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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



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Superintendencia de Industria y Comercio
E. S. D.

Trámite : 011
Evento : 379
Actuación : 444

Referencia : Expediente No. 06.082.849
Asunto : SOLICITUD DE PATENTE PARA: **"CALZADO CON UNA SUELA Y UNA PALA RESPIRABLES E IMPERMEABLES"**
Solicitante : GEOX S.P.A.
Clase : B29D 031/508
Fecha de solicitud : Agosto 22 de 2006

1. Yo, Luz Clemencia DE PÁEZ, en mi condición de apoderada de la sociedad solicitante de la patente de la referencia, me refiero al Oficio No. 11999 notificado por fijación en lista del 23 de octubre de 2009.

2. Mediante el Oficio No. 11999 se puso en conocimiento del solicitante el informe del examen de fondo que contiene las observaciones hechas por su Despacho sobre la presente solicitud de patente. Por medio del memorial radicado el 19 de Enero de 2010, solicité un plazo de treinta días para atender el oficio 11999. Al respecto, atiendo a las observaciones de la siguiente manera:

3. Claridad y unidad de invención del capítulo reivindicatorio:

3.1 Con relación a la objeción realizada por su Despacho sobre la ausencia de claridad del capítulo reivindicatorio y con fundamento en lo establecido en el artículo 34 de la Decisión 486, se presenta un nuevo capítulo reivindicatorio como sustituto del anteriormente presentado compuesto por cuatro (4) reivindicaciones, los cambios realizados al nuevo pliego reivindicatorio son:

EXAMEN DE FONDO Y/O PRELIMINAR DE BUSQUEDA		
Fecha del examen de Fondo:	1 de Abril del 2010	
Codigo del Examinador:	202072	
INFORMACION GENERAL DE LA SOLICITUD DE PATENTE		
Título de la solicitud		
"CALZADO CON UNA SUELA Y UNA PALA RESPIRABLES E IMPERMEABLES"		
Solicitud Nacional:	No. de radicación: 06 - 82849	Fecha de presentación: 2006/08/22
Solicitud Inter/nal: X	No. de Prioridad: PD2004A000014	Fecha de prioridad: 2004/01/22
PALABRAS CLAVES PARA LA BUSQUEDA		
FOOTWEAR WITH HEALTH OR HIGIENIC ARRAGEMENT	FOOTWAER STITCHED OR NAILED THROUGH	INCORPORATING PREGORMED PARTS OR LAYERS, INJECTION MOULD AROUND INSERTS OR FOR COATING ARTICLES
MOULDS	MULTILAYERED PARTS	FOOTWEAR
HAVING SOLES OR HEELS FORMED AND JOINED ON TO PREFORMED UPPERS USING A MOULDING TECHNIQUE BY INJECTION MOULDING PRESSING AN VULCANISING		
CLASIFICACIONES INTERNACIONALES ASIGNADAS A LA SOLICITUD O RELACIONADAS CON SU BUSQUEDA		
Asignadas originalmente (Oficina del país donde se radica y/o Examen de forma)	Encontradas y/o Relacionadas	
B29D031/508	A43B7/12 A43B9/02 B29C45/14	B29C45/26 B29D31/50
BASES DE DATOS CONSULTADAS		
ESPACENET: X	USPTO : X	JAPONESA:
MIMOSA :	WIPO:	COLOMBIANA:
EPOLINE: X	LATITPAT:	OTRAS:
DOCUMENTOS CORRESPONDIENTES EN OTROS PAISES DE LA SOLICITUD DE PATENTE		
No. De Patente original:	WO2005070658	
ZA200605664	KR20070005582	EP1706257
US2007180731	JP2007518502	DK1706257
SI1706257	ITPD20040014	DE602005005440
SG149852	HR20080256	CN1910033
SG149851	HK1096060	CA2552994
PT1706257	ES2302553	BRPI0506604
NO20063746	EP2017069	AU2005205905
AT389529		
INFORMES DE EXAMENES DE BUSQUEDA HECHAS POR OTRAS OFICINAS QUE AFECTAN Y/O SE RELACIONAN CON LA SOLICITUD DE PATENTE		
Oficina	Fecha	Relv. Afectadas
US2002157278	31/10/2002	1, 2, 4-8, 10, 12.
DE1865431	10/01/1963	1, 2, 4-6.
FR2825241	06/12/2002	7, 8, 10.
WO03006221	23/01/2003	12.,
ANTERIORIDADES ENCONTRADAS		
Documento	Relevancia (Novedad o Nivel inventivo)	Reiv. Afectadas
EP1197158	Nivel inventivo	1 a 4
WO9714326	Nivel inventivo	1 a 4
LITERATURA FUERA DE LAS PATENTES		
Documento	Relevancia	Reiv. Afectadas
OBSERVACIONES		

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EXAMEN DE FONDO Y/O PRELIMINAR DE BUSQUEDA		
Fecha del examen de Fondo:	14 de Septiembre del 2009	
Código del Examinador:	202072	

INFORMACION GENERAL DE LA SOLICITUD DE PATENTE		
Titulo de la solicitud		
"CALZADO CON UNA SUELA Y UNA PALA RESPIRABLES E IMPERMEABLES"		
Solicitud Nacional:	No. de radicación: 06 - 82849	Fecha de presentación: 2006/08/22
Solicitud Inter/nal: X	No. de Prioridad: PD2004A000014	Fecha de prioridad: 2004/01/22

PALABRAS CLAVES PARA LA BUSQUEDA		
FOOTWEAR WITH HEALTH OR HIGIENIC ARRAGEMENT	FOOTWAER STITCHED OR NAILED THROUGH	INCORPORATING PREGORMED PARTS OR LAYERS, INJECTION MOULD AROUND INSERTS OR FOR COATING ARTICLES
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CLASIFICACIONES INTERNACIONALES ASIGNADAS A LA SOLICITUD O RELACIONADAS CON SU BUSQUEDA		
Asignadas originalmente (Oficina del país donde se radica y/o Examen de forma)	Encontradas y/o Relacionadas	
B29D031/508	A43B7/12 A43B9/02 B29C45/14	B29C45/26 B29D31/50

BASES DE DATOS CONSULTADAS		
ESPACENET: X	USPTO: X	JAPONESA:
MIMOSA:	WIPO:	COLOMBIANA:
EPOLINE: X	LATIPAT:	OTRAS:

DOCUMENTOS CORRESPONDIENTES EN OTROS PAISES DE LA SOLICITUD DE PATENTE		
No. De Patente original:	WO2005070658	
ZA200605664	KR20070005582	EP1706257
US2007180731	JP2007518502	DK1706257
SI1706257	ITPD20040014	DE602005005440
SG149852	HR20080256	CN1910033
SG149851	HK1096060	CA2552994
PT1706257	ES2302553	BRPI0506604
NO20063746	EP2017069	AU2005205905
AT389529		

INFORMES DE EXAMENES DE BUSQUEDA HECHAS POR OTRAS OFICINAS QUE AFECTAN Y/O SE RELACIONAN CON LA SOLICITUD DE PATENTE		
Oficina	Fecha	Reiv. Afectadas
US2002157278	31/10/2002	1, 2, 4-8, 10, 12.
DE1865431	10/01/1963	1, 2, 4-6.
FR2825241	06/12/2002	7, 8, 10.
WO03006221	23/01/2003	ene-00

ANTERIORIDADES ENCONTRADAS		
	Relevancia	
Documento	(Novedad o Nivel inventivo)	Reiv. Afectadas
US6408541	Nivel inventivo	1 a 6
US3216033	Nivel inventivo	1 a 6

LITERATURA FUERA DE LAS PATENTES		
Documento	Relevancia	Reiv. Afectadas

OBSERVACIONES		
Como se evidencia, se encuentran cuatro grupos inventivos, cada uno con sus respectivas características técnicas esenciales independientes, demostrando en la solicitud en estudio que no esta ilustrando un único concepto inventivo que interconecte entre si todas sus características técnicas esenciales.		

