsorbed state reference threshold S0 is equal to the luminance value of the image in this than slightly smaller, in order to produce all the liquid image representing all of the body fluid existing region and the non-existence region a threshold S1, a smaller threshold than this, the threshold value for generating an osmotic diffusion liquid image representing the existing area and the non-existence region of a body fluid in the diffusion in the penetration and specimen into the specimen S2 If, sets the threshold value S3 in order to generate the residual surface liquid image representing the existing area and the non-existence region of a surface residual liquid remaining on the surface of the absorbing surface. [0018] In this case, an original image signal obtained by capturing by binarized by the respective threshold values S1, S2, S3, all the liquid image, osmotic diffusion liquid image and surface retentate images can be generated respectively. When specifically was S0 253 (average luminance value of the topsheet unused disposable diapers) reference threshold, S 1 is 251, S 2 is 100-190, although S3 are if less liquid injection times can be set to less than S 2 , if the number of injections becomes much surface residual water increased it can be set to S2 or more.

【0014】特徴的には、信号処理装置6は、吸収面2uの液未吸収状態における画像の輝度値に等しい閾値より小さい所定の閾値が設定されており、この所定の閾値を基準として、入力画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す画像を生成し、この生成画像を電子計算機7に出力するものである。【0015】本発明における供試体2としては、体液吸収性物品そのもの、あるいはその吸収体存在部分の一部または全部を切り出したもの、あるいは吸収面を有する部分の試作片等、どのようなものでも用いることができる。体液吸収性物品としては、体液を吸収保持する機能を有する物品であれば特に限定されず、フラップパルプを主体とし高吸収性ポリマーを含む吸収コアを、透液性トップシートと不透液性バックシートとの間に介在させてなる一般的な吸収性物品のみならず、特殊な構造のものでも適用可能である。【0016】また試験液としては、有色で供試体2により吸収可能なものであれば特に限定されないが、対象となる体液に似た色および吸収特性を有するものが好適に使用される。例えば尿に似た色および吸収特性を有するものとしては、いわゆる人工尿に棒茶抽出液で色付けしたものなどを挙げることができる。【0017】本発明における閾値は、予備試験等の結果に基づいて適宜定めることができる。特に好ましい形態では、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値S0に対して、これよりも若干小さく、全ての体液存在領域および非存在領域を表す全液画像を生成するため閾値S1と、これよりもさらに小さい閾値であって、供試体内への浸透及び供試体内での拡散中の体液の存在領域および非存在領域を表す浸透拡散液画像を生成するための閾値S2と、吸収面の表面上に残留する表面残留液の存在領域および非存在領域を表す表面残留液画像を生成するための閾値S3とを設定する。【0018】この場合、撮像した原画像信号を各閾値S1、S2、S3により二値化処理することで、全液画像、浸透拡散液画像および表面残留液画像をそれぞれ生成することができる。具体的には基準閾値（未使用紙おむつのトップシートの平均輝度値）S0を253としたときには、S1は251、S2は100～190、S3は液注入回数が少ない場合はS2未満に設定できるが、注入回数が増加して表面残留水が多くなった場合にはS2以上に設定できる。

[0019] In particular, when the absorption of the test solution after supplying the test liquid to the absorption surface 2u is a test step of once up to the equilibrium state, a plurality of times which, upon binarization process in each stage, it is possible to use a value obtained by multiplying each of the correction coefficient for each threshold of the previous step as the threshold value in the step. Thus, when binarization processing of the next step, the effect of the presence area of the test solution supplied in the previous step can be eliminated, it is possible to obtain a binarized image according only to supply the test solution at each stage so as to. This correction factor can be appropriately determined based on the result of such preliminary tests. [0020] For example, in the equilibrium state of the (n-1) th liquid injection after, the histogram of the luminance value is stable, the minimum value in the form of the threshold is X_{n-1} next, it is at the time of the n-th of the Note after liquid equilibrium X_n ($< x_{n-1}$) becomes (consider the case where became more colors with) further threshold is assumed to within each liquid injection step is linearly changed with time, the correction factor can be determined from the following equation. It should be noted that the number of images of the units in the following equation is the time. Correction coefficient = $(X_n - X_{n-1}) / \text{number of images}$ [0021] On the other hand, image

generated by the signal processing unit 6, in addition to performing output such as displaying the computer 7, it is possible to perform the calculation and output of various characteristics based on this. Specifically, asking for area based liquid existing area in the binarized image data, or obtains a temporal change in the area of the liquid present area when performing moving image, Ya further various graph based on these feature value (a specific example will be described later) or can seek. [0022] In the above embodiment, although the the use of video, in the present invention, may be utilized if such still image if necessary to test the static characteristics. In this case, for example, a test solution and the time when predetermined time has elapsed since the feed to the absorption surface, or the like when the absorption has reached an equilibrium state of the test fluid, captures an image of a plurality of times at once or time interval, it is possible to apply this to the image analysis according to the invention described above. [0023] 【Example】 Hereinafter, to clarify the effects of the present invention by showing Examples. (Test equipment) Using the apparatus shown in FIG. 1 described above. [0024] (Specimen) A commercially available disposable diapers, and five types of available A-E, cut the center portion in the longitudinal direction and the width direction to the square (12cm × 12cm), to obtain a sample (specimen). [0025] (Test procedures and test results)

【0019】 特に、試験液を吸収面 2 u に対して供給してから試験液の吸収が平衡状態に至るまでを 1 回の試験段階とし、これを複数回行う場合には、各段階における二値化処理に際し、前段階の各閾値に対して補正係数をそれぞれ乗じた値を当該段階における各閾値として用いることができる。これにより、次段階の二値化処理に際し、前段階で供給した試験液の存在領域の影響を排除することができ、各段階で供給した試験液のみに係る二値化画像を得ることができるようになる。この補正係数は、予備試験等の結果に基づいて適宜定めることができる。【0020】例えば、 $n-1$ 回目の注液後の平衡状態で、輝度値のヒストグラムが安定し、最小値である閾値が X_{n-1} となり、それが n 回目の注液後の平衡時では X_n ($< x_{n-1}$) になった（より色がついた）となった場合を考え、さらに閾値が各注液段階内では時間とともに直線的に変化すると仮定すると、補正係数は次式より求めることができる。なお、次式中の画像数の単位は時間である。補正係数 = $(X_n - X_{n-1}) / \text{画像数}$ 【0021】 他方、信号処理装置 6 により生成した画像は、電子計算機 7 において表示等の出力を行うほか、これに基づいて各種の特性の演算および出力を行うことができる。具体的には、二値化画像データに基づき液存在領域の面積を求めたり、動画撮像を行う場合には液存在領域の面積の時間的変化を求めたり、さらにこれらに基づいて各種のグラフや特徴値（具体例は後述する）を求めたりすることができる。【0022】 また、上記形態では、動画を用いることにしているが、本発明では、静的特性を試験する場合等、必要に応じて静止画を利用することもできる。この場合、例えば試験液を吸収面に対して供給してから所定時間経過した時点や、試験液の吸収が平衡状態に至った時点等、1 回または時間間隔をおいて複数回の撮像を行い、これを前述の本発明に係る画像解析にかけることができる。【0023】 【実施例】 以下、実施例を示して本発明の効果を明らかにする。（試験装置） 上述の図 1 に示す装置を用いた。【0024】 （供試体） 市販の紙おむつを、A～E の 5 種類用意し、長手方向および幅方向の中心部を正方形（12 cm × 12 cm）に切り取り、サンプル（供試体）を得た。【0025】 （試験手順および試験結果）

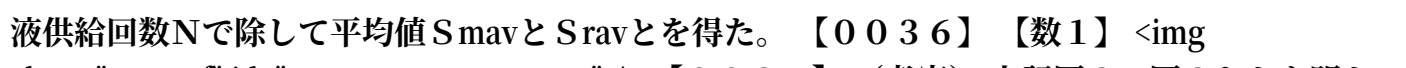
A. The sample was topsheet upward placed over the sample stand, and fixed to the four corners with tape such that the flat unfolded state. [0026] B. In absorbing surface, mark with a pen in the middle of the position in the longitudinal direction of the center and the width direction. [0027] C. From the tip of the pipette to face the position of the upper 5cm of the position marked with (h1 in FIG. 1), it is added dropwise 50ml of artificial urine (was colored by the bar tea extract) at a time. Infusion rate is, in the case of disposable diapers for babies and infants and 7cc / sec, in the case of adult diapers was 12cc / sec. [0028] D. 10 times at 10-minute intervals, perform the dropping of artificial urine. [0029] E. Diaper surface captured by the (absorption surface) of the CCD camera (upper 50cm of absorbing surface (fixed at a position of h2) of FIG. 1). [0030] F. Based on the video data obtained by imaging, in the signal processing unit, and set the threshold $S1 = 251$, $S2 = 190$, $S3 = 160$ with respect to the reference threshold $S0 = 253$ performs a binary process, all liquid image, respectively, penetration diffusion liquid image and surface retentate images generated respectively, these generated image and the original image data input to the computer, has been stored. A portion of each image in time of the second liquid injection for the sample A shown in FIG. [0031] G. In computer, all the liquid image is input, based on the osmotic diffusion liquid image and surface residual liquid image to determine the time course of the area of each of the solutions existing region. From this time course, to obtain a graph shown in FIGS. 3-6. 3, moisture transfer characteristic curve for sample A (ordinate: size of the liquid existing region, the horizontal axis: time) is a graph showing a. 4, moisture transfer characteristic curve of the surface remaining liquid only (hereinafter, also referred to as a surface residual liquid curve), and is a graph showing for each sample. 5, the moisture movement characteristic curve only osmotic diffusion liquid (hereinafter, also referred to as osmotic diffusion liquid curve), and is a graph showing for each sample. 6, all liquid moisture movement characteristic curve (hereinafter, the total liquid curve), and is a graph showing for each sample. [0032] H. As well as dehydrated sample using dehydrator, the weight before and after the dehydration was measured to determine the free water content determined as a ratio of the dewatering liquid by weight relative to the total absorption liquid weight of the sample. This is indicative of the amount of liquid which is not bound to the superabsorbent polymer (free water). Figure 7 is a graph showing the free moisture content. [0033] I. 8, for the pouring amount is a graph showing the erosion water content determined as a ratio of the amount of liquid that flows out from the sample side down the topsheet surface.

A. サンプルを、トップシートを上側にしてサンプルスタンドの上に配置し、平坦な展開状態となるように四隅をテープで固定した。【0026】 B. 吸収面における、長手方向の中央かつ幅方向の中央の位置にペンで印を付ける。【0027】 C. 印を付した位置の上方5cm (図1のh1) の位置に臨ませたピペットの先端から、一度に50mlの人工尿(棒茶抽出液により色付けした)を滴下する。注入速度は、乳幼児用紙おむつの場合は7cc/secとし、大人用紙おむつの場合は12cc/secとした。【0028】 D. 10分間隔で10回、人工尿の滴下を行う。【0029】 E. おむつ表面(吸収面)をCCDカメラ(吸収面の上方50cm (図1のh2) の位置に固定)により撮像する。【0030】 F. 撮像した動画デー

タに基づき、信号処理装置において、基準閾値 $S_0 = 253$ に対して閾値 $S_1 = 251$, $S_2 = 190$, $S_3 = 160$ を設定して二値化処理を行い、それぞれ全液画像、浸透拡散液画像および表面残留液画像をそれぞれ生成し、これら生成画像および原画像データを電子計算機に入力し、記憶させた。サンプルAに関する2回目の注液時における各画像の一部を図2に示した。【0031】 G. 電子計算機において、入力された全液画像、浸透拡散液画像および表面残留液画像に基づき、各液存在領域の面積の経時変化を求めた。そして、この経時変化から、図3～図6に示すグラフを得た。図3は、サンプルAに関する水分移動特徴曲線（縦軸：液存在領域の面積、横軸：時間）を表したグラフである。図4は、表面残留液のみの水分移動特徴曲線（以下、表面残留液曲線ともいう）を、各サンプル毎に表したグラフである。図5は、浸透拡散液のみの水分移動特徴曲線（以下、浸透拡散液曲線ともいう）を、各サンプル毎に表したグラフである。図6は、全液の水分移動特徴曲線（以下、全液曲線）を、各サンプル毎に表したグラフである。【0032】 H. 脱水機を用いてサンプルを脱水するとともに、脱水前後の重量を計測し、サンプルの全吸収液重量に対する脱水液重量の比率として定まる自由水分率を求めた。これは高吸収性ポリマーと結合していない液（自由水）の量の指標となる。図7は、この自由水分率を表したグラフである。【0033】 I. 図8は、注液量に対する、トップシート表面をつたってサンプル側部から流れ出てしまう液の量の比率として定まる流失水分率を表したグラフである。