3.1.1 Se borran las anteriores reivindicaciones 1 a 6 y 11 a 13 y se limita el capítulo reivindicatorio al contenido de las anteriores reivindicaciones 7 a 10.

3.1.2 Se incluye en la nueva reivindicación 1 la definición de un faldón externo periférico 220 de acuerdo a lo enseñado en la figura 4 y la explicación de la página 9, líneas 11 a 15 y líneas 22 a 28 sobre el sello que se da, en el conjunto de pala y en la suela, por el faldón periférico 220.

De acuerdo con las anteriores modificaciones se ha limitado el objeto de protección solicitado involucrando un único concepto inventivo permitiendo al Examinador entender la invención, esto es, superando las objeciones por claridad y unidad de invención.

4. NIVEL INVENTIVO

Ese Despacho afirma que un experto en la materia, con acceso a los documentos D1 (US6408541) y D2 (US3216033), podría desarrollar la solución propuesta en las reivindicaciones 1 a 6, las cuales fueron eliminadas del nuevo pliego reivindicatorio.

Si bien dichas reivindicaciones fueron eliminadas, respetuosamente nos permitimos indicar a continuación las razones por las cuales no estamos de acuerdo con la objeción por falta de nivel inventivo:

En primer lugar, es importante tener en cuenta en la nueva reivindicación 1, que se presenta un faldón periférico, el cual permite un sellado a prueba de agua tanto para la suela respirable e impermeable como para el conjunto de pala igualmente respirable e impermeable, de una manera efectiva y eficiente, tal y como se describe en la página 11, líneas 10 a 14.

Por lo tanto, la estructura acá reivindicada que permite obtener los resultados no esperados no se encontraba descrita o sugerida en el estado del arte previo para una persona versada en la materia.

Lo anterior, porque en el documento D1 no enseña un faldón periférico que este sobremoldeado en el conjunto de pala 112. De hecho D1 no menciona nada acerca del sobremoldeo en conexión con un conjunto de pala. Es importante mencionar que el término "sobremolde" se utiliza en D1 solamente para describir la conexión entre la media suela y la

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suela (por favor vea la página 17, líneas 5-6 y página 19, líneas 26-27), en donde dichas partes son moldeadas. Por el contrario, en la presente solicitud, dicho término se utiliza para describir la formación del faldón periférico por el moldeo de un núcleo y no una parte moldeada. En D1 la suela no se puede formar en vista del uso del método de costura descrito.

De hecho, D1 se aleja demasiado de la definición de un faldón periférico porque utiliza una costura "IDEAL" para unir la pala a la suela y permitir al mismo tiempo que la costura permanezca visible. D1 enseña que se puede evitar poner en peligro la impermeabilidad del revestimiento en la pala por medio de adhesivos, selladores o por unión térmica. Este método no bloquearía la visibilidad de la costura. Por lo tanto, D1 no enseña como utilizar el faldón periférico reivindicado para cubrir completamente la región de conexión y proveer un sello efectivo en contra de la penetración de agua del exterior.

Si una persona versada en la materia aplicara un faldón periférico al calzado de D1 la costura "IDEAL" no sería visible, lo cual no estaría acorde a lo divulgado en D1.

Por su parte, el documento D2 enseña un calzado convencional con una suela sólida y una pala convencional. La invención de D2 esta destinada a proporcionar una construcción de calzado que asegura una suela moldeada a la plantilla y pala de una forma más durable y confiable con una apariencia de costura a través de la suela a la pala. D2 enseña a utilizar aberturas en una plantilla en la que están alineados con los agujeros en las partes dobladas de la pala. Estos agujeros sirven como puntos de ancla para asegurar la suela a la platilla y la pala. Materiales poliméricos fundidos, para la huella, fluye por los agujeros alineados para el compromiso de seguridad requerido de las partes respectivas. Sin embargo, este compromiso de seguridad no previene que el agua se infiltre entre la pala y el recubrimiento. De hecho, D2 no menciona nada sobre el problema de la infiltración de agua.

Además, D2 no relaciona un calzado con una suela respirable e impermeable o un conjunto de pala igualmente respirable e impermeable, como tampoco un faldón periférico que permita proporcionar de forma ventajosa un sello a prueba de agua.

Es claro, que con las enseñanzas individuales o en combinación de los documentos citados, no se encuentra la enseñanza o la sugerencia que permita a una persona versada en la materia

FORMULARIO UNICO DE CORRECCIONES Y MODIFICACIONES

1	SOLICITUD DE: ☐ Corrección de Error Material ☒ Modificación a una solicitud	
2 SOLICITANTE	Nombre: GEOX S.P.A. Sociedad constituida y existente bajo las leyes de Italia. Dirección: Via Feltrina Centro, 16, I-31044 Montebelluna, Località Biadene, Italia Domicilio: Montebelluna, Località Biadene, Italia Teléfono: 546 09 70 Fax: 249 40 70 E-mail: clientes@cavelier.com	IDENTIFICACION C.C. ☐ NIT ☐ C.E. ☐ Otro ☐ Número: _____
3 REPRESENTANTE O APODERADO	Nombre: Luz Clemencia de PAEZ Dirección: Carrera 4ª No. 72-35 Teléfono: 347 36 11 Fax: 217 92 11 E-mail: cavelier@cavelier.com	IDENTIFICACION C.C. ☒ NIT ☐ C.E. ☐ Otro ☐ Número: <u>35.456.344</u> TP <u>23.555</u>
4	Número de expediente: <u>06.082.849</u>	
5	Descripción de la corrección o modificación solicitada: Presento nuevo capítulo reivindicatorio compuesto por 4 reivindicaciones con el fin de superar las objeciones hechas por Su Despacho a la presente solicitud de patente y pido respetuosamente que el examen de patentabilidad sea realizado sobre estas nuevas reivindicaciones presentadas.	
6	Comprobante de pago No. _____ Fecha: _____	
7	Anexos ☐ Comprobante de pago de la tasa por \$114.000, por concepto de modificaciones. ☐ Comprobante de pago por reivindicaciones adicionales después de la décima reivindicación por. ☐ Poderes, si fuere el caso ☐ Documento que acredita la existencia y representación legal de las partes, cuando sean personas jurídicas.	
8	NOMBRE: LUZ CLEMENCIA DE PAEZ FIRMA:  C.C. 35.456.344 de Usaquén T.P.A. 23.555	

REIVINDICACIONES

1. Calzado (200) provisto de una suela y una pala respirables e impermeables, que comprende una suela respirable e impermeable (211) y un conjunto de pala respirable e impermeable (212) asociado con dicha suela (211) en una zona hacia arriba y está constituido por:

- una pala respirable exterior (213), un revestimiento interior (214) y, entre ellos, una membrana respirable e impermeable (215),

- una plantilla por lo menos parcialmente perforada o respirable (216), unida por lo menos parcialmente a dicha membrana respirable e impermeable (215),

estando dicho calzado (200) comprendido por un calzado interior (227), por lo menos parcialmente perforado o respirable en la zona de dicha suela (211) asignada a la permeación de vapor, estando dicho calzado interior (227) asociado en una zona hacia abajo con dicha plantilla (216), solapando totalmente su borde periférico (230) la zona de conexión (217) entre dicha plantilla (216) y dicha membrana respirable e impermeable (215) para proporcionar una estanqueidad periférica, adhiriéndose dicha pala (213) a dicho calzado interior (227), estando dicha suela respirable e impermeable (211), comprendida por un faldón periférico externo (220), herméticamente y por la periferia asociada a dicho conjunto (212) únicamente en dicha pala (213) y en la parte expuesta, en su caso, de dicho calzado interior (212), sin afectar la parte central restante que corresponde a la zona asignada a la permeación de vapor, y dicho faldón periférico externo (220) de dicha suela respirable e impermeable (211) esta sobremoldeada y herméticamente conectada a la región periférica de un elemento de membrana (222) respirable e impermeable de dicha suela respirable e impermeable (211), para asegurar una completa impermeabilidad de dicho calzado con un sello completo contra la infiltración de agua entre dicha suela respirable e impermeable (211) y dicho conjunto de pala respirable e impermeable (212).

2. Calzado (200) según la reivindicación 1, caracterizado porque dicha plantilla (216) está unida a por lo menos dicha membrana respirable e impermeable (215) en dicha zona de conexión (217) mediante una costura de puntos (217^a) del tipo strobil, formando dicho borde del perímetro (230) unos lados laterales (230^a) de dicho calzado interior (227), que suben más allá de dicha costura de puntos (217^a), adhiriéndose totalmente a dicha membrana respirable e impermeable (215) y formando dicha estanqueidad periférica, adhiriéndose dicha pala (213) a dicho calzado interior (227) y presentando un borde inferior (228) doblado y pegado con cola para que se adhiera debajo de dicho calzado interior (227).

3. Calzado (200) según la reivindicación 2, caracterizado porque se proporciona dicho calzado interior (227) mediante el sobremoldeo directo en dicho conjunto (212), particularmente en dicha membrana respirable e impermeable (215).

4. Calzado (200) según la reivindicación 9, caracterizado porque se proporciona dicho calzado interior (227) por separado y se acopla herméticamente a dicho conjunto (212) pegándolo con cola.

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(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11) EP 1 197 158 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
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(51) Int Cl.7: A43B 7/12, A43B 9/18,
A43B 7/08

(21) Application number: 01123227.9

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

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(30) Priority: 10.10.2000 IT PD000234

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1077 Amsterdam (NL)

(54) Waterproof shoe with sole or mid-sole molded onto the upper

(57) A waterproof shoe whose structure comprises: a breathable upper (11), which is internally associated with a lining (12) with a membrane (13) permeable to vapor and impermeable to water; an insole (16), peripherally associated with the upper (11) and the lining (12); and a sole (19) or mid-sole, made of a material impermeable to water and directly injection-molded at least around the edge region of the assembled upper (11), lining (12) and insole (16). The lower edge of the lining (12) protrudes further downward than the upper (11) to form a lower region in which said upper (11) is replaced by a connecting element (20) which is joined to the upper (11) on one side and to the insole (16) on the other side, the connecting element (20) comprising waterproof material which is compatible, for adhesive bonding, with the molding material of the sole or mid-sole.

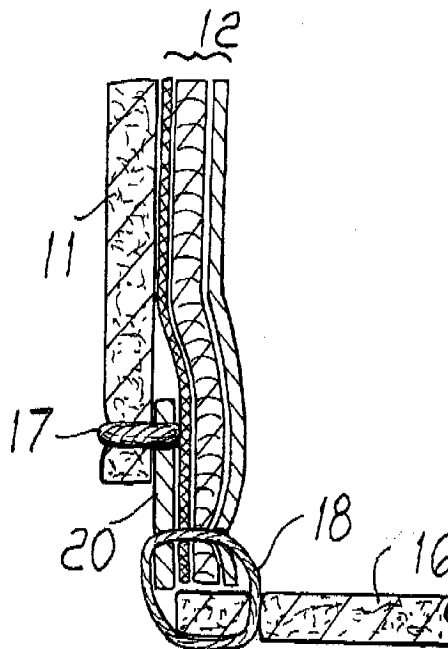


FIG. 1

EP 1 197 158 A1

Description

[0001] The present invention relates to a waterproof shoe with sole or mid-sole molded onto the upper.

[0002] The possibility of manufacturing a fully waterproof shoe by injection-molding the sole or mid-sole directly onto the upper (with a lining provided with a functional waterproof and breathable membrane), appropriately associated by means of stitches to an assembly insole and fitted therewith onto an upper-holding last, is already known in the shoemaking field.

[0003] With this construction, there are problems linked to the fact that the stitches for connecting together the upper and the insole perforate the functional membrane, which accordingly becomes permeable to water, compromising the characteristic of being waterproof.

[0004] In order to solve these problems, a shoe has been provided which is disclosed in EP 298360 and comprises a breathable upper internally associated with a lining having a membrane which is permeable to vapor and impermeable to water, an insole perimetrically associated with the upper and the lining, and a sole made of a material which is impermeable to water and is injection-molded under the insole and around the edge region of the upper.

[0005] The lower edge of the lining protrudes further downward than the upper, and in this region the upper is replaced by a porous connecting element (in particular by a mesh) which is sewn to the upper on one side and to the insole and lining on the other side.

[0006] In this manner, the porosity of the material of the connecting element allows the material of the sole while liquid, during the step for injection-molding, to penetrate and close all the stitch holes.

[0007] Usually, a band of polyester mesh is used for the material of the connecting element; such band is a scarcely elastic body and therefore is unable to stretch perfectly, especially in the region of the heel and toe of the shoe.

[0008] This causes difficulties in production and in particular lack of uniformity during the step of injection-molding, with consequent formation of channels and lack of waterproofing.

[0009] The shoe disclosed in US 5,505,011 is also known.

[0010] This shoe comprises a breathable upper internally associated with a lining having a membrane which is permeable to vapor and impermeable to water, an insole which is sewn perimetrically to the lower edge of the lining and protrudes further downward than the upper, and a sole which is made of a material impermeable to water and is injection-molded below the insole and around the edge region of the upper and of the lining.

[0011] The lining and the upper are joined together in the edge regions by means of adhesive.

[0012] This shoe is difficult to manufacture because of the different elasticity of the lining and of the upper, which leads to the formation of unaesthetic creases.

[0013] Moreover, problems in terms of lack of waterproofing have been noted and are due to the fact that the upper cannot be glued at the same height along the entire perimeter of the lining.

5 [0014] The aim of the present invention is to provide a waterproof shoe with sole or mid-sole molded onto the upper which eliminates the above mentioned drawbacks of the prior art.

10 [0015] Within this aim, an object is to provide a shoe which can be conveniently manufactured either with a sole which is simply waterproof or with a sole which is both waterproof and breathable.

15 [0016] Another object is to provide a shoe whose cost is competitive with respect to that of known shoes of the same type.

[0017] This aim and these and other objects and others which will become better apparent hereinafter are achieved by a waterproof shoe whose structure comprises:

- 20 -- a breathable upper, internally associated with a lining with a membrane which is permeable to vapor and impermeable to water,
- an insole, peripherally associated with the upper and the lining,
- 25 -- a sole or mid-sole, made of a material which is impermeable to water and is directly injection-molded at least around the edge region of the assembled upper, lining and insole,

30 the shoe being characterized in that the lower edge of said lining protrudes further downward than said upper and in that in said region said upper is replaced by a connecting element which is joined to said upper on one side and to the insole on the other side, said connecting element comprising waterproof material compatible, in terms of adhesive bonding, with the molding material of said sole or mid-sole.

35 [0018] Further characteristics and advantages of the invention will become better apparent from the detailed description of some embodiments thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

45 Figure 1 is an enlarged-scale cross-sectional view of the assembled components of the shoe of Figure 1 before molding the sole;

Figure 2 is an enlarged-scale cross-sectional view of the shoe of Figure 1, once it is finished;

50 Figure 3 is a sectional view of a detail of one of the components of the shoe.

[0019] With reference to Figures 1 to 3, a waterproof shoe having the structure according to the invention is generally designated by the reference numeral 10 in a first embodiment.

55 [0020] The shoe 10 comprises a breathable upper 11, made for example of natural leather without covering

pigments, which is associated with a lining 12 constituted in succession by a membrane 13 which is permeable to vapor and impermeable to water (usually expanded polytetrafluoroethylene) and is arranged on the side of said upper 11, by a padding layer 14 (made for example of open-cell foamed material or felt), and by an internal fabric 15.

[0021] In other cases, the lining may of course not have at least one of the layers 14 and 15 and/or may have layers made of different materials.

[0022] The lining 12 can be associated with the upper 11 by spot gluing, so as to avoid compromising breathability through the membrane 13.

[0023] The shoe 10 also comprises an assembly insole 16 (preferably made of breathable materials such as fabric, leather, felt, cellulose material, et cetera, or perforated materials), which is peripherally associated with the upper 11 and the lining 12 as explained in detail hereinafter.