[0034] J. As illustrated in FIG. 9, based on the osmotic diffusion liquid curve, in the i -th after the test solution supply obtains a gradient k_i representing the maximum area A_i and the subsequent time area reduction ratio of osmotic diffusion liquid existing region, the following according to equation (1) and (2), and the liquid diffusion rate F_w along the absorbing surface direction, the penetration rate (liquid diffusion rate along the direction perpendicular to the absorption surface) F_h and were calculated respectively. Incidentally, the A in the formula (1) is the area of the whole absorbing surface of a sample, N is the total supply number of test liquid (10 times in this embodiment). [0035] Further, as illustrated in FIG. 10, based on the residual surface liquid curve, in the i -th after the test solution supply obtains a A_{ri} (area at equilibrium) the maximum area A_i and equilibrium area of the surface remaining liquid existing region, according to the following equation (3) and (4), the maximum area ratio (the ratio of the maximum area A_i of the surface residual liquid present in the region for the sample absorption surface area a) S_m and, surface residual liquid exists for the residual area ratio (sample absorbing surface area a to calculate the ratio) S_r of the equilibrium area A_{ri} of the area, further on these values, were obtained and the average value S_{mav} and S_{rav} is divided by taking the sum of each test liquid supply number of times N . [0036] [1] [0037] (Discussion) As is apparent from the above FIG. 3 to FIG. 8, above according to the test method, three types of feature curve absorption characteristics of the body fluid absorbent article (surface residual liquid curve, osmotic diffusion liquid curve, the total liquid curve) in detail it is possible to represent the. For example, if the sample A shown in FIG. 3, the initial liquid injection step (1-2 time) is significantly increased towards the area of diffusion liquid than the area of surface remaining liquid, it can be seen that the liquid has penetrated quickly diffused. In the

sixth pouring stage, now nearly coincides with the surface residual liquid curve and penetration diffusion solution curve, not down to the area 0 of surface residual liquid when it comes to later, is gradually reduced the area of the diffusion liquid it is, the liquid becomes less likely to be absorbed, it is understood that the liquid absorption surface is always adapted to the residue. [0038] Further, as described above, by obtaining the various feature values based on the obtained characteristic curve, it is possible to carry out objective performance evaluation numerical. Are summarized feature values according to the test are shown in Table 1. Liquid spreading factor F_w is intended a diffuse indication of the ease of liquid in the absorbing surface direction, permeability F_h serves as a permeate and an index of easiness of the liquid in the direction perpendicular to the absorbing surface Yes, it means that the higher the diffusion performance both large value.

【0034】 J. 図9に例示するように、浸透拡散液曲線に基づき、 i 回目の試験液供給後における、浸透拡散液存在領域の最大面積 A_i とその後の経時的面積減少率を表す傾き k_i とを求め、下記式 (1) および (2) に従って、吸収面方向に沿う液拡散率 F_w と、浸透率 (吸収面と直交する方向に沿う液拡散率) F_h とをそれぞれ算出した。なお、式 (1) 中の A はサンプルの吸収面全体の面積であり、 N は試験液の総供給回数 (本実施例では 10 回) である。【0035】 また、図 10 に例示するように、表面残留液曲線に基づき、 i 回目の試験液供給後における、表面残留液存在領域の最大面積 A_i と平衡時面積 (平衡状態における面積) A_{ri} とを求め、下記式 (3) および (4) に従って、最大面積率 (サンプル吸収面面積 A に対する表面残留液存在領域の最大面積 A_i の比率) S_m と、残留面積率 (サンプル吸収面面積 A に対する表面残留液存在領域の平衡時面積 A_{ri} の比率) S_r とを算出し、さらにこれらの値について、それぞれ総和をとり試験液供給回数 N で除して平均値 S_{mav} と S_{rav} とを得た。【0036】 【数 1】  【0037】 (考察) 上記図 3 ~ 図 8 から明らかなように、上記試験手法によれば、体液吸収性物品の吸収特性を三種類の特徴曲線 (表面残留液曲線、浸透拡散液曲線、全液曲線) で詳細に表すことができるようになる。例えば、図 3 に示すサンプル A の場合、初期の注液段階 (1 ~ 2 回目) では表面残留液の面積より拡散液の面積のほうが著しく大きく、液が速やかに浸透拡散していることが判る。6 回目の注液段階では、表面残留液曲線と浸透拡散液曲線とはほぼ一致するようになり、それ以降になると表面残留液の面積が 0 まで下降せず、拡散液の面積が徐々に小さくなっており、液が吸収されにくくなり、吸収面に液が常に残留するようになっていることが判る。【0038】 また、上記のように、得られた特徴曲線に基づいて各種の特徴値を求めることにより、数値による客観的な性能評価を行うことも可能である。表 1 に上記試験による特徴値をまとめて示した。液拡散率 F_w は、吸収面方向における液の拡散し易さの指標となるものであり、また、浸透率 F_h は、吸収面と直交する方向における液の浸透し易さの指標となるものであり、いずれも値が大きいほど拡散性能が高いことを意味する。

The average maximum area ratio S_{mav} are average size range of the liquid remaining on the absorbent facing surface, which is capable of smaller the rapid absorption, meaning that the absorbing larger prone to slow leakage. Specifically, it becomes large effluent water to be S_{mav}

<0.5. Furthermore, the average residual area ratio S_{rav} is representative of how much of the liquid upon absorption equilibrium relative immediately after liquid supply remains on absorbent facing surface, which absorbent capacity is not saturated when the 0, 0 greater the absorption capacity means that the saturated. [0039] [Table 1] [0040] Effect of the Invention As described above, according to the present invention, the objective evaluation of absorption characteristics which could not be confirmed by visual and touch like, to allow comparison and verification, it is possible to easily develop better body fluid absorbent article so as to. BRIEF DESCRIPTION OF THE DRAWINGS 1 is a schematic diagram showing a testing apparatus example according to the present invention. [Figure 2] all liquid image for the sample A, a comparison view of the penetration diffusion liquid image and surface residual liquid image. [Figure 3] moisture movement characteristic curve for sample A (vertical axis: the area of the liquid presence area, horizontal axis: time) is a graph showing a. [Figure 4] The surface residual liquid curve is a graph showing each sample. FIG. 5 is an osmotic diffusion liquid curve is a graph showing each sample. [6] Total liquid curve is a graph showing each sample. [7] It is a graph showing a free moisture content. [8] It is a graph showing a runoff moisture content. [9] For explaining the principle of calculating the liquid diffusion rate F_w and the penetration rate F_h , it is moisture movement curve graph of only penetration diffusion liquid. [Figure 10] For explaining the principle of calculating the maximum area ratio of S_m and the residual area ratio S_r , it is a moisture movement curve graph of surface residual liquid only. Description of the code] 1 ... test equipment example, 2 ... specimen, 3 ... stand, 4 ... pipette, 5 ... imaging device, 6 ... signal processing equipment, 7 ... electronic computer.

また、平均最大面積率 S_{mav} は、吸収面表面に残留する液の平均的な面積範囲であり、これが小さいほど迅速な吸収が可能であり、大きいほど吸収が遅くモレを生じやすいことを意味する。具体的には、 $S_{mav} < 0.5$ であると流出水が多くなる。さらに、平均残留面積率 S_{rav} は、液供給直後に対して吸収平衡時にどの程度の液が吸収面表面に残留するかを表すものであり、これが0のときには吸収能力が飽和しておらず、0より大きくなると吸収能力が飽和したことを意味する。【0039】 【表1】 【0040】 【発明の効果】 以上のとおり、本発明によれば、目視や手触り等では確認できなかった吸収特性を客観的に評価し、比較検証できるようになり、より良い体液吸収性物品の開発を容易に行うことができるようになる。【図面の簡単な説明】 【図1】 本発明に係る試験装置例を示す概要図である。【図2】 サンプルAに関する全液画像、浸透拡散液画像および表面残留液画像の対比図である。【図3】 サンプルAに関する水分移動特徴曲線（縦軸：液存在領域の面積、横軸：時間）を表したグラフである。【図4】 表面残留液曲線を、各サンプル毎に表したグラフである。【図5】 浸透拡散液曲線を、各サンプル毎に表したグラフである。【図6】 全液曲線を、各サンプル毎に表したグラフである。【図7】 自由水分率を表したグラフである。【図8】 流失水分率を表したグラフである。【図9】 液拡散率 F_w および浸透率 F_h の算出原理を説明するための、浸透拡散液のみの水分移動曲線グラフである。【図10】 最大面積率 S_m および残留面積率 S_r の算出原理を説明するための、表面残留液のみの水分移動曲線グラフである。【符号の説明】 1…試験装置例、2…供試体、3…スタンド、4…ピペット、5…撮像装置、6…信号処理装置、7…電子計算機。

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CLAIMS JP2004212060

1.

To the absorption surface of the specimen by supplying a test liquid colored from above, imaging the area region including the supply area, it captures the image signal to the signal processor, For equal reference threshold to the luminance value of the image in a liquid non-absorbing state of the absorbing surface, which smaller sets a predetermined threshold value, the image signal the threshold as a reference binarized at a predetermined absorption process generating an image indicative of the presence area and the non-existence region of a test solution, The method of testing the absorption characteristics of the body fluid absorbent article is characterized in that the image and the criteria for absorption characteristics.

供試体の吸収面に対して、その上方から有色の試験液を供給し、その供給領域を含む面積領域を撮像し、その画像信号を信号処理装置に取り込み、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値に対して、これより小さい所定の閾値を設定し、この閾値を基準として前記画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す画像を生成し、この画像を吸収特性の判断基準とすることを特徴とする体液吸収性物品の吸収特性の試験方法。

2.

To the absorption surface of the specimen by supplying a test liquid colored from above, capturing a video of the area region including the supply area, it captures the image signal to the signal processor, With respect to the absorption surface of the liquid unabsorbed equal reference threshold to the luminance value of the image in the state, than a small threshold S1 this, this smaller than, the threshold value is set S2 and threshold S3, (B) the image signal the threshold value S3 as the reference binarized to generate the residual surface liquid image representing the existing area and the non-existence region of a surface residual liquid, (B) the threshold value S2 the image signal binarized as a reference to generate an osmotic diffusion liquid image

representing the existing area and the non-existence region of a penetrant diffusion liquid, (C) the image signal the threshold value S1 as the reference binarized to produce a total liquid image representing all of the liquid existing region and the non-existing region, The method of testing the absorption characteristics of the body fluid absorbent article is characterized in that these images a criterion absorption characteristics.

供試体の吸収面に対して、その上方から有色の試験液を供給し、その供給領域を含む面積領域の動画を撮像し、その画像信号を信号処理装置に取り込み、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値に対して、これより小さい閾値 S 1 と、これよりさらに小さい、閾値 S 2 及び閾値 S 3 を設定し、（イ）閾値 S 3 を基準として前記画像信号を二値化処理し、表面残留液の存在領域および非存在領域を表す表面残留液画像を生成し、（ロ）閾値 S 2 を基準として前記画像信号を二値化処理し、浸透拡散液の存在領域および非存在領域を表す浸透拡散液画像を生成し、（ハ）閾値 S 1 を基準として前記画像信号を二値化処理し、全ての液存在領域および非存在領域を表す全液画像を生成し、これらの画像を吸収特性の判断基準とすることを特徴とする体液吸収性物品の吸収特性の試験方法。

3.

Until the absorption of the test solution after supplying at least the test solution with respect to the absorbing surface reaches equilibrium with the single test stage, it performs a plurality of times this, Upon the binarization processing in each step, a value obtained by multiplying the correction coefficient against a threshold before stage is used as the threshold in the stage, the absorption characteristics of the body fluid absorbent article according to claim 1 or 2, Test method.

少なくとも前記試験液を前記吸収面に対して供給してから試験液の吸収が平衡状態に至るまでを 1 回の試験段階とし、これを複数回行うとともに、各段階における前記二値化処理に際し、前段階の閾値に対して補正係数を乗じた値を当該段階における閾値として用いるようにする、請求項 1 または 2 に記載の体液吸収性物品の吸収特性の試験方法。

4.

Obtains the time course of the area of the existing regions in each image the formed, which is a criterion of the absorption characteristics, the method of testing the absorption characteristics of the body fluid absorbent article according to any one of claims 1-3 .

前記生成した各画像における前記存在領域の面積の経時変化を求め、これを吸収特性の判断基準とする、請求項 1 ～ 3 のいずれか 1 項に記載の体液吸収性物品の吸収特性の試験方法。

5.