[0024] The shoe 10 further comprises, in this case, a sole, generally designated by the reference numeral 19, which is described in more detail hereinafter, said sole being injection-molded directly at least around the edge region of the upper 11 and being made of a material such as polyurethane at least in said edge region.

[0025] According to the invention, the lower edge of the lining 12 protrudes further downward than the upper 11, and in this region the upper 11 is replaced by a connecting element 20 (for sealing the membrane 13), which is joined on one side to the upper 11 and on the other side to the insole 16 and to the lining 12 and is made of an impermeable material which is compatible for adhesive bonding with the molding material of the sole 19.

[0026] Joining is provided by means of stitched seams 17 and 18, the second one of which, between the element 20, the lining and the insole, is of the so-called Strobel type.

[0027] The connecting element 20 is preferably constituted by a sheet formed by two layers, a first one of which, designated by the reference numeral 21, is directed toward the lining 12 and is made of a material which is capable of sealing the membrane 13 (for example polyurethane) and whose melting point is lower than the temperature generated during molding (80-110 °C), for example approximately 60 °C.

[0028] The second layer 22 can instead be made of fabric or a polymer which is compatible with the material of the sole 19 and has a higher melting point than the first layer 21 so that it does not melt during the operation for preparing the upper part of the shoe 10 on the last (not shown), which occurs by applying heat.

[0029] The first layer 21 can instead be melted and joined to the membrane 13 also during such preparation as well as during the step of the actual injection-molding of the sole 19.

[0030] When the sole 19 is injection-molded, the pressure and heat generated by the melted polymer propel

and partially melt the element 20 and in particular melt the first layer 21, sealing the lining 12 and rendering the shoe 10 fully waterproof.

[0031] In the case being considered, the sole 19 is composite, since it has an insert 23 (produced separately), which is located at least at the forefoot and comprises in succession: a filler layer 24 made of breathable material, such as felt or perforated material; a membrane 25, permeable to vapor and impermeable to water; a protective layer 26, coupled to the membrane 25 and made of a material which is resistant to hydrolysis, water-repellent, and breathable or perforated; and a tread 27 with through holes 28 between the protective layer 26 and the region for contact with the ground.

[0032] The peripheral edges of the membrane 25 and of the protective layer 26 are conveniently sealed by the polyurethane mass of the tread 27.

[0033] The sole 19 further comprises an element 29 which surrounds the insert 23 and constitutes the injection-molded part that sealingly connects said insert 23 to the upper 11.

[0034] Of course, if the sole 19 only needs to be waterproof, it can be constituted by a single block of plastic material, such as polyurethane which is injection-molded over the upper 11, or by a tread which is formed separately and is joined to the upper 19 by injection-molding of at least one connecting mid-sole.

[0035] The shoe is completed by an inner sole 30, which is perforated and/or breathable and is made for example of leather.

[0036] In practice it has been observed that the intended aim and objects of the present invention have been achieved.

[0037] A shoe has in fact been obtained in which the problems noted in the known art have been eliminated.

[0038] The shoe 10 is fully waterproof and is breathable in the regions of the upper 11 and at the lower edges of the upper 11 and of the lining 12 (by way of the seal produced by the at least partial melting of the connecting element 20 with the corresponding part of the sole 19 and/or of the membrane 13) and in this case of the tread as well, but in other cases the sole 19 can be constituted by a single block made of polyurethane or other suitable plastics, if simple waterproofing is preferred for it.

[0039] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0040] In practice, the materials used, so long as they are compatible with the contingent use, as well as the dimensions, may be any according to requirements.

[0041] The disclosures in Italian Patent Application No. PD2000A000234 from which this application claims priority are incorporated herein by reference.

[0042] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly,

such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A waterproof shoe whose structure comprises:

- a breathable upper (11), which is internally associated with a lining (12) with a membrane (13) which is permeable to vapor and impermeable to water, 10
- an insole (16), which is peripherally associated with said upper (11) and said lining (12), 15
- a sole (19) or mid-sole, which is made of a material which is impermeable to water and is directly injection-molded at least around the edge region of the assembled upper (11), lining (12) and insole (16), 20

said shoe being **characterized in that** the lower edge of said lining (12) protrudes further downward than said upper (11) at a lower region, and **in that** in said lower region said upper (11) is replaced by a connecting element (20) which is joined to said upper (11) on one side and to the insole (16) on the other side, said connecting element (20) comprising waterproof material compatible, for adhesive bonding, with the molding material of said sole (19) or mid-sole. 25 30

2. The shoe according to claim 1, **characterized in that** said connecting element (20) is constituted by a sheet formed by at least two layers, of which a first one (21) is directed toward said lining (12) and is made of a material capable of sealing said membrane (13) and has a melting point lower than the temperature generated during molding, a second layer (22) being made of fabric or of a material compatible with the material of the sole (19) and having a higher melting point than said first layer (21) in order to avoid its melting during the operation for preparing the upper part of the shoe (10), which occurs with the application of heat. 35 40 45