With respect to the absorption surface of the specimen, and a means for supplying a test solution of colored from above, An imaging device for imaging an area region including the supply area of the test solution, And a signal processing device for processing an image signal obtained by the imaging, The signal processing apparatus, the predetermined threshold liquid smaller than the equal reference threshold to the luminance value of the image in the non-absorbing state of the absorbing surface, the image signal binarized, the presence area of the test solution in a predetermined absorption process and it is configured to generate an image representing the non-presence area, Test equipment of the absorption characteristics of the body fluid absorbent article, characterized in that.

供試体の吸収面に対して、その上方から有色の試験液を供給する手段と、その試験液の供給領域を含む面積領域を撮像する撮像装置と、その撮像した画像信号を処理する信号処理装置とを備え、この信号処理装置は、吸収面の液未吸収状態における画像の輝度値に等しい基準閾値より小さい所定の閾値により、前記画像信号を二値化処理し、所定の吸収過程にある試験液の存在領域および非存在領域を表す画像を生成するように構成されている、ことを特徴とする体液吸収性物品の吸収特性の試験装置。

Diana A

Search history

Search 1: STAC=(mobile and photo and absorbent and product) (Results 7)

Search 2: (Results)

Search 3: STAC=((mobile OR CELLPHONE) and "absorbent product") (Results 20)

Title: TREATMENT OF FABRIC WITH PERFUME/CYCLODEXTRIN COMPLEXES

Abstract: Source: US5094761A An effective amount of perfume/cyclodextrin complex is applied to fabric that is preferably at least partially wetted. A preferred method applies said complex to said fabric in an automatic laundry dryer. The perfume/cyclodextrin complexes are preferably incorporated into solid, dryer-activated, fabric treatment (conditioning) composition, preferably containing fabric softeners, more preferably cationic and/or nonionic fabric softeners. The complexes provide fabrics with perfume benefits when they are rewetted after drying. Volatile perfume materials, including those materials that are commonly associated with "freshness" can be applied to the fabrics in an effective way. Clay provides protection for said perfume/cyclodextrin complexes, especially when certain materials like some nonionic fabric softeners and/or fatty acids are present and in contact with said perfum/cyclodextrin complexes.

Classifications:

International (IPC 8-9): A01N25/00 A23F3/00 A23F3/30 A23F3/40 A23F5/00 A23F5/36 A23F5/46 A23L1/00 A23L1/09 A23L1/22 A23L1/221 A23L1/222 A23L1/226 A23L1/231 A23L1/235 A23L1/39 A23L2/38 A23P1/04 A47L1/15 A47L13/17 A61F13/00 A61K47/26 A61K47/40 A61K47/48 A61K8/00 A61K8/18 A61K8/73 A61K9/14 A61L9/01 A61L9/12 A61Q13/00 A61Q19/00 A61Q5/12 C01B3/02 C08B37/00 C08B37/16 C08F18/08 C08L5/16 C09K3/00 C11B9/00 C11D17/04 C11D3/00 C11D3/12 C11D3/20 C11D3/22 C11D3/30 C11D3/50 D06F25/00 D06F39/02 D06F58/02 D06M11/00 D06M11/79 D06M13/00 D06M13/02 D06M13/144 D06M13/165 D06M13/184 D06M13/188 D06M13/203 D06M13/224 D06M13/248 D06M13/256 D06M13/322 D06M13/463 D06M13/473 D06M13/51 D06M13/513 D06M15/03 D06M15/11 D06M23/00 D06M23/02 D06M23/08 D06M23/12 (Advanced/Invention); A61K47/48 A61K8/00 A61K8/18 A61Q13/00 C11D17/04 D06M101/00 D06M101/02 D06M101/06 D06M101/08 D06M101/16 D06M101/18 D06M101/30 D06M101/32 D06M15/03 (Advanced/Non-invention); A23L1/00 A47L1/00 A47L13/16 A61K8/72 A61L9/12 A61Q13/00 A61Q19/00 A61Q5/12 C01B3/00 C08B37/00 C08F18/00 C11D17/04 C11D3/00 C11D3/12 C11D3/22 C11D3/50 D06F25/00 D06F39/02 D06F58/02 D06M11/00 D06M13/00 D06M15/01 D06M23/00 D06M23/12 (Core/Invention); A47L (Subclass/Invention)

International (IPC 1-7): A01N25/00 A23F3/00 A23F3/30 A23F3/40 A23F5/00 A23F5/36 A23F5/46 A23L1/09 A23L1/22 A23L1/221 A23L1/222 A23L1/226 A23L1/231 A23L1/235 A23L1/39 A23L2/38 A47L1/15 A47L13/17 A61F13/00 A61F13/15 A61K47/26 A61K47/40 A61K47/48 A61K7/00 A61K7/46 A61K9/00 A61K9/14 A61K9/18 A61K9/62 A61L9/01 A61L9/01 A61L9/12 C01B3/02 C08B37/16 C08B7/26 C08L5/16 C09K3/00 C09K3/16 C09K9/00 C11B9/00 C11D17/00 C11D17/04 C11D17/04 C11D17/04 C11D3/12 C11D3/20 C11D3/22 C11D3/30 C11D3/50 C11D7/26 D06B3/10 D06F25/00 D06F39/02 D06F58/02 D06M11/79 D06M13/00 D06M13/148 D06M13/165 D06M13/192 D06M13/224 D06M13/355 D06M13/463 D06M13/473 D06M15/00 D06M15/03 D06M15/11 D06M23/00 D06M23/02 D06M23/08 D06M23/12

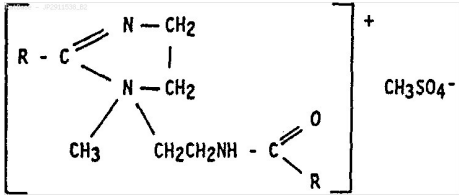
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Probable Assignee: PROCTER AND GAMBLE

Assignee(s):	(std):	BENVEGNUM FERNANDO ; BRUCE PETER ; PROCTER AND GAMBLE ; GARDLIK JOHN M ; PROCTER AND GAMBLE CO ; RECKITT AND COLMAN ; PROCTER AND GAMBLE COMPANY THE ; BANKS TODD J ; RECKITT AND COLMAN MASSY ; RECKITT AND COLMANN PROD LTD ; TRINH TOAN ; RECKITT AND COLMANN SA ; RECKITT COLMAN SA ; THE PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY ; RECKITT AND COLMAN SA
Assignee(s):		RECKITT AND COLMAN S A MASSY ESSONNE FR ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO US ; THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; THE PROCTER AND GAMBLE COMPANY CINCINNATI OHIO US ; RECKITT AND COLMAN S A ; GARDLIK JOHN MICHAEL ; BANKS TODD JEFFREY ; RECKITT AND COLMAN MASSY ESSONNE FR ; PUROKUTAA ANDO GYANBURU CO ZA ; PROCTER AND GAMBLE CO THE ; PETER BRUCE
Inventor(s):	(std):	BANKS TODD J ; BANKS TODD JEFFREY ; BENVEGNUM FERNANDO ; BENVEGNUM FERNANDO NMN ; BRUNET PHILIPPE ; DIDIER PEYRONNET ; FERNANDO BENBEGNUM ; FERNANDO BENVEGNUM ; GARDLIK J M ; GARDLIK JM ; GARDLIK JOHN M ; GARDLIK JOHN MICHAEL ; FUERUNANDO BENBEENYU ; JIYON MAIKERU GAADORITSUKU ; JOHN MICHAEL GARDLIK ; PEYRONNET DIDIER ; PHILIPPE BRUNET ; TOAN TORIN ; TOAN TRIN ; TOAN TRINH ; TOD JEFRI BANKS ; TODD JEFFREY BANKS ; TOTSUDO JIEFURII BANKUSU ; TRINH TOAN ; TRINH TOAN NMN
Inventor(s):		TRINH TOAN MAINEVILLE OHIO 45039 ; TRINH TOAN MAINEVILLE OHIO 45039 US ; TOTSUDO JEFURII BANKUSU ; TOAN NMN TRINH ; PEYRONNET DIDIER 28630 BARJOUVILLES FR ; JON MAIKERU GAADORITSUKU ; FUERUNANDO BENBEENYU ; GARDLIK JOHN MICHAEL CINCINNATI OHIO 45231 ; GARDLIK JOHN MICHAEL CINCINNATI OHIO 45231 US ; FERNANDO NMN BENVEGNUM ; BRUNET PHILIPPE F 28000 CHARTRES FR ; BENVEGNUM FERNANDO MAINEVILLE OHIO 45039 ; BENVEGNUM FERNANDO MAINEVILLE OHIO 45039 US ; BANKS TODD JEFFREY WEST CHESTER OHIO 45069 ; BANKS TODD JEFFREY WEST CHESTER OHIO 45069 US
Agent(s):		SPRUSON AND FERGUSON ; ASPEN PHARMA PTY LTD ; PHILLIPS ORMONDE FITZPATRICK ; KIRBY EADES GALE BAKER
Designated states:		AT AU BE BR CH DE DK ES FI FR GB GR IT JP KR LI LU NL NO SE US

Title: NONWOVEN WEB OF POLY(VINYL ALCOHOL) FIBERS

Abstract: Source: US5342335A A nonwoven web of poly(vinyl alcohol) fibers which is prepared by a method comprising the steps of (1) preparing an aqueous polymer solution of a defined poly(vinyl alcohol); (2) extruding the resulting polymer solution under defined conditions through a die having a plurality of orifices to form a plurality of threadlines; (3) attenuating the resulting threadlines with a defined primary gaseous source to form fibers under conditions of controlled macro scale turbulence and under conditions sufficient to permit the viscosity of each threadline, as it leaves a die orifice and for a distance of no more than about 8 cm, to incrementally increase with increasing distance from the die, while substantially maintaining uniformity of viscosity in the radial direction, at a rate which is sufficient to provide fibers having the desired attenuation and mean fiber diameter without significant fiber breakage; (4) drying the attenuated threadlines with a defined secondary gaseous source; and (5) depositing the resulting fibers randomly on a moving foraminous surface to form a substantially uniform web, the moving foraminous surface being from about 10 to about 100 cm from the opening from which the last gaseous source to contact the threadlines emerges, which fibers have a mean fiber diameter in the range of from about 0.1 to about 30 mu m and are substantially free of shot, with the attenuating and drying steps being carried out under conditions of controlled macro scale turbulence.

Classifications:

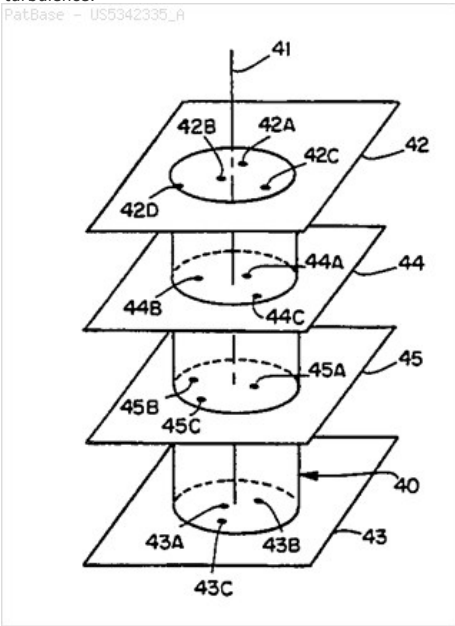
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International (IPC 1-7): A41B A41B13/04 A61F A61F13/15 A61F13/20 A61F13/46 A61L15/00 A61L15/24 B32B C08J D01D5/04 D01F6/14 D01F6/50 D04H1/08 D04H1/42 D04H1/54 D04H1/56 D04H3/03 D04H3/16

CPC: D01D5/04 D01D5/14 D01F6/14 D04H3/16 D04H1/56

European: D04H1/56B D04H3/16

US: 264/205 264/211.16 264/211.17 264/555 604/358 604/367 604/374



Family:

Publication number	Publication date	Application number	Application date
AU199228457 A1	19930624	AU19920028457	19921118
AU661732 B2	19950803	AU19920028457	19921118
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KR100249638 B1	20000401	KR19920024596	19921217
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Priority:

US19910810470 19911219 CA19922070589 19920605 US19930172018 19931222
US19930172513 19931222

Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK CORP NEENAH WIS US ; KIMBERLY CLARK WORLDWIDE INC ; RHIM HANNONG

Inventor(s): (std): RHIM HANNONG

Inventor(s): RHIM HANNONG ROSWELL GEORGIA 30075 US ; HANNONG RHIM

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP

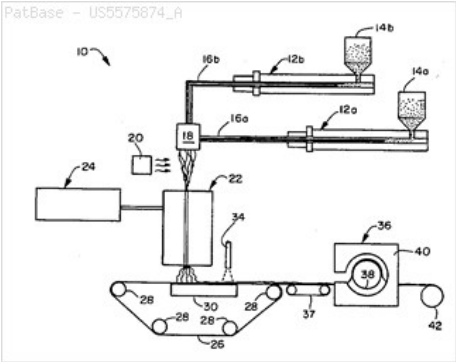
Designated states: BE DE ES FR GB IT NL SE

Title: METHOD FOR MAKING SHAPED NONWOVEN FABRIC

Abstract: Source: US5575874A A shaped nonwoven fabric comprises continuous spunbond filaments made by directly forming the spunbond filaments into a web in a single process. The fabric has an array of discrete surface features such as apertures or projections, or both. The spunbond filaments are bonded together with an adhesive polymeric component so that the shape of the fabric is retained. The fabric can be engineered to have particular fluid handling properties, strength properties, abrasive properties and aesthetic properties. Articles such as personal care products, garments, medical products and cleaning products are also disclosed.