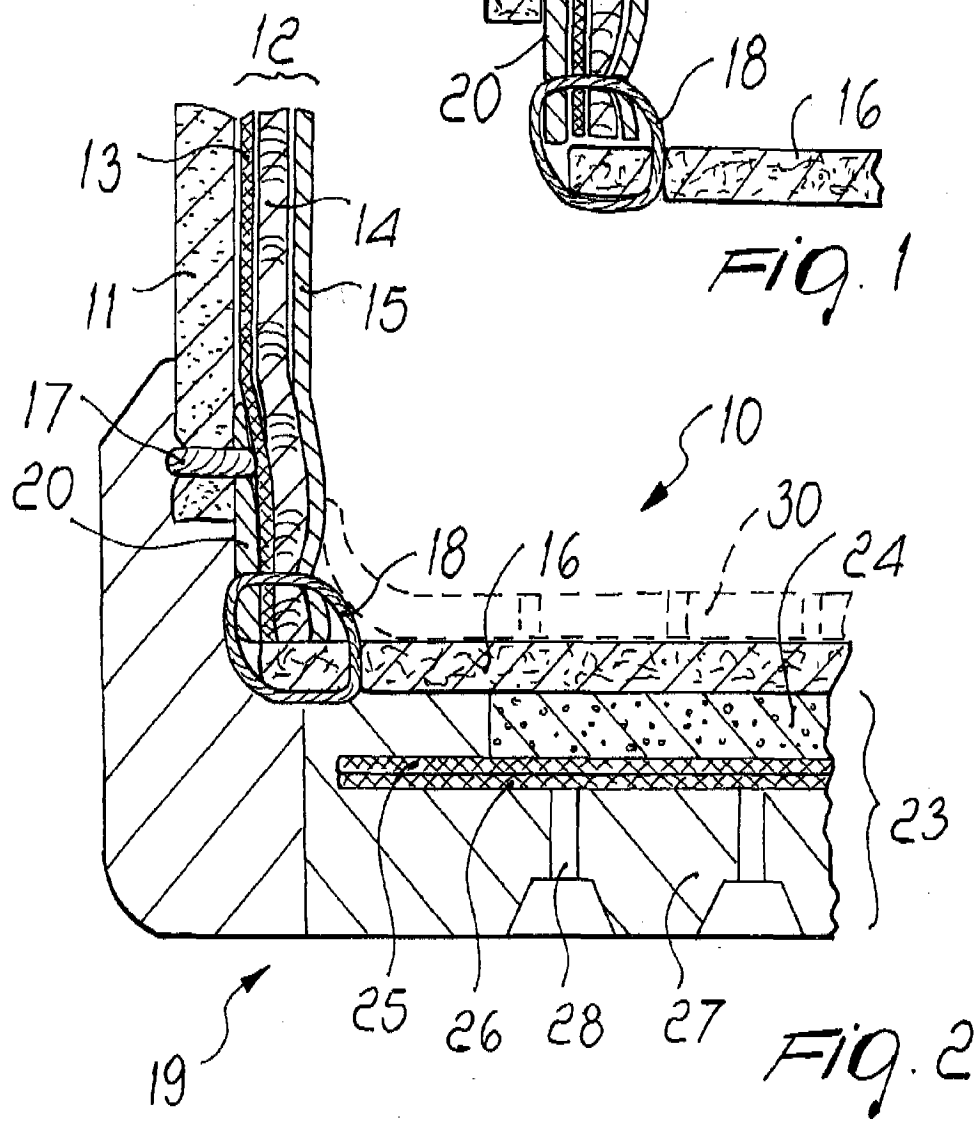
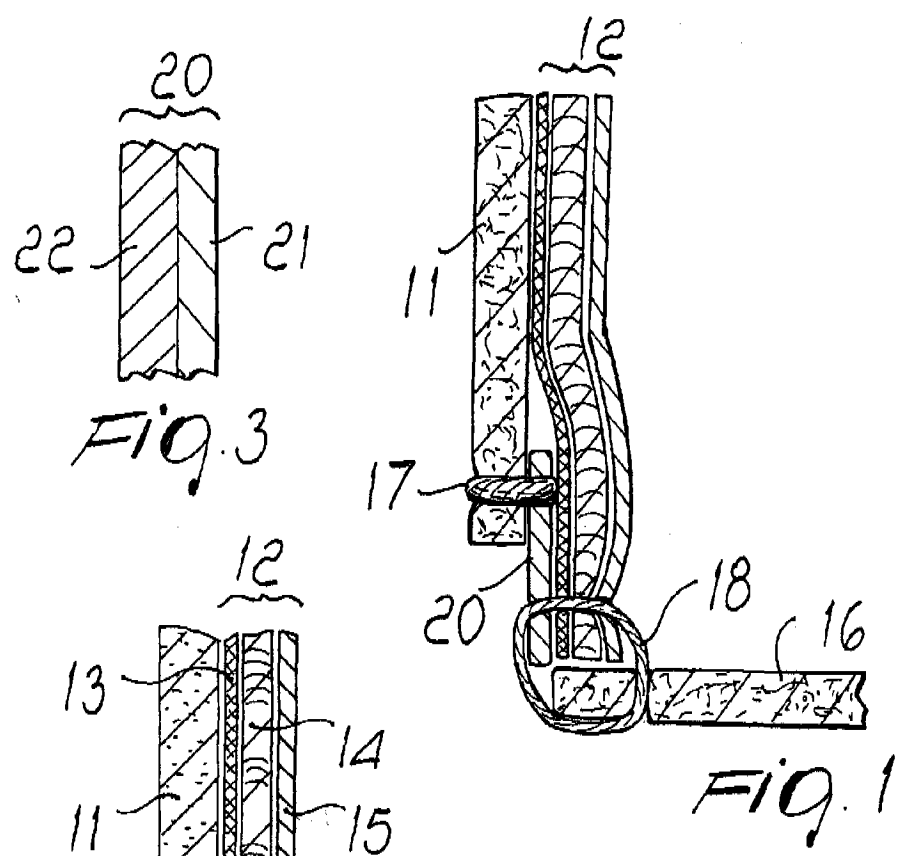
3. The shoe according to claim 1, **characterized in that** said connecting element (20) is joined to said upper (11), to said lining (12) and to said assembly insole (16) by means of stitches (17,18). 50

4. The shoe according to one or more of the preceding claims, **characterized in that** said sole (19) is composite, having an insert (23) which is produced separately and is located at least at the forefoot and comprises in succession: a filler layer (24) made of breathable material, such as felt or perforated material; a membrane (25), permeable to vapor and 55

impermeable to water; a protective layer (26), coupled to the membrane (25) and made of a material which is resistant to hydrolysis, water-repellent, breathable or perforated; a tread (27) with through holes (28) between said protective layer (26) and the ground contact region; the peripheral edges of said membrane (25) and of said protective layer (26) being sealed by the polyurethane mass of the tread (27), said sole (19) further comprising an element (29) which surrounds said insert (23) and constitutes the injection-molded part that connects hermetically said insert (23) to said upper (11).

5. The shoe according to one or more of claims 1 to 3, **characterized in that** said sole (19) is constituted by a single block of plastic material which is injection-molded onto the upper (11).

6. The shoe according to one or more of claims 1 to 3, **characterized in that** said sole (19) is constituted by a tread (27) which is produced separately and is joined to the upper (11) by injection-molding of at least one connecting mid-sole.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 12 3227

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DE 38 40 263 A (ADIDAS AG) 31 May 1990 (1990-05-31)	1-3,5,6	A43B7/12
Y	* column 3, line 9 - column 4, line 27; figure 2 *	4	A43B9/18 A43B7/08
X	US 5 285 546 A (HAIMERL FRANZ) 15 February 1994 (1994-02-15)	1,3,5,6	
	* column 7, line 52 - column 10, line 6; figures 3,5 *		
Y	US 5 983 524 A (POLEGATO MARIO) 16 November 1999 (1999-11-16)	4	
	* column 3, line 54 - column 4, line 5; figure 3 *		
A	US 5 433 021 A (MAHLER ROLF-DIRK) 18 July 1995 (1995-07-18)	1,3,5	
	* the whole document *		
A	DE 87 17 201 U (W.L. GORE & CO. GMBH) 5 May 1988 (1988-05-05)	1,3,5	
	* the whole document *		
A	DE 40 04 674 A (LEMM & CO GMBH IND WERKE) 22 August 1991 (1991-08-22)	1,3,5	
	* the whole document *		
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		31 January 2002	Cianci, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 92 (P4/C01)

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PCT

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International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71) Applicant (for all designated States except US): NOTTINGTON HOLDING B.V. [NL/NL]; Hoekenrode 6-8, NL-1102 BR Amsterdam (NL).		Published With international search report.	
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(54) Title: VAPOR-PERMEABLE SHOE			
(57) Abstract			
A vapor-permeable shoe, including the following combination of elements: a vapor-permeable upper (101) associated with a vapor-permeable or perforated lining (102); a tread (103) made of perforated elastomer; a mid-sole (104) comprising at least one membrane (105) made of waterproof vapor-permeable material that is associated with a lower protective layer (106) made of hydrolysis-resistant, water-repellent, vapor-permeable or perforated material; a vapor-permeable or perforated insole (107); a vapor-permeable or perforated filler layer (108) arranged between the insole (107) and the membrane (105). The lower part of the upper (101), the tread (103), the mid-sole (104) with the membrane (105) are perimetally sealed in the coupling regions.			

VAPOR-PERMEABLE SHOE

Technical field

The present invention relates to a vapor-permeable shoe.

Background Art

It is known that a shoe, in order to be comfortable, must ensure the correct exchange of heat and water vapor
5 between the internal microclimate of the shoe and the external climate.

This exchange of heat and water vapor, however, must not compromise in any way the tightness of the shoe with respect to external moisture or water.

10 Currently commercially available shoes entrust this heat and water vapor exchange substantially to the upper or to the sole.

As regards the upper, shoes provided with perforations and/or with linings made of vapor-permeable and waterproof
15 material are currently commercially available.

In some models, parts of the upper may be replaced with materials that are indeed waterproof and at the same time vapor-permeable.

Another category of shoes instead entrusts vapor-
20 permeability to the sole, again by using layers of waterproof and vapor-permeable material, optionally associated with protective layers and fillers.

Disclosure of the Invention

A principal aim of the present invention is to provide a vapor-permeable shoe that allows the exchange of heat and
25 water vapor both through the upper and through the sole, ensuring at all times an optimum internal microclimate as a

function of the external climate.

Accordingly, an object of the present invention is to provide a vapor-permeable shoe the structure whereof is in no way restrictive in terms of styling and aesthetic
5 research, allowing the greatest freedom in shoe shapes and types.

Another object of the present invention is to provide a vapor-permeable shoe that is meant both for everyday use and for sports use.

10 Another object of the present invention is to provide a vapor-permeable shoe the cost whereof is competitive with respect to the costs of conventional vapor-permeable shoes.