Classifications:

International (IPC 8-9): A61F13/00 A61F13/15 A61F13/49 A61F13/511 D04H1/54 D04H1/58 D04H1/60 D04H3/02 D04H3/12 D04H3/16 G02F1/1335 (Advanced/Invention); A61F13/00 A61F13/15 D04H1/54 D04H3/02 (Advanced/Non-invention); G02F1/13 (Core/Invention); A61F13/15 B32B5/22 D04H3/00 (Core/Non-invention)
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European: A61F13/15M3G A61F13/512 D04H1/54 D04H1/60 D04H3/16
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Family:

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Probable Assignee: KIMBERLY CLARK WORLDWIDE INC

Assignee(s): (std): KIMBERLY CLARK CO

Assignee(s): KIMBERLY CLARK CORP ; KIMBERLY CLARK WORLDWIDE INC ; KIMBERLY CLARK CORPUS ; KIMBERLY CLARK WORLDWIDE INC NEENAH WIS US ; SASSE PHILIP ANTHONY ; SAWYER LAWRENCE HOWELL ; SHANE RICHARD MACFERRAN ; PIKE RICHARD DANIEL ; LEVY RUTH LISA ; GRIESBACH HENRY LOUIS III ; GWALTNEY SHARON WATKINS ; KIMBERLEY CLARK CORP

Inventor(s): (std): ANTHONY SASSE PHILIP ; DANIEL PIKE RICHARD ; GRIESBACH HENRY ; GRIESBACH HENRY L III ; GRIESBACH HENRY LOUIS ; GRIESBACH HENRY LOUIS III ; GRIESBACH III HENRY L ; GRIESBACH III HENRY LOUIS ; GWALTNEY SHARON ; GWALTNEY SHARON W ; GWALTNEY SHARON WATKINS ; LISA LEVY RUTH ; LOUIS GRIESBACH III HENRY ; MACFERRAN SHANE RICHARD ; PHILIP ANTHONY SASSE ; PIKE RICHARD ; PIKE RICHARD D ; PIKE RICHARD DANIEL ; LEVY RUTH ; LEVY RUTH L ; LEVY RUTH LISA ; HOWELL SAWYER LAWRENCE ; RICHARD MACFERRAN SHANE ; SASSE PHILIP ; SASSE PHILIP A ; SASSE PHILIP ANTHONY ; SAWYER LAWRENCE ; SAWYER LAWRENCE H ; SAWYER LAWRENCE HOWELL ; SHANE RICHARD ; SHANE RICHARD M ; SHANE RICHARD MACFERRAN ; WATKINS GWALTNEY SHARON

Inventor(s): SHANE RICHARD MACFERRAN DULUTH GA 30136 US ; SHARON WATKINS GWALTNEY ; SAWYER LAWRENCE HOWELL ROSWELL GA 30075 US ; SASSE PHILIP ANTHONY ALPHARETTA GA 30202 US ; RUTH LISA LEVY ; LAWRENCE HOWELL SAWYER ; LEVY RUTH LISA SUGAR HILL GA 30518 US ; PIKE RICHARD DANIEL NORCROSS GA 30092 US ; RICHARD DANIEL PIKE ; GWALTNEY SHARON WATKINS WOODSTOCK GA 30188 US ; HENRY LOUIS GRIESBACH ; HENRY LOUIS GRIESBACH III ; HENRY LOUIS III GRIESBACH ; GRIESBACH HENRY LOUIS III N E ATLANTA GA 30305 US ; GRIESBACH HENRY LOUIS III NE ATLANTA GA 30305 US ; GRIESBACH HENRY L

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP

Designated states: AT AU BE BR CH CN CY DE DK ES FI FR GB GR IE IT JP KR LI LU MC NL PT SE

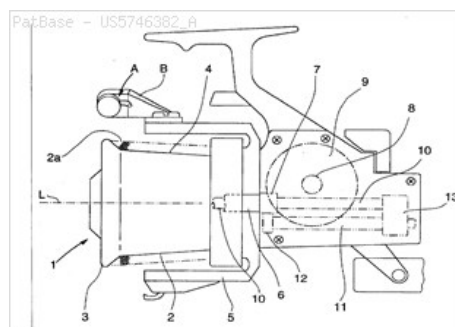
Abstract: Source: US5746382A A fishing spinning reel in which is so designed that the fishing line is prevented from being bound together when let out of the reel, whereby the fishing line is let out of the reel stably at all times. The spool (1) includes a tapered portion (4) which is gradually smaller in diameter towards the rear end, thus providing a fishing-line winding surface (2), and a guide (3) at the front end which, when the fishing line is let out of the reel, prevents the fishing line from touching a wound fishing-line surface (2a) formed by the fishing line wound on the spool.

International (IPC 8-9): A01K89/01 A61F13/15 (Advanced/Invention); A61F13/15 (Core/Invention)

CPC: A01K89/0111

European: A01K89/01H

US: 242/322 242/613.1



Publication number	Publication date	Application number	Application date
CO4750789 A1	19990331	CO19960041106	19960802
JP3007531 U	19950221	JP19940010736U	19940805
US5746382 A	19980505	US19970821411	19970321

JP19940010736U 19940805 US19950510618 19950803 US19970821411 19970321

Assignee(s): (std): DAIWA SEIKO INC ; PROCTER AND GAMBLE

Assignee(s): PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY

Inventor(s): (std): ROE DONALD CARROL ; TSUTSUMI WATARU

Inventor(s): CARROL ROE DONALD

Agent(s): ALVARO CORREA ORDONEZ

Title: Method and devices for laying a thread on a substrate in a zigzag pattern

Abstract: Source: US6443935B In a method and device for applying a thread to a moving substrate, a thread is continuously dispensed to a pick-up point adjacent to the point of contact of two rotating wheels (2, 3) that are inclined towards each other. The peripheries of the wheels have fingers (7) which hook the thread and move it to one side or the other as the wheels rotate, and then deposit the thread extended between the fingers 180 degrees from the pick-up point. Long spaces between the fingers (7) on one wheel or the other make it possible to lay the thread longitudinally (8b) or in a long diagonal line instead of merely in a lateral zigzag pattern. The method and device may be used to make an absorbent article, such as a diaper.

Classifications:

International (IPC 8-9): A61F13/15 A61F13/49 A61F13/514 A61F13/53 A61F5/44

A61F5/452 B65H57/00 B65H57/28 D03D47/50 D04H3/05 D06C25/00

D06H5/00 (Advanced/Invention);

A61F5/44 B65H57/00 (Advanced/Non-invention);

A61F13/15 A61F5/44 A61F5/451 B65H57/00 D03D47/00 D04H3/02 D06C25/00

D06H5/00 (Core/Invention)

International (IPC 1-7): A61F13/15 A61F13/16 A61F13/20 A61F13/49 A61F13/53

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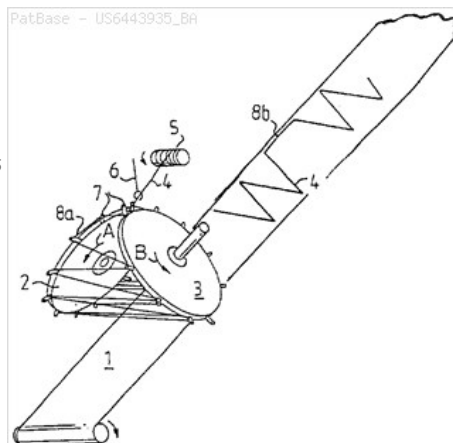
D06C25/00 D06H5/00

CPC: A61F13/15601 A61F13/49009 A61F13/495 D04H3/005 D04H3/045 D04H3/05 D04H3/12

European: A61F13/15M2B2 A61F13/495 A61F13/49D2 D04H3/005 D04H3/045

D04H3/05 D04H3/12

US: 156/161 156/177 156/178 156/229 156/495 156/496 26/90 604/385.26 604/385.29 604/385.3



Family:

Publication number	Publication date	Application number	Application date
AU199646815 A1	19960821	AU19960046815	19960201
AU703265 B2	19990325	AU19960046815	19960201
CN1179092 A	19980415	CN19961092759	19960201
CN1289040 C	20061213	CN19961092759	19960201
CO4520256 A1	19971015	CO19960004358	19960201
CZ289872 B6	20020417	CZ19970002407	19960201
CZ9702407 A3	19980513	CZ19970002407	19960201
DE69624009 D1	20021031	DE19966024009	19960201
DE69624009 T2	20030515	DE19966024009T	19960201
EP0955978 A1	19991117	EP19960902549	19960201
EP0955978 B1	20020925	EP19960902549	19960201
GB2297565 A1	19960807	GB19960001764	19960130
GB2297565 B2	19990602	GB19960001764	19960130
GB2323101 A1	19980916	GB19980011972	19960130
GB2323101 B2	19990602	GB19980011972	19960130
GB9601764 A0	19960403	GB19960001764	19960130
GB9811972 A0	19980729	GB19980011972	19960130
IL116832 A0	19960514	IL19960116832	19960119
IL116832 A1	20000601	IL19960116832	19960119
JP10513069 T2	19981215	JP19960523477T	19960201
JP2005349214 A2	20051222	JP20050193528	20050701
JP3752550 B2	20060308	JP19960523477T	19960201
MX9705736 A1	19980731	MX19970005736	19970729
NZ301401 A	19981223	NZ19960301401	19960201
PE43797 A1	19971114	PE19960000061	19960129
PL183523 B1	20020628	PL19960321515	19960201
PL321515 A1	19971208	PL19960321515	19960201
SE508630 C2	19981019	SE19950000384	19950202
SE9500384 A	19960803	SE19950000384	19950202
SE9500384 A0	19950202	SE19950000384	19950202
SE9500384 L	19960803	SE19950000384	19950202
SK102597 A3	19980304	SK19970001025	19960201
SK283781 B6	20040108	SK19970001025	19960201
TNSN96017 A1	19980319	TN1996SN00017	19960201
TR9700746 T1	19980121	TR19970000746T	19960201
US6443935 BA	20020903	US19970875736	19970923
WO9623464 A1	19960808	WO1996SE00116	19960201
ZA9600756 A	19960815	ZA19960000756	19960131

Priority:

SE19950000384 19950202 GB19960001764 19960130 CO19960960043 19960201
WO1996SE00116 19960201

Probable Assignee: SCA MOLNLYCKE AB

Assignee(s): (std): MOELNLYCKE AB ; SCA HYGIENE PROD AB ; SCA HYGIENE PRODUCTS AKTIEBOLA ; GUSTAFSSON ANDERS ; SCA MOELNLYCKE AB ; WIDLUND URBAN

Assignee(s): SCA HYGIENE PRODUCTS AKTIEBOLAG ; M 247 LNLYCKE AB ; M AND 247 LNLYCKE AB ; MOELNLYCKE A B ; SCA MOLNLYCKE ABS ; SCA HYGIENE PRODUCTS AB ; MOLNLYCKE AB ; SCA HYGIENE PRODUCTS AB GOETEBORG GOTENBURG ; SCA MOLNLYCKE AB

Inventor(s): (std): ANDERS GUSTAFSSON ; GUSTAFSSON A ; GUSTAFSSON ANDERS ; URBAN WIDLUND ; WIDLUND A GUSTAFSSON U ; WIDLUND U ; WIDLUND URBAN

Inventor(s): U WIDLUND ; A GUSTAFSSON ; A GUSTAFSSON U WIDLUND

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; ERNESTO CAVELIER; REINHOLD COHN AND PARTNERS

Designated states: AT AU BE CA CH CN CZ DE DK ES FI FR GB GR HU IE IT JP LU MC MX NL NO NZ PL PT SE SK TR US

Title: Absorbent articles having fluid contact angle gradients

Abstract: Source: US6232521B The present invention relates to a disposable absorbent article (1) comprising a liquid pervious top sheet (2), an absorbent core (4), and a back sheet (3). Said back sheet comprises a fluid permeable polymeric film having uni-directional fluid transfer towards the core, and said core comprising a fluid storage layer, wherein said absorbent article exhibits a fluid contact angle gradient across said storage layer and said back sheet.

Classifications:

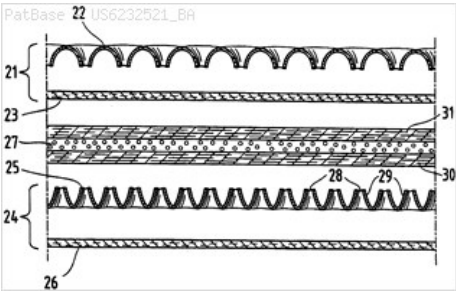
International (IPC 8-9): A61F13/15 A61F13/20 A61F13/514 A61F13/534 A61F13/539 (Advanced/Invention); A61F13/15 A61F13/20 (Advanced/Non-invention)

International (IPC 1-7): A61F13/15 A61F13/20 A61F13/46 A61F13/514 A61F13/52 A61F13/534 A61F13/539

CPC: A61F13/47 A61F13/5146 A61F13/5148 A61F13/534 A61F2013/51061 A61F13/15203 A61F2013/530912

European: A61F13/15C3 A61F13/15J A61F13/514B1A A61F13/534 K61F13/47 K61F13/514C2A K61F13/51N1 K61F13/53S4B

US: 604/358 604/378 604/385.01 604/385.101 604/385.23



Family:

Publication number	Publication date	Application number	Application date
AR005293 AA	19990428	AR1996P105914	19961227
AU199715675 A1	19970728	AU19970015675	19961219
AU731558 B2	20010405	AU19970015675	19961219
BRPI9612387 A	19990713	BR1996PI12387	19961219
CA2241077 AA	19980619	CA19962241077	19961219
CN1098059 C	20030108	CN19961080149	19961219
CN1211912 A	19990324	CN19961080149	19961219
CO4520182 A1	19971015	CO19960068578	19961230
CZ9802055 A3	19981111	CZ19980002055	19961219
EG20884 A	20000531	EG19960001190	19961226
EP0874613 A1	19981104	EP19960945420	19961219
EP0874613 A4	20010103	EP19960945420	19961219
HU221144 B1	20020828	HU19990001020	19961219
HU9901020 AB	19990728	HU19990001020	19961219
HU9901020 AC	19991129	HU19990001020	19961219
ID20374 A	19971203	ID19960003988	19961230
IL125069 A0	19990126	IL19960125069	19961219
IL125069 A1	20020421	IL19960125069	19961219
JP11501562 T2	19990209	JP19960524546T	19961219
JP3245177 B2	20020107	JP19970524546T	19961219
KR100272832 B1	20001201	KR19980704977	19980627
KR19990076850 A	19991025	KR19980704977	19980627
MX9805163 A1	19981031	MX19980005163	19980625
NO983009 A	19980828	NO19980003009	19980626
NO983009 A0	19980626	NO19980003009	19980626
TH26739 A	19971016	TH19961004509	19961226
TR9801213 T2	19981021	TR19980001213T	19961219
TW390807 B	20000521	TW19970106433	19970514
US6232521 BA	20010515	US19980091861	19980625
WO9724096 A1	19970710	WO1996US20685	19961219
ZA9610903 A	19970627	ZA19960010903	19961223

Priority:

EP19950120652 19951228 EP19960945420 19961219 CO19960960685 19961230

US19980091861 19980625 WO1996US20685 19961219

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std): DIVO MICHAEL ; PROCTER AND GAMBLE ; VEGLIO PAOLO ; BEWICK SONNTAG CHRISTOPHER PHI ; THE PROCTER AND GAMBLE COMPANY

Assignee(s): THE PROCTER AND GAMBLE CO CINCINNATI OHIO ; PROCTER AND GAMBLE GMBH ; BEWICK SONNTAG CHRISTOPHER PHILIP ; PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE CO ; PROCTER AND GAMBLE CO THE

Inventor(s): (std): BEWICK SONNTAG CHRISTOPHER PHI ; BEWICK SONNTAG CHRISTOPHER PHILIP ; BEWICK SONNTAG CRISTOPHER PHIL ; CHRISTOPHER PHILIP BEWICK SONNTAG ; DIVO MICHAEL ; PAOLO VEGLIO ; SONNTAG CHRISTOPHER P BEWICK ; SONNTAG CHRISTOPHER PHILIP BEW ; VEGEIO PAOLO ; VEGLIO PAOLO ; BEWICK SONNTAG CHRISTOPHER P

Inventor(s): MICHAEL DIVO ; PAOLO VEGEIO ; BEWICK SONNTAG CRISTOPHER PHILIP ; CHRISTOPHER P BEWICK SONNTAG

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; SIM AND MCBURNEY; CARLOS REINALDO OLARTE GARCIA; REINHOLD COHN AND PARTNERS

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CN CU CZ DE DK EE ES FI FR GB GE GR HU IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

Title: ARTICULOS ABSORBENTES COMO PANALES QUE TIENEN UNA HOJA SUPE- RIOR CON UNA CAPA DE LOCION Absorbent articles such as diapers HAVING A topsheet with a layer of LOCION (Machine translation)

Abstract: Source: CO4520271A SE REVELA UN PANAL QUE CONTIENE UNA HOJA SUPERIOR PERMEABLE AL LIQUIDO CUBIERTA CON UNA COMPOSICION DE LOCION. LA COMPOSICION DE LOCION REDUCE LA AD- HERENCIA DE LAS DEPOSICIONES INTESTINALES A LA PIEL DEL USUARIO, MEJORANDO ASI LA FACILIDAD DE LIMPIEZA DE LAS DEPOSICIONES INTESTINALES. LA COMPOSICION DE LOCION COMPRENDE UN EMOLIENTE PLAS- TICO O FLUIDO TAL COMO ACEITE MINERAL O PETROLATO, UN AGENTE INMOVILIZADOR TAL COMO UN ALCOHOL GRASO O CERA DE PARAFINA PARA INMOVILIZAR EL EMOLIENTE EN LA SUPERFICIE DE LA HOJA SUPERIOR DE PANAL, Y OPCIONALMENTE UN AGENTE TENSOACTIVO HIDROFILO PARA MOJORAR LA MOJABILIDAD DE LA HOJA SUPERIOR RECU- BIERTA. DEBIDO A QUE EL EMOLIENTE ESTA SUBTANCIAL- MENTE INMOVILIZADO EN LA SUPERFICIE DE LA HOJA SUPERIOR, SE REQUIERE MENOS LOCION PARA IMPARTIR LAS VENTAJAS DESEADAS DE CAPA DE LOCION TERAPEUTI- CA O PROTECTORA. It REVEALS THAT CONTAINS A honeycomb liquid pervious topsheet coated with a lotion composition. The lotion composition REDUCE THE HERITAGE AD stool Intestinal A user's skin, improving cleanability bowel movements. The lotion composition comprising an emollient plasma TICO OR FLUID MINERAL OIL AS or petrolatum, an immobilizing agent such as a fatty alcohol or paraffin wax to immobilize the emollient ON THE SURFACE OF THE UPPER SHEET diaper, and optionally a surfactant MOJORAR wool for wettability of the topsheet RECOV- ered. BECAUSE THE MIND SUBTANCIAL- emollient is immobilized on the surface of the top sheet, LOCION LESS REQUIRED TO TEACH THE BENEFITS LAYER DESIRED CA LOCION therapeutic or protective.

Classifications:
International (IPC 8-9): A61F13/15 (Advanced/Invention);
A61F13/15 (Core/Invention)
International (IPC 1-7): A61F13/15

Family:

Publication number	Publication date	Application number	Application date
CO4520271 A1	19971015	CO19950053900	19951115

Priority:
CO19950053900 19951115

Probable Assignee: PROCTER AND GAMBLE
Assignee(s): (std): PROCTER AND GAMBLE
Assignee(s): PROCTER AND GAMBLE CO ; THE PROCTER AND GAMBLE COMPANY
Inventor(s): (std): BAKESFRANK HEINRICH ; ROE DONALD CARROL ; WARNER ALRICK VINCENT
Inventor(s): VINCENT WARNER ALRICK ; CARROL ROE DONALD ; HEINRICH BAKESFRANK
Agent(s): JIMENA ESCOBAR URIBE

European: A61L15/22M A61L15/26 A61L15/46 K61L300/300 K61L300/802



Publication number	Publication date	Application number	Application date
AR015594 AA	20010516	AR1998P101887	19980423
AU199867439 A1	19981113	AU19980067439	19980423
BRP19810929 A	20000926	BR1998P10929	19980423
CA2285620 AA	19991014	CA19982285620	19980423
CN1257433 A	20000621	CN19988005464	19980423
CO5040080 A1	20010529	CO19980022675	19980424
EP0977603 A1	20000209	EP19980912678	19980423
HU0001235 AB	20000828	HU200000001235	19980423
ID24052 A	20000706	ID19990001273	19980423
IL132321 A0	20010319	IL19980132321	19980423
JP2000510371 T2	20000815	JP19980545357T	19980423
KR20010012103 A	20010215	KR19997009805	19991022
NO995166 A	19991227	NO19990005166	19991022
NO995166 A0	19991022	NO19990005166	19991022
PE83599 A1	19991015	PE19980000306	19980424
TH33672 A	19990702	TH19981001428	19980422
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TW366281 B	19990811	TW19980116224	19980930
WO9847546 A1	19981029	WO1998B00618	19980423
ZA9803401 A	19981027	ZA19980003401	19980422

US19970840039 19970424 WO1998IS00618 19980423 WO1998IB00618 19980423

Probable Assignee: PROCTER AND GAMBLE

Assignee(s): (std): PROCTER AND GAMBLE : THE PROCTER AND GAMBLE CO : THE PROCTER AND GAMBLE COMPANY

Assignee(s): THE PROCTER AND GAMBLE COMPANYUS ; VANRIJSWIJCK LAURA GRAVES SPALDING ; PROCTER AND GAMBLE CO ; ROE DONALD CARROLL ; SCHULTE THOMAS EDWARD ; HERSKO BART STEVEN

Inventor(s): (std): DONALD CARROLL ROE ; GRAVES SPALDING VANRIJSWIJCK LAURA ; HERSKO BARD STEVEN ; HERSKO BART STEVEN ; LAURA G S VANRIJSWIJCK ; LAURA GRAVES SPALDING VANRIJSWIJCK ; ROE DONALD CAROLL ; ROE DONALD CARROL ; ROE DONALD CARROLL ; SCHULTE THOMAS ; SCHULTE THOMAS EDWARD ; THOMAS E SCHULTE ; THOMAS EDWARD SCHULTE ; BART STEVEN HERSKO ; DANALD C ROE ; VANRIJSWIJCK LAURA GRAVES SPAL ; VANRIJSWIJCK LAURA GRAVES SPALDING ; VANRIJSWIJCK LAURA G S ; SCHULTE THOMAS E ; ROE DONALD C

Inventor(s): BARD STEVEN HERSKO : VANRIJSWIJCK LAURA GRAVES S : DONALD CARROL ROE : THOMAS SCHULTE

Agent(s): SIM AND MCBURNEY; CARLOS REINALDO OLARTE GARCIA

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR
GW HU ID IE IL IS IT JP KE KG KP KR KC LC LT LL LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO
RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

Title: Absorbent product

Abstract: Source: US6293931B An absorbent article 10 which has a dimension in a longitudinal direction which is greater than its dimension in a transverse dimension. The absorbent article 10 comprises a liquid pervious top sheet 1 a liquid impervious back sheet 2 vertically below the top sheet, and an absorbent core 3 provided between the top sheet and the back sheet. The absorbent core has a first unconstrained form in which a section 6 of the absorbent core forms a protrusion from the remainder of the absorbent core in the vertical direction towards the top sheet, and a second unconstrained form in which the absorbent core has no substantive protrusion in the vertical direction. The absorbent core is capable of being changed between the first and second forms.