Another object of the present invention is to provide a vapor-permeable shoe that can be manufactured with
15 conventional technologies.

This aim, these objects, and others that will become apparent hereinafter are achieved by a vapor-permeable shoe, according to the present invention, characterized in that it comprises the following combination of elements:

- 20 -- a vapor-permeable upper associated with a vapor-permeable or perforated lining;
- a tread made of perforated elastomer;
- a mid-sole comprising at least one membrane made of waterproof vapor-permeable material that is associated with
25 a lower protective layer made of hydrolysis-resistant, water-repellent, vapor-permeable or perforated material;
- a vapor-permeable or perforated insole;
- a vapor-permeable or perforated filler layer arranged between said insole and said membrane;
- 30 the lower part of said upper, said tread, said mid-sole

with said membrane being perimetrically sealed in the coupling regions.

Brief Description of the Drawings

Further characteristics and advantages of the present invention will become apparent from the following detailed description of eight embodiments thereof, illustrated only
5 by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a longitudinal sectional view of a shoe according to the invention, in a first embodiment;

10 figure 2 is an axonometric cutout view of a detail of the shoe of figure 1;

figure 3 is a transverse sectional view of a shoe according to the invention, in a second embodiment;

15 figure 4 is a transverse sectional view of a shoe according to the invention, in a third embodiment;

figure 5 is a longitudinal sectional view of a shoe according to the invention, in a fourth embodiment;

figure 6 is an axonometric cutout view of a detail of the shoe of figure 5;

20 figure 7 is a transverse sectional view of the shoe of figure 5;

figure 8 is a transverse sectional view of a shoe according to the invention in a fifth embodiment;

25 figure 9 is a transverse sectional view of a shoe according to the invention, in a sixth embodiment;

figure 10 is a front view of a detail of a shoe according to the invention, in a seventh embodiment;

figure 11 is a transverse sectional view of a shoe according to the invention, in a seventh embodiment;

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of leather or vapor-permeable fabric.

This third embodiment differs from the second one in the method used to seal the lower perimetric regions.

In this third embodiment, the perimetric region is in fact waterproofed by welding the membrane 209 directly on the tread 203 or on a sealing element 211 that is also formed monolithically with respect to the tread 203.

With particular reference now to figures 5, 6, and 7, a vapor-permeable shoe according to the invention is generally designated by the reference numeral 310 in a fourth embodiment.

The shoe 310 comprises, in this case, a vapor-permeable upper 311 (made for example of natural leather without sealing pigments) associated with a vapor-permeable or perforated lining 312 (for example made of so-called "cambrelle").

The lining 312 is associated with the upper 311 by spot gluing, so as to avoid compromising transpiration through said upper.

The shoe 310 furthermore comprises a tread 313, which is made of elastomer, is perforated at the bottom, and has a raised border 313a, and a mid-sole, generally designated by the reference numeral 314, that comprises a membrane 315 made of waterproof and vapor-permeable material, such as those commercially available and commonly defined by the trade-name GORE-TEX, associated with a protective layer 316, which is directed towards the tread 313, is made of hydrolysis-resistant, water-repellent, vapor-permeable or perforated material, and is thinner in the perimetric regions to move the membrane 315 gradually closer to the

tread 313.

The mid-sole 314 is surrounded by the border 313a of the tread 313.

The shoe 310 furthermore comprises: an insole 317 made of vapor-permeable material (for example natural leather) or perforated material, with an optional heel seat made of soft leather with absorbing latex rubber, and a filler layer 318 made of vapor-permeable felt arranged on the tread 313 with the membrane 315.

10 A vapor-permeable or perforated tip 319 is furthermore applied to the shoe 310, in this fourth embodiment, and is associated with the upper 311 by spot gluing so as to ensure its transpiration.

Likewise, a vapor-permeable or perforated rear counter 15 320 is associated with the upper 311 by spot gluing.

The upper 311, in this case, is associated with the insole 317 by applying a layer of glue along a perimetric band.

Limiting the gluing layer to a perimetric band allows 20 to keep transpiration intact for much of the surface of the foot sole.

In the shoe 310, the central part of the insole is in fact entirely free of any element that is impermeable to water vapor (non-vapor-permeable).

25 The membrane 315 and the protective layer 316 are coupled one another by spot gluing, by using a commercially available hydrolysis-resistant glue (of the type commonly known as "hot merc" or systems with calendered powders).

As regards the protective layer 316, it can be 30 conveniently made of water-repellent material capable of

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drying quickly, such as for example non-woven fabric or needle-loomed felt.

Furthermore, said protective layer 316 is directed downwards, i.e., towards the tread 313, since it must
5 protect the membrane 315 against external impacts or against foreign objects that might penetrate through the holes formed in said tread 313.

According to the invention, the membrane 315 is joined to the tread 313 by means of a commercially available
10 hydrolysis-resistant adhesive along a perimetric band 315a, where the protective layer 316 is thinner and therefore the adhesive can penetrate so as to pass through it, forming a sandwich-like unit.

The membrane 315 must furthermore be fixed to the tread
15 313 so as to ensure tightness against external water along its entire perimeter, and this can occur by gluing, using hydrolysis-resistant glues or with high-frequency welds or also by overlap injection-molding, on the tread 313, of compatible material that allows perfect adhesion.

20 The shoe according to the invention, as shown by the description of this fourth embodiment, is generally vapor-permeable, any non-vapor-permeable regions having been limited substantially to the perimetric regions of the sole, which must in any case ensure tightness against water and
25 external moisture.

Transpiration can be increased further, through the sole as a whole, if the insole 317 is applied to the upper 311 with stitches, thus allowing the entire surface of the insole 317 to be vapor-permeable since it is not affected by
30 glue.

With particular reference to figure 8, a shoe according to the invention is generally designated by the reference numeral 400 in a fifth embodiment.

The shoe 400 comprises an upper 401 that is associated
5 with an internal lining 402 that is generally vapor-permeable or perforated.

The shoe 400, like the shoe 310, comprises a tread 403, made of perforated elastomer with a raised border 403a, and a mid-sole that is generally designated by the reference
10 numeral 404 and comprises a membrane 405, made of waterproof and vapor-permeable material, that is associated with a lower protective layer 406 made of hydrolysis-resistant, water-repellent, vapor-permeable or perforated material, the border 406a whereof is internal and spaced from the border
15 405a of the membrane 405, which preferably surrounds the perforated regions of the tread 403.

The shoe 400 furthermore comprises a vapor-permeable or perforated insole 407 and a vapor-permeable or perforated filler layer 408 that is arranged between said insole 407
20 and the membrane 405.

The shoe 400 differs, with respect to the shoe 310, in that the membrane 405 is perimetrically glued directly to the tread 403, this part being free from the protective layer 406.

25 With particular reference to figure 9, a shoe according to the invention is generally designated by the reference numeral 500 in a sixth embodiment.

The shoe 500 can be produced with the following method:
an insole 517, made of vapor-permeable material (for example
30 natural leather) or perforated, is applied to an upper 511

that is also vapor-permeable (for example made of natural leather without sealing pigments) and is associated with a vapor-permeable or perforated lining 512.

Then, after inserting the upper 511 in the last 502 of a mold 520, a vapor-permeable filler layer 518 is first applied in a downward region, followed by a membrane 515 made of waterproof and vapor-permeable material, of the type commercially available under the trade-name GORE-TEX.

The membrane 515 and the protective layer 518 arranged above it are mutually assembled by perimetric gluing or by spot gluing, so as to avoid compromising the vapor-permeability of the shoe 500.

A protective layer 516 of hydrolysis-resistant, water-repellent, vapor-permeable or perforated material is associated below the membrane 515 and is smaller than the membrane 515 or perimetrically thinner.

The vapor-permeable element composed of the filler layer 518, the membrane 515, and the protective layer 516 is applied perimetrically or by spots below the insole 517 or is coupled or deposited above the hollow part of the mold 520 at the perforated part of the sole, above metallic pins 521 that will form holes 522.