Classifications:

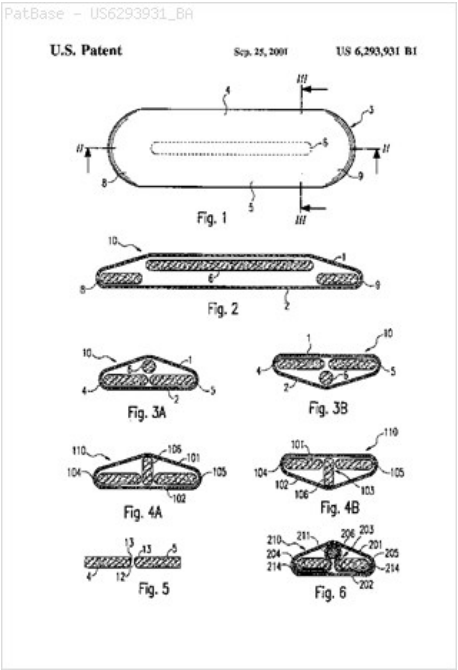
International (IPC 8-9): A61F13/15 (Advanced/Invention)

International (IPC 1-7): A61F13/15 A61F13/45

CPC: A61F13/47218 A61F13/535 A61F2013/4568

European: A61F13/472B A61F13/535 K61F13/45C4

US: 604/379 604/380 604/385.01 604/385.101



Family:

Publication number	Publication date	Application number	Application date
DE69931709 D1	20060720	DE19996031709	19990727
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EP0983759 A2	20000308	EP19990114659	19990727
EP0983759 A3	20011219	EP19990114659	19990727
EP0983759 B1	20060607	EP19990114659	19990727
GB2341096 A1	20000308	GB19980019140	19980902
GB2341096 B2	20021113	GB19980019140	19980902
GB9819140 A0	19981028	GB19980019140	19980902
US6293931 BA	20010925	US19990343704	19990630

Priority:

GB19980019140 19980902

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS ABS

Inventor(s): (std): ROMARE ANETTE ; ROMARE ANNETTE

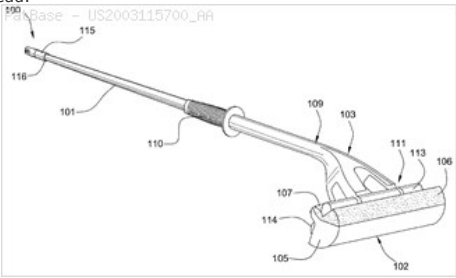
Inventor(s): ANNETTE ROMARE ; ANNETTE ROMARE

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Title: ROLLER MOP

Abstract: Source: US2003115700A Disclosed is a cleaning implement, preferably in the form of a roller mop, that includes a mop head, a shaft, and a wringer. The cleaning implement further includes a connecting link connected to the mop head and to the shaft or wringer. The mop head has a connecting side and a cleaning side thereby defining a mop axis, which axis is disposed at an oblique angle with respect to the longitudinal axis of the shaft. The connecting link is positioned with respect to the mop head to permit the mop head to travel along a path substantially coextensive with the mop axis over at least a portion of the range of travel of the mop head.

Classifications:
International (IPC 8-9): A47L13/144 A47L13/20 (Advanced/Invention); A47L13/10 (Core/Invention)
International (IPC 1-7): A47L13/144
CPC: A47L13/144
European: A47L13/144
US: 15/116.2 15/119.1 15/119.2 15/262



Family:

Publication number	Publication date	Application number	Application date
AT395859 E	20080615	AT20020752669T	20020802
AU2002366781 AA	20030709	AU20020366781	20020802
AU2002366781 BB	20071129	AU20020366781	20020802
CA2469897 AA	20040610	CA20022469897	20020802
CN1606417 A	20050413	CN20028025661	20020802
DE60226774 D1	20080703	DE20026026774	20020802
EP1455629 A1	20040915	EP20020752669	20020802
EP1455629 B1	20080521	EP20020752669	20020802
HK1072355 A3	20050826	HK20050105714	20050707
US2003115700 AA	20030626	US20010027674	20011220
US6785927 BB	20040907	US20010027674	20011220
WO03053208 A1	20030703	WO2002US24615	20020802

Priority:

US20010027674 20011220 WO2002US24615 20020802

Probable Assignee: FREUDENBERG HOUSEHOLD PROD LP

Assignee(s): (std): FREUDENBERG HOUSEHOLD PROD LP

Assignee(s): FREUDENBERG HOUSEHOLD PRODUCTS ; FREUDENBERG HOUSEHOLD PRODUCTS LP ; SPECHT PAUL B ; LESLEY PAUL M

Inventor(s): (std): LESLEY PAUL ; LESLEY PAUL M ; SPECHT PAUL ; SPECHT PAUL B

Inventor(s): PAUL B SPECHT ; PAUL M LESLEY

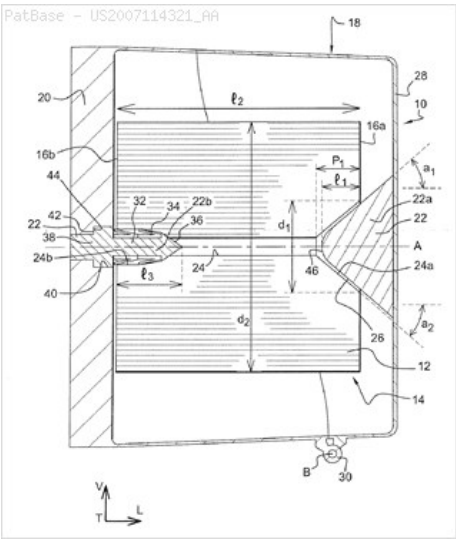
Agent(s): SPRUSON AND FERGUSON; RICHES MCKENZIE AND HERBERT LLP; HOERNER ANDREAS ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Title: SYSTEM FOR DISPENSING PAPER IN A CORELESS ROLL, METHOD OF MANUFACTURING A ROLL OF THIS TYPE, AND ROLL OF PAPER

Abstract: Source: US2007114321A A system for dispensing a strip of **absorbent product** in a coreless roll, of the type including a roll and a dispenser for dispensing the **absorbent product**, of the type including a first guiding and positioning element which can be received in a first housing of the roll and including a second holding element which can be received in a second housing of the roll, wherein the first guiding and positioning element includes a portion of revolution with a cross section decreasing towards the inside of the dispenser, which can be received in the first associated housing of the roll.

Classifications:
International (IPC 8-9): A47K10/00 A47K10/32 A47K10/38 B65H16/02 B65H16/06 B65H75/18 B65H75/36 (Advanced/Invention); A47K10/00 A47K10/24 B65H16/00 B65H75/18 B65H75/34 (Core/Invention)
CPC: A47K10/38 A47K10/3836 A47K2010/3206
European: A47K10/38 A47K10/38C K47K10/32B
US: 242/596 242/596.7 242/596.8 242/599.4



Family:

Publication number	Publication date	Application number	Application date
CA2565516 AA	20070503	CA20062565516	20061024
CA2565516 C	20131008	CA20062565516	20061024
EP1782722 A1	20070509	EP20060291605	20061016
EP1782722 B1	20160420	EP20060291605	20061016
ES2570740 T3	20160520	ES20060291605T	20061016
FR2892911 A1	20070511	FR20050053353	20051104
FR2892911 B1	20091218	FR20050053353	20051104
RU2006137809 A	20080510	RU20060137809	20061026
RU2401044 C2	20101010	RU20060137809	20061026
US2007114321 AA	20070524	US20060554211	20061030
US7513453 BB	20090407	US20060554211	20061030

Priority:
FR20050553353 20051104 FR20050053353 20051104 CA20062565516 20061024

Probable Assignee: GEORGIA PACIFIC FRANCE

Assignee(s): (std): DZHORDZHIJA PASIFIK FRANS ; GEORGIA PACIFIC FRANCE ; GEORGIA PACIFIC FRANCE SOC EN ; SCA TISSUE FRANCE

Assignee(s): CATTACIN GILLES ; GEORGIA PACIFIC FRANCE SOCIETE EN COMMANDITE PAR ACTIONS ; POMMIER NICOLAS ; NEVEU JEAN LOUIS ; GEORGIA PACIFIC FRANCE SOC EN COMMANDITE PAR ACTIO ; GEORGIA PACIFIC FRANCE SOCIETE EN COMMANDITE PAR A

Inventor(s): (std): CATTACIN GILLES ; KATASEN ZHIL ; NEVE ZHAN LUI ; NEVEU JEAN LOUIS ; POMM E NIKOLJA ; POMMIER NICOLAS

Inventor(s): POMM'E NIKOLJA ; NEVE ZHAN-LUI ; KATASEN ZHIL'

Agent(s): OGILVY RENAULT LLP SENCRL SRL; RIDOUT AND MAYBEE LLP; HOFFMANN EITLE; UNGRIA JAVIER; PATENT GROUP GA030-43, GEORGIA-PACIFIC LLC; PATENT GROUP GA030 43 GEORGIA PACIFIC LLC; CHARLTON JOEL T; JOEL T

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO RS SE SI SK TR

Title: MEANDERING CORRECTION APPARATUS OF A CONTINUOUS SHEET ASSOCIATED WITH AN ABSORBENT ARTICLE

Abstract: Source: US2013175312A An apparatus for manufacturing absorbent articles includes: a detecting section detecting an edge position of a continuous sheet in the width direction when the detecting section is stopped at a stop position, a meandering correcting section correcting meandering of the continuous sheet, a motor moving the detecting section in the width direction, and a controller controlling the motor based on a movement signal related to movement of the detecting section. The controller has a value corresponding to a distance from a reference position to each stop position, moves the detecting section to each stop position based on the corresponding value and the movement signal. The controller detects that the detecting section reaches the reference position based on a current of the motor. The reference position is a limit position for physical movement in the width direction of the detecting section, and is at or outside the outermost stop position.

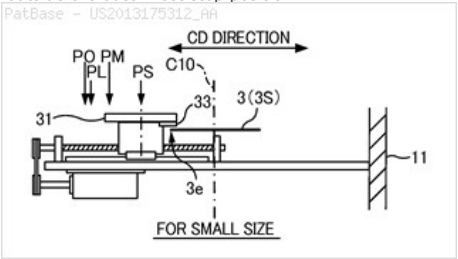
Classifications:

International (IPC 8-9): A61F13/15 A61F13/49 B65H23/02 B65H23/032 B65H23/038 B65H26/02 (Advanced/Invention); B65H23/038 (Core/Invention)

CPC: B65H23/032 B65H2553/81 A61F13/15772 A61F2013/15796 B65H23/0216 B65H23/038 B65H2301/211 B65H2403/52 B65H2553/41 B65H2553/83 B65H2801/57

European: A61F13/15M9 B65H23/02A3 B65H23/038 L65H403/52

US: 226/115



Family:

Publication number	Publication date	Application number	Application date
CN103189291 A	20130703	CN201180036415	20110720
CN103189291 B	20150805	CN201180036415	20110720
DE602011022126 D1	20160128	DE201160022126T	20110720
EP2599740 A1	20130605	EP20110812325	20110720
EP2599740 A4	20141210	EP20110812325	20110720
EP2599740 B1	20151216	EP20110812325	20110720
IN00085KN2013 A	20130628	IN2013KN00085	20130110
JP2012025578 A2	20120209	JP20100168363	20100727
JP5557637 B2	20140723	JP20100168363	20100727
KR20130135228 A	20131210	KR20137002971	20110720
TH130516 A	20131225	TH20131000420	20110720
TW201219018 A	20120516	TW20110125453	20110719
US2013175312 AA	20130711	US20110809633	20110720
US9284150 BB	20160315	US20110809633	20110720
WO12014733 A1	20120202	WO2011JP66396	20110720

Priority:

JP20100168363 20100727 WO2011JP66396 20110720 EP20110812325 20110720

Probable Assignee: UNICHARM CORP

Assignee(s): (std): NAKANO TAKUMI ; UNI CHARM CORP ; UNI CHARM LTD ; UNICHARM CORP

Assignee(s): UNI CHARM SHIKOKUCHUO SHI CORP ; UNI CHARM CO LTD

Inventor(s): (std): NAKANO TAKUMI

Agent(s): PATENTANWALTE STAEGER AND SPERLING PARTNERSCHAFTSGESELLSCHAFT MBB; PETER JULIAN; HAUPTMAN HAM LLP; ISSHIKI AND CO

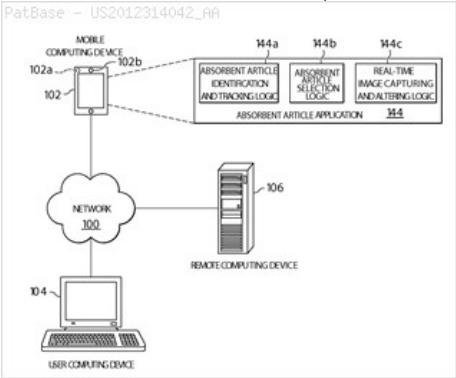
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Title: METHOD OF COLLECTING INFORMATION REGARDING ABSORBENT ARTICLES

Abstract: Source: US2012314042A Methods of collecting information from an individual regarding absorbent articles are provided. A method entails collecting input information from an individual regarding absorbent article use wherein at least some of the information collected includes data generally known by most consumers. The method further entails collecting still or video image data from an individual consumer using a computing device and uploading the input information and still or video image data to a server. The input information and still or video image data is used to output data regarding the absorbent articles and to output a set of correlations between the visual data and the input information.

Classifications:

International (IPC 8-9): A61F13/15 G06F15/16 G06Q10/00 G06Q30/00 G06Q30/02 G06T7/00 H04N7/18 (Advanced/Invention); H04N9/80 (Advanced/Non-invention)
CPC: G06Q30/02 G06Q30/0201 G06T7/0004
US: 348/61 348/E7.085 386/239 386/248 705/1.1 705/14.25 705/26.7 705/7.32 709/217



Family:

Publication number	Publication date	Application number	Application date
CN103999457 A	20140820	CN201280027878	20120607
EP2719174 A2	20140416	EP20120727551	20120607
EP2719174 A4	20150819	EP20120727551	20120607
IN10433DN2013 A	20141226	IN2013DN10433	20131203
US2012314042 AA	20121213	US20110155780	20110608
US2014372177 AA	20141218	US20140476288	20140903
US8843400 BB	20140923	US20110155780	20110608
WO12170624 A2	20121213	WO2012US41246	20120607
WO12170624 A3	20140731	WO2012US41246	20120607

Priority:
US20110155780 20110608 WO2012US41246 20120607 US20140476288 20140903

Probable Assignee: PROCTER AND GAMBLE

Assignee(s): (std): AGAMI SION ; PROCTER AND GAMBLE ; ROBLES MIGUEL ALVARO
Assignee(s): THE PROCTER AND GAMBLE COMPANY ; PROCTER AND GAMBLE CO

Inventor(s): (std): AGAMI SION ; ROBLES MIGUEL ALVARO

Agent(s): KREMER VERONIQUE MARIE JOSEPHINE; ANDRES E; THE PROCTER AND GAMBLE COMPANY

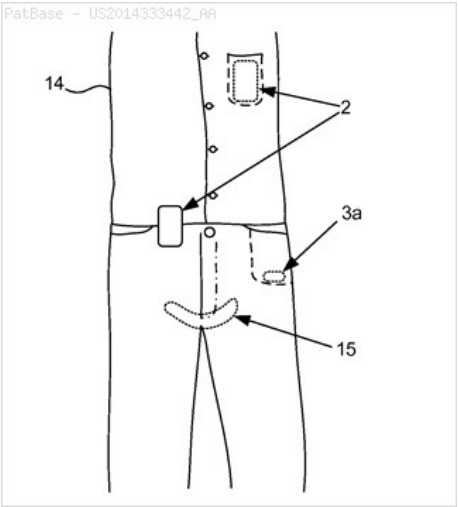
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Title: METHOD, MONITORING SYSTEM AND COMPUTER PROGRAM FOR MONITORING USE OF AN **ABSORBENT PRODUCT**

Abstract: Source: US2014333442A A method for monitoring use of an **absorbent product**, such as an incontinence pad or a diaper, worn by a user. The method includes the step of detecting, by means of an odour sensor device capable of being carried by the user and configured to communicate with a **mobile** device of the user, at least one chemical indicative of a presence of urine and/or feces in the product. It further includes the steps of transmitting a signal indicative of said detection from the odour sensor device to the **mobile** device, receiving the signal in the **mobile** device, and providing, by means of the **mobile** device, product-related information to the user based on the signal. In this way, the user can be provided with valuable information related to the use of the product, for example recommendations on when to change the product, displayed on the **mobile** device.

Classifications:

International (IPC 8-9): A61F13/42 A61F13/49 A61F13/84 G08B21/00 G08B21/04 G08B21/18 G08B21/20 H04M1/00 H04M1/21 H04M1/725 H04M11/04 (Advanced/Invention)
CPC: H04M1/21 H04M1/7253 H04M2250/12 A61F13/42 A61F13/8405 A61F2013/8473 G08B21/18 H04M1/72527
US: 340/573.5



Family:

Publication number	Publication date	Application number	Application date
AU2011383743 AA	20130627	AU20110383743	20111221
AU2011383743 BB	20150430	AU20110383743	20111221
CA2859140 AA	20140612	CA20112859140	20111221
CN104010607 A	20140827	CN201180075679	20111221
CO7000751 A2	20140721	CO20140154089	20140716
EP2793783 A1	20141029	EP20110878017	20111221
EP2793783 A4	20141203	EP20110878017	20111221
JP2015508304 T2	20150319	JP20140548727T	20111221
MX2014007562 A1	20140827	MX20140007562	20111221
RU2014129877 A	20160210	RU20140129877	20111221
US2014333442 AA	20141113	US20110362261	20111221
WO13095226 A1	20130627	WO2011SE51558	20111221

Priority:

WO2011SE51558 20111221 CO20140154089 20140716

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): CARNEY JOSHUA ; SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS ABS-405 03GOTEBORGSE

Inventor(s): (std): CARNEY JOSHUA

Inventor(s): JOSHUA CARNEY ; CARNEY JOSHUA SE

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; RIDOUT AND MAYBEE LLP; LUZ CLEMENCIA DE PAEZ; EK WALL PETER; ALBIHNSZACCO AB

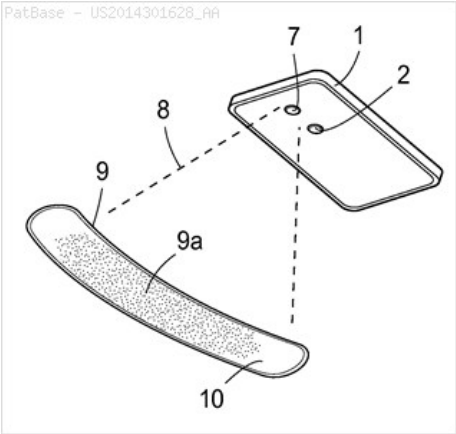
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Title: METHOD FOR MEASURING THE ABSORPTION OF FLUID IN AN **ABSORBENT PRODUCT**

Abstract: Source: US2014301628A A method for measuring the absorption of fluid in an **absorbent product** includes at least the following steps performed by a **mobile** device having an image capturing device: capturing at least one image of a used **absorbent product**; determining a measure of absorption of fluid by the product based on image information in the captured image; and displaying information relating to the use of the **absorbent product** based the measure of absorption of fluid on the **mobile** device. The method can aid a user of **absorbent product** to choose the right type of product for the user's individual needs.

Classifications:

International (IPC 8-9): A61F13/15 A61F13/84 G06T1/00 G06T7/00 G06T7/60 (Advanced/Invention);
A61F13/15 A61F13/84 (Advanced/Non-invention)
CPC: A61F13/84 G06T7/0002 A61F2013/8491 G06T2207/10024 G06T2207/30124 A61F2013/8488 G06T7/602
US: 382/141



Family:

Publication number	Publication date	Application number	Application date
AU2011383785 AA	20130627	AU20110383785	20111221
AU2011383785 BB	20151112	AU20110383785	20111221
CA2857627 AA	20140530	CA20112857627	20111221
CN104011769 A	20140827	CN201180075677	20111221
CO7010796 A2	20140731	CO20140156307	20140718
EP2795574 A1	20141029	EP20110878058	20111221
EP2795574 A4	20150401	EP20110878058	20111221
JP2015509746 T2	20150402	JP20140548726T	20111221
MX2014007569 A1	20140827	MX20140007569	20111221
RU2573810 C1	20160127	RU20140129779	20111221
US2014301628 AA	20141009	US20110360774	20111221
US9317913 BB	20160419	US20110360774	20111221
WO13095222 A1	20130627	WO2011SE51551	20111221

Priority:

WO2011SE51551 20111221 CO20140156307 20140718

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): CARNEY JOSHUA ; SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS ABS-405 03GOTEBORGSE ; SKA KHAJDZHIN PRODAKTS AB

Inventor(s): (std): CARNEY JOSHUA ; KARNI DZHOSHUA

Inventor(s): CARNEY JOSHUAUSE ; JOSHUA CARNEY

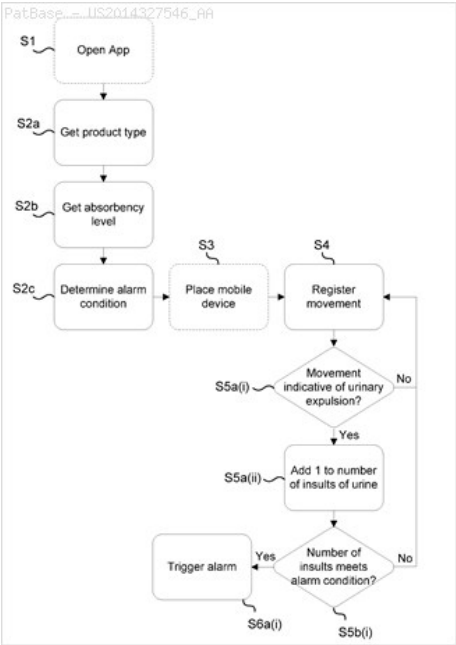
Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; RIDOUT AND MAYBEE LLP; LUZ CLEMENCIA DE PAEZ; EKWALL PETER; BUCHANAN INGERSOLL AND ROONEY PC; ALBIHNSZACCO AB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD AND COMPUTER PROGRAM FOR MONITORING USE OF AN **ABSORBENT PRODUCT**

Abstract: Source: US2014327546A A method for monitoring use of an **absorbent product**, such as an incontinence pad or a diaper, worn by a wearer, includes registering a movement of the wearer by way of a **mobile** device having a movement sensing device, evaluating whether the registered movement is indicative of urinary and/or faecal voiding by the wearer, and providing product-related information to the wearer or a caregiver of the wearer based on said evaluation. In this way, the product-wearer or the caregiver can be provided with valuable information related to the use of the product, such as recommendations on when to change the product, displayed on the **mobile** device or a **mobile** device of the caregiver.

Classifications:
International (IPC 8-9): A61F13/42 A61F13/49 G08B21/00 G08B21/04 G08B21/18 H04M11/04 (Advanced/Invention); G08B21/04 (Advanced/Non-invention)
CPC: G08B21/182 A61F2013/424 A61F13/42 G08B21/20
US: 340/573.5



Family:

Publication number	Publication date	Application number	Application date
AU2011383747 AA	20130627	AU20110383747	20111221
AU2011383747 BB	20141113	AU20110383747	20111221
CA2859142 AA	20140612	CA20112859142	20111221
CN104010608 A	20140827	CN201180075757	20111221
CO7000749 A2	20140721	CO20140149154	20140710
EP2793784 A1	20141029	EP20110878136	20111221
EP2793784 A4	20141203	EP20110878136	20111221
JP2015506191 T2	20150302	JP20140548728T	20111221
MX2014007328 A1	20140829	MX20140007328	20111221
RU2014129898 A	20160210	RU20140129898	20111221
US2014327546 AA	20141106	US20110363313	20111221
WO13095230 A1	20130627	WO2011SE51565	20111221

Priority:

WO2011SE51565 20111221 CO20140149154 20140710

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): BOSAEUS MATTIAS ; CARNEY JOSHUA ; ELFSTROEM ALLAN ; SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS ABS-405 03GOTEBORGSE ; ELFSTROM ALLAN ; SCA HYGIENE PRODUCTS AB

Inventor(s): (std): BOSAEUS MATTIAS ; ELFSTROEM ALLAN ; ELFSTROM ALLAN ; CARNEY JOSHUA

Inventor(s): CARNEY JOSHUAUSE ; ELFSTROM ALLANUS ; JOSHUA CARNEY ; MATTIAS BOSAEUS ; BOSAEUS MATTIASSE ; ALLAN ELFSTROEM ; ALLAN ELFSTROM

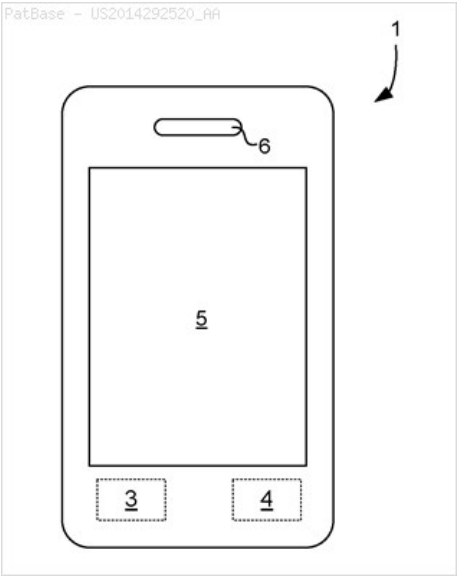
Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; RIDOUT AND MAYBEE LLP; LUZ CLEMENCIA DE PAEZ; EKWALL PETER; ALBIHNSZACCO AB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD AND COMPUTER PROGRAM FOR MONITORING USE OF AN ABORBENT PRODUCT

Abstract: Source: US2014292520A A method for monitoring use of an absorbent product, such as an incontinence pad or a diaper, worn by a wearer is provided. The method includes obtaining, by way of a mobile device, intake information indicative of intake of fluid and/or solid material by the wearer, obtaining, by way of the mobile device, voiding information indicative of urinary and/or faecal voiding by the wearer, predicting, based on the intake and voiding information, future voiding by the wearer, and providing, by way of the mobile device, product-related information based on the prediction. In this way, the product-wearer or his caregiver can be provided with valuable information related to the use of the product, for example recommendations on when to change the product.