The mold 520 is then closed over the upper 511, so that the contact between the insole 517, the vapor-permeable element formed by the filler layer 518, the membrane 515, and the protective layer 516 and said mold 520 prevents infiltration of the material above the metallic pins 521, obstructing the holes 522.

The material of the tread 503 is injected; by adhering to the membrane 515 around its perimeter, said material

seals said tread 503 against water infiltration.

Said seal can be further ensured by adhesives adapted for the automatic sealing of the two surfaces.

The described method can also be used to form the sole
5 on its own, without direct application to the upper.

With particular reference to figures 10 and 11, a vapor-permeable shoe according to the invention is generally designated by the reference numeral 600 in a seventh embodiment.

10 Said shoe 600 comprises a vapor-permeable upper 611 (made of natural leather without sealing pigments), which is associated with a vapor-permeable or perforated lining 612 by spot gluing, and an insole 617, which is also made of vapor-permeable material (for example natural leather) or is
15 perforated.

The shoe 600, in this case, is obtained by following a method that entails the insertion of an insert 610 made of synthetic material in a mold 620.

Said insert 610 is preformed by means of a
20 substantially lower first perforated tread element 613, above which a protective layer 616, a membrane 615, and then a perforated filler layer 618, which acts as upper seal, are associated.

Said components have the same vapor-permeable
25 characteristics described in the above embodiments, since they in fact ensure the flow of transpiration from the inside of the shoe outwards.

Thus, the membrane 615 is made of waterproof and vapor-permeable material, such as GORE-TEX, and the protective
30 layer 616 is made of hydrolysis-resistant, water-repellent,

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vapor-permeable or perforated material.

Once said insert 610, which is present throughout the thickness of the sole, has been inserted in the mold 620, said mold is closed and the second substantially perimetric
5 tread element 603 is molded or injection-molded, so as to constitute an element that is monolithic with the insert 610 and with the upper 611.

With particular reference to figure 12, a vapor-permeable shoe according to the invention is generally
10 designated by the reference numeral 700 in an eighth embodiment.

The shoe 700 comprises an upper 711 that is associated with an internal lining 712, that is vapor-permeable or perforated as a whole and is provided with an insole 717
15 that is also made of vapor-permeable or perforated material and is assembled by spot gluing or along a perimetric band.

The shoe 700 is obtained by using a mold of the "two-color" type 720, according to a method for the injection-molding of a first substantially lower tread element 702
20 provided with holes 703.

Said first tread element 702 can conveniently also be molded separately and then inserted in the mold 720.

A protective layer 716 of the type used in the previous embodiments is arranged in an upward position at the region
25 affected by the holes 703 and is directed downwards; a membrane 715, made of waterproof and vapor-permeable material, is placed above said layer.

A filler layer 718 is arranged above said membrane 715 and is vapor-permeable, as in this case, or perforated; said
30 layer is smaller than the membrane 715, so as to leave a

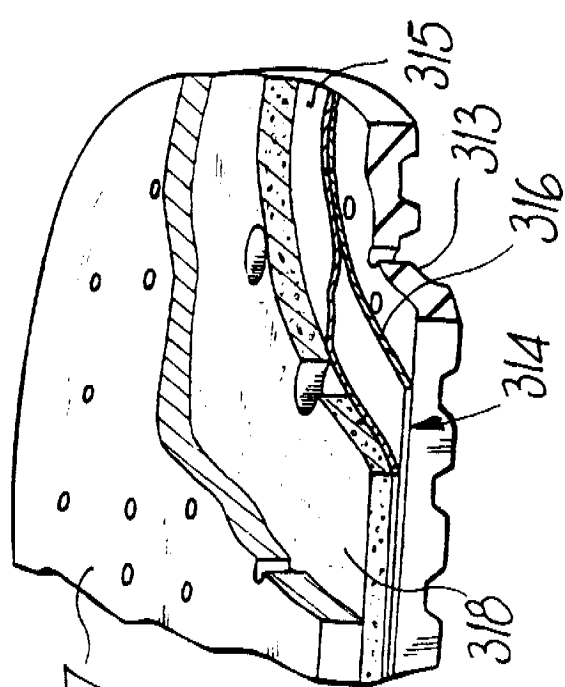
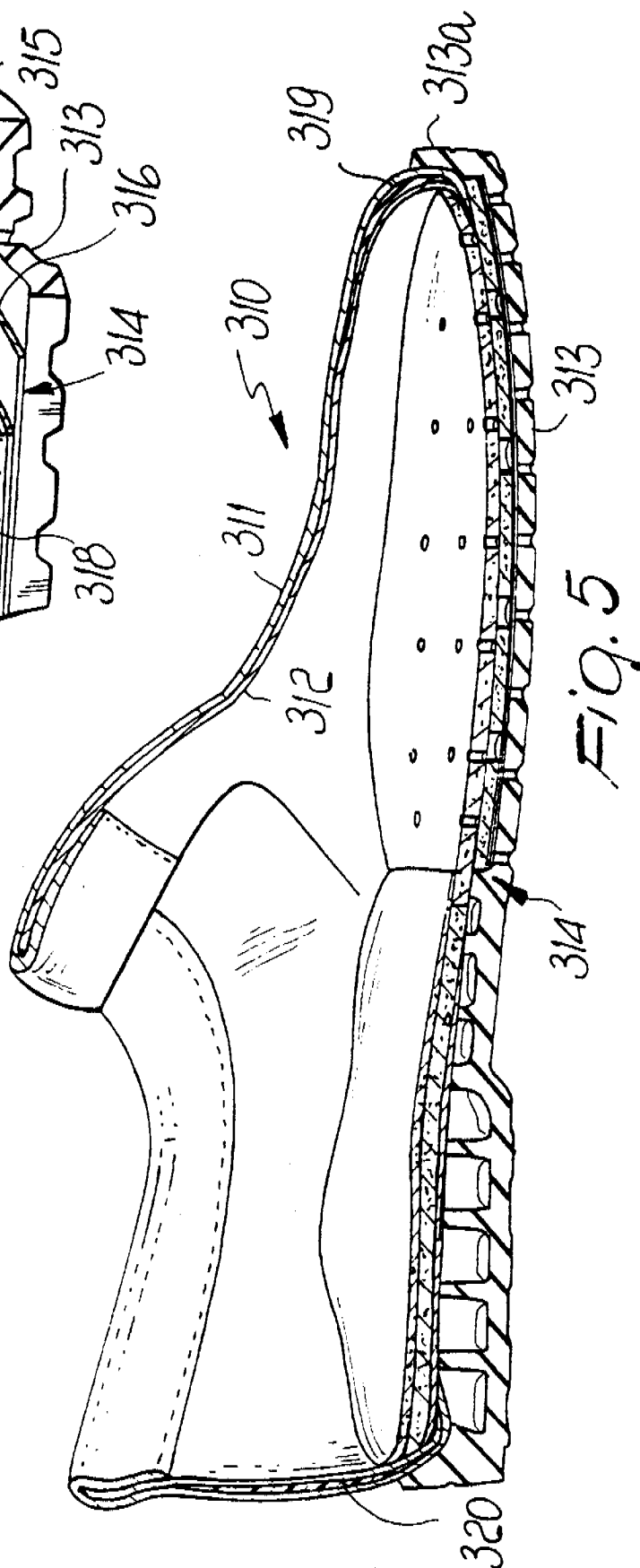
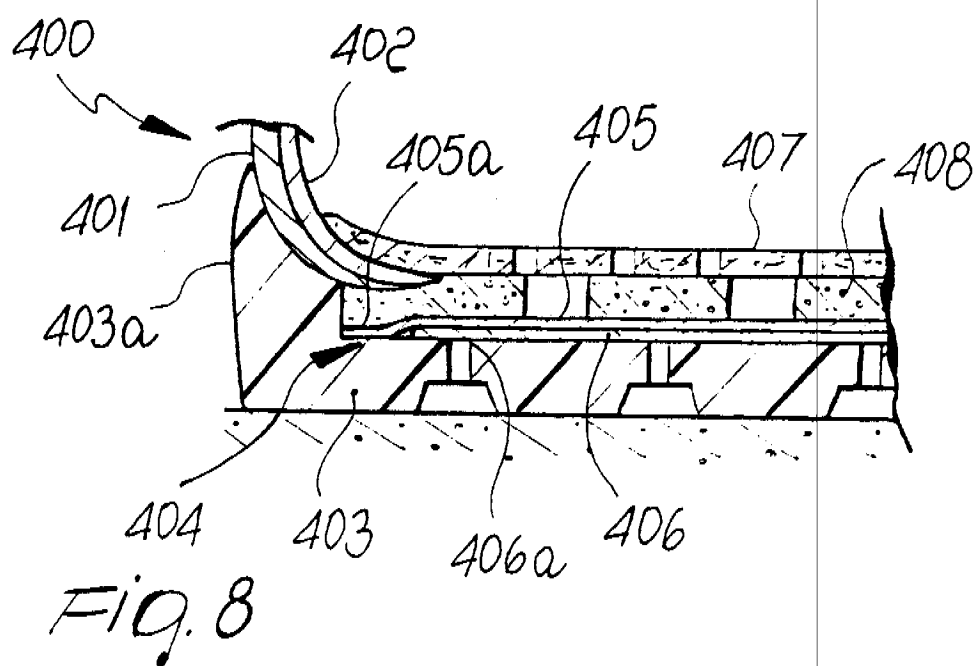
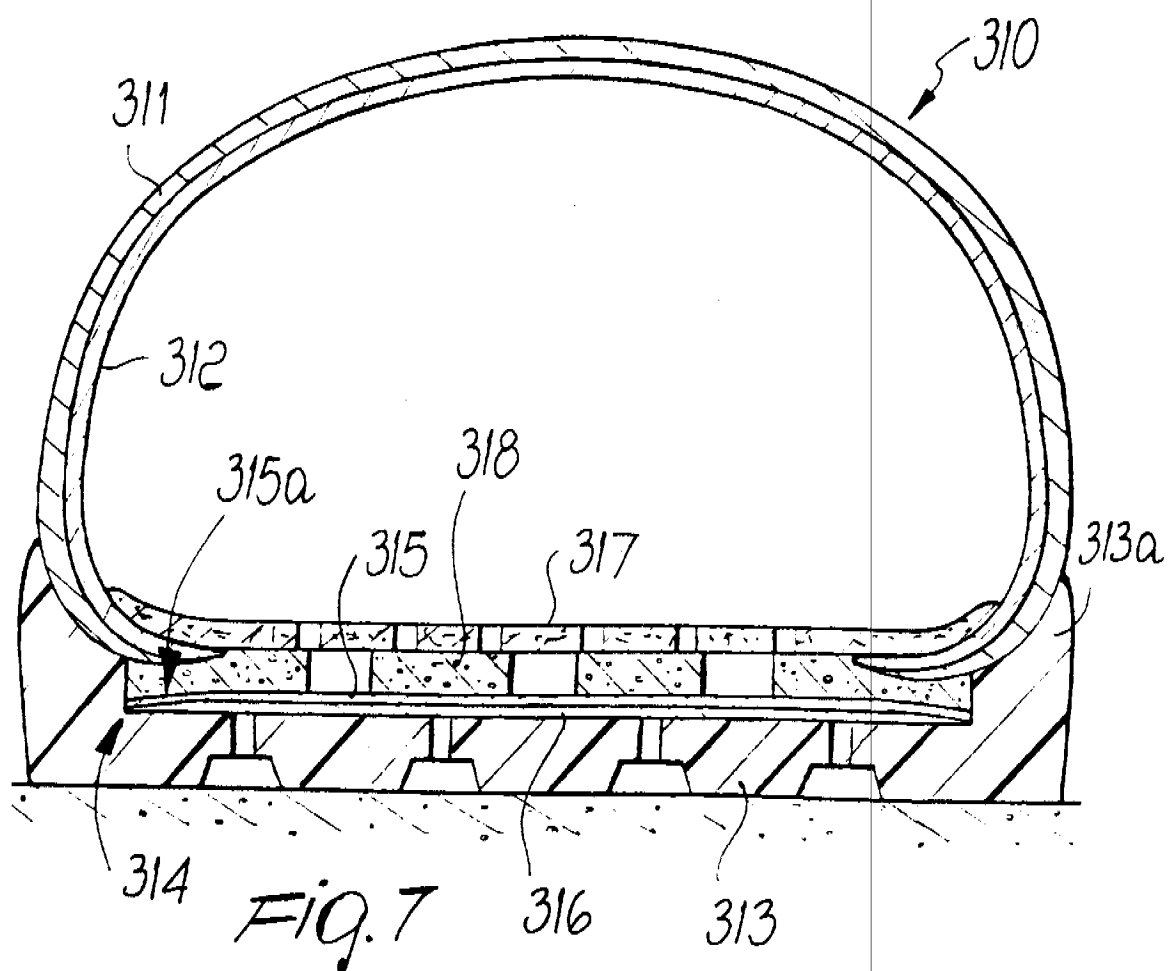


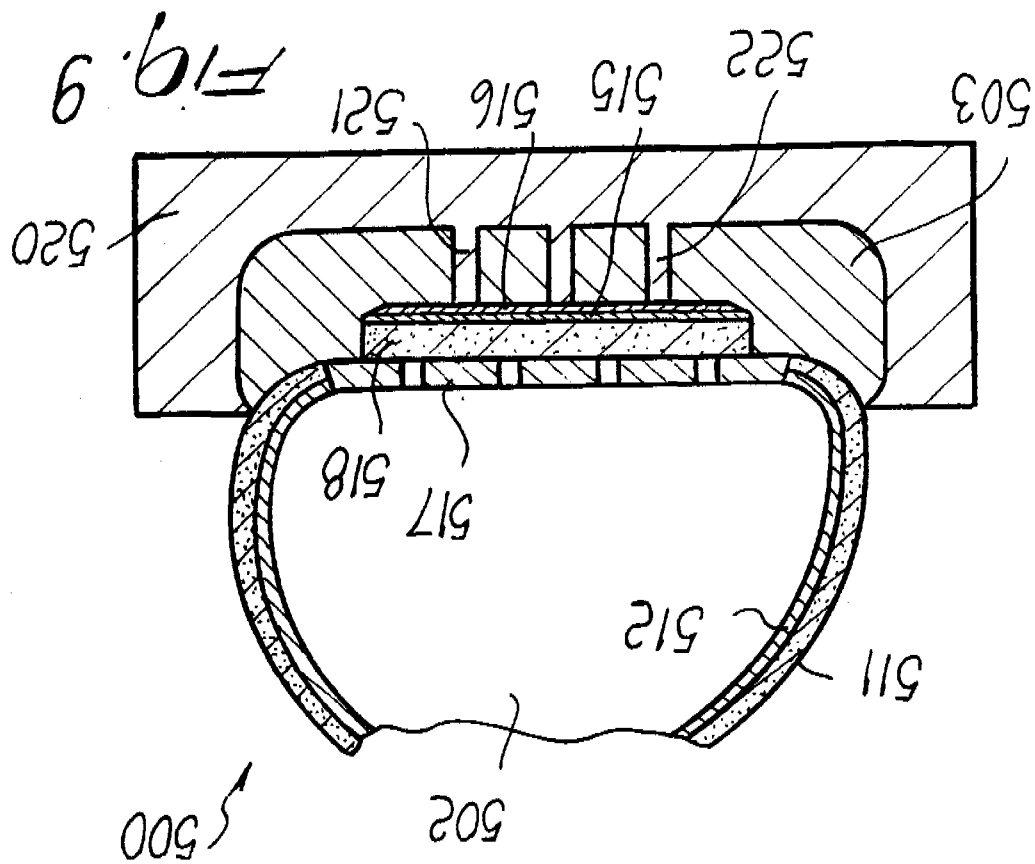