Classifications:
International (IPC 8-9): A61F13/42 A61F5/44 G06F19/00 G08B21/04 G08B21/20 H04M11/04 (Advanced/Invention)
CPC: G06F19/345 A61F13/42 G08B21/20 A61F2013/424 G06F19/3418
US: 340/573.5



Family:

Publication number	Publication date	Application number	Application date
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AU2011383748 BB	20150806	AU20110383748	20111221
CA2859144 AA	20140612	CA20112859144	20111221
CN104010609 A	20140827	CN201180075779	20111221
CO7000750 A2	20140721	CO20140154086	20140716
EP2793785 A1	20141029	EP20110878154	20111221
EP2793785 A4	20141112	EP20110878154	20111221
JP2015506192 T2	20150302	JP20140548729T	20111221
MX2014007327 A1	20140829	MX20140007327	20111221
RU2014129771 A	20160210	RU20140129771	20111221
US2014292520 AA	20141002	US20110361494	20111221
WO13095231 A1	20130627	WO2011SE51566	20111221

Priority:

WO2011SE51566 20111221 CO20140154086 20140716

Probable Assignee: SCA HYGIENE PRODUCTS AB

Assignee(s): (std): CARLEN HENRIK ; CARNEY JOSHUA ; SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS AB ; SCA HYGIENE PRODUCTS ABS-405 03GOTEBORGSE

Inventor(s): (std): CARNEY JOSHUA ; CARLEN HENRIK

Inventor(s): CARLEN HENRIKSE ; CARNEY JOSHUAASE ; HENRIK CARLEN ; JOSHUA CARNEY

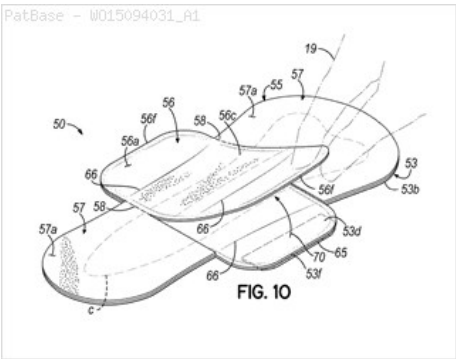
Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; RIDOUT AND MAYBEE LLP; LUZ CLEMENCIA DE PAEZ; EKWALL PETER; ALBIHNSZACCO AB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MULTI-LINER DISPOSABLE **ABSORBENT PRODUCT**

Abstract: A disposable **absorbent product** (75) has a longitudinal dimension and a transverse dimension orthogonal to the longitudinal dimension. The product has a first absorbent assembly (13), as well as a second absorbent assembly (55) that overlays the first absorbent assembly (13). The first absorbent assembly (13) includes a first topsheet (13a) and a fluid-impervious first backsheet (13b) in overlaying relationship with one another, with the first backsheet (13b) and the first topsheet (13a) being respectively configured to face away from and toward a wearer of the disposable **absorbent product** (75) during use. The first absorbent assembly (13) has a pair of lateral edges(13f). The second absorbent assembly (55) is releasably coupled to the first absorbent assembly (13), and includes a second topsheet (55a) configured to face toward the wearer of the **absorbent product** during use, and a second backsheet (55b) adjacent the first topsheet and in overlaying relationship with the second topsheet (55a).

Classifications:
International (IPC 8-9): A61F13/472 A61F13/505 A61F13/60 (Advanced/Invention)
CPC: A61F13/505 A61F13/474



Family:

Publication number	Publication date	Application number	Application date
WO15094031 A1	20150625	WO2013SE51523	20131216

Priority:
WO2013SE51523 20131216

Probable Assignee: SCA HYGIENE PROD AB

Assignee(s): (std): SCA HYGIENE PROD AB

Assignee(s): SCA HYGIENE PRODUCTS AB

Inventor(s): (std): LINDSTROEM ASA

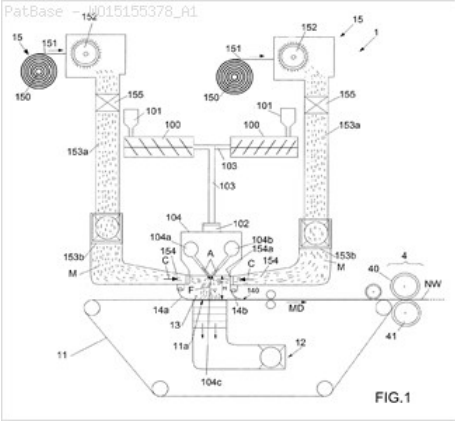
Agent(s): SCA HYGIENE PRODUCTS AB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PROCESS AND APPARATUS FOR PRODUCING A FIBROUS- CONTAINING AND/OR PARTICLE-CONTAINING NONWOVEN

Abstract: The apparatus (1) for making a fibrous-containing and/or particle- containing nonwoven (NW) comprises a spinning unit (10) with a spinning head (104), a forming surface (11a) that is movable in a conveying direction (MD), and a channel (13) positioned between the spinning head (104) and the movable forming surface (11a), and formed between at least two transverse walls (14a; 14b), that extend transverse to the conveying direction (MD) and that are in the vicinity of the movable forming surface (11a), or that are in frictional contact with the movable forming surface (11a). The spinning unit (10) is adapted for spinning a stream of polymeric filaments or fibres (F) passing through said channel (13) and deposited onto said forming surface (11a). The apparatus further comprises supplying means (15) adapted for blowing at least one stream of cooling gas (C) and fibrous material and/or particles inside said channel (13) in the vicinity of the spinning head (104) and towards the stream of hot polymeric filaments or fibres (F) inside said channel (13), said at least one stream of cooling gas (C) enabling simultaneously to cool the stream of hot fibres or filaments (F) produced by the spinning unit (10) and to transport and blow the fibrous material (M) and/or particles inside said channel (13) and into said stream of hot polymeric filaments or fibres (F).

Classifications:
International (IPC 8-9): D01D4/02 D04H1/407 D04H1/56 (Advanced/Invention)
CPC: D04H1/407 D04H1/56



Family:

Publication number	Publication date	Application number	Application date
WO15155378 A1	20151015	WO2015EP97018	20150403

Priority:
EP20140163778 20140407 EP20140185696 20140922

Probable Assignee: BOMA ENGINEERING SRL

Assignee(s): (std): BOMA ENGINEERING SRL

Inventor(s): (std): BOSCOLO GALLIANO

Agent(s): MATKOWSKA AND ASSOCIES

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

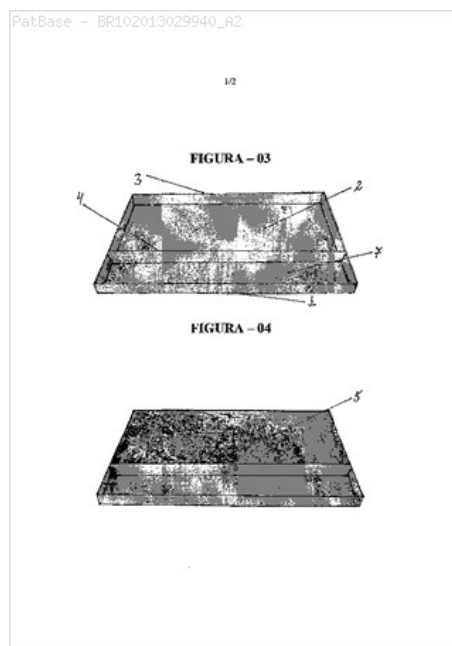
Title: BANDEJA PRATICA COM DIVISORIA UTILIZADA COMO FUNDO DE GAIOLA TRAY WITH PRACTICE part USED AS CAGE FUND (Machine translation)

Abstract: Source: BR102013029940A 1 RESUMO "BANDEJA PRATICA COM DIVISORIA UTILIZADA COMO FUNDO DE GAIOLA Caracterizado por constituir-se de uma bandeja com uma ou mais divisões destinada cuja função será de coletar fezes e vários tipos de rejeitos, destacando-se os rejeitos de alimentos, provenientes de aves e animais domésticos confinados em gaiolas. A bandeja poderá ser fabricada em metal dos mais diversos tipos como chapas galvanizadas, alumínio, estanho etc., fibras as mais diversas como polietileno, polipropileno, etc., ou mesmo em madeiras de diferentes espécies. Trata-se de uma bandeja que poderá ter diâmetros e formas as mais diversas como, altura, comprimento e largura, de acordo com as necessidades e dimensões da gaiola. Normalmente, a bandeja terá uma divisão, com duas áreas distintas, podendo ainda, ter mais divisões paralelas ou perpendiculares com esquadro ou em ângulos variados. Com uma divisória, apresentar-se-á com duas áreas distintas. A área maior será forrada com serragem ou outro produto que tenha qualidades absorventes de líquidos como das fezes e restos líquidos de alimentos e água. A área menor avançará além do perímetro limitativo da gaiola passando por baixo dos comedouros, com a função de coletar e impedir que restos de sementes e outros alimentos sejam lançados ao chão. A bandeja deverá ter suas laterais e divisórias uma altura superior a 15 mm, para que possa armazenar satisfatoriamente o produto absorvente, principalmente a serragem, e ainda, conter os restos e dejetos. Pelo fato da Bandeja Prática com divisória, coletar e absorver fezes e líquidos, evitando que estes se transformem em alimentos de micro e macro organismos portadores de doenças, além de evitar odores desagradáveis no ambiente, contribuirá na prevenção de propagação de fungos, ácaros e insetos tornando o ambiente insalubre como se vê na maioria dos ambientes onde se confinam animais domésticos como criadouros, lojas pet, laboratórios dentre outros, que poderão se tornar uma ameaça à saúde de humanos e animais. 1 SUMMARY "TRAY PRACTICE WITH DIVIDING USED AS CAGE Characterized FUND to be is a tray with one or more divisions aimed whose function will be to collect feces and various types of waste, with notable food waste, from birds and domestic animals confined in cages. the tray may be made of metal of various types such as galvanized sheet metal, aluminum, tin, etc., various fibers such as polyethylene, polypropylene, etc., or even in different species of timber. treatment is a tray that will be able to have diameters and the most diverse ways, height, length and width, according to the needs and dimensions of the cage. Usually, the tray will have a division with two distinct areas, and may have more divisions parallel or perpendicular with square or at varying angles. with a divisional, present themselves with two distinct areas. the larger area will be lined with sawdust or other product that has absorbent qualities of liquids as the feces and liquid remnants of food and water. The area smallest advance beyond the limited perimeter of the cage passing beneath the feeders, with the function of collecting and prevent seeds and other food scraps are thrown to the ground. The tray should have their sides and dividers a height of 15 mm, so you can successfully hold the **absorbent product** main mind sawdust, and also contain debris and waste. Because of Practice tray with dividing, collect and absorb faeces and liquid, preventing it from turning into micro and macro organisms carry diseases food, in addition to avoid unpleasant odors in the environment, will contribute in the prevention of propagation of fungi, mites and insects making the unhealthy environment as one sees in most environments where animals are confined gear as breeding, pet shops, laboratories and others, which may become a threat to health of humans and animals.

Classifications:

International (IPC 8-9): A01K1/01 (Advanced/Invention)

CPC: A01K1/0114



Family:

Publication number	Publication date	Application number	Application date
BR102013029940 A2	20151020	BR20131029940	20131121

Priority:

BR20131029940 20131121

Probable Assignee: WUTTEMBERGO DANTAS PEREIRA DE MELLO

Assignee(s): (std): WUTTEMBERGO DANTAS PEREIRA DE MELLO

Inventor(s): (std): MELO WUTTEMBERGO DANTAS PEREIRA DE

Inventor(s): WUTTEMBERGO DANTAS PEREIRA DE MELO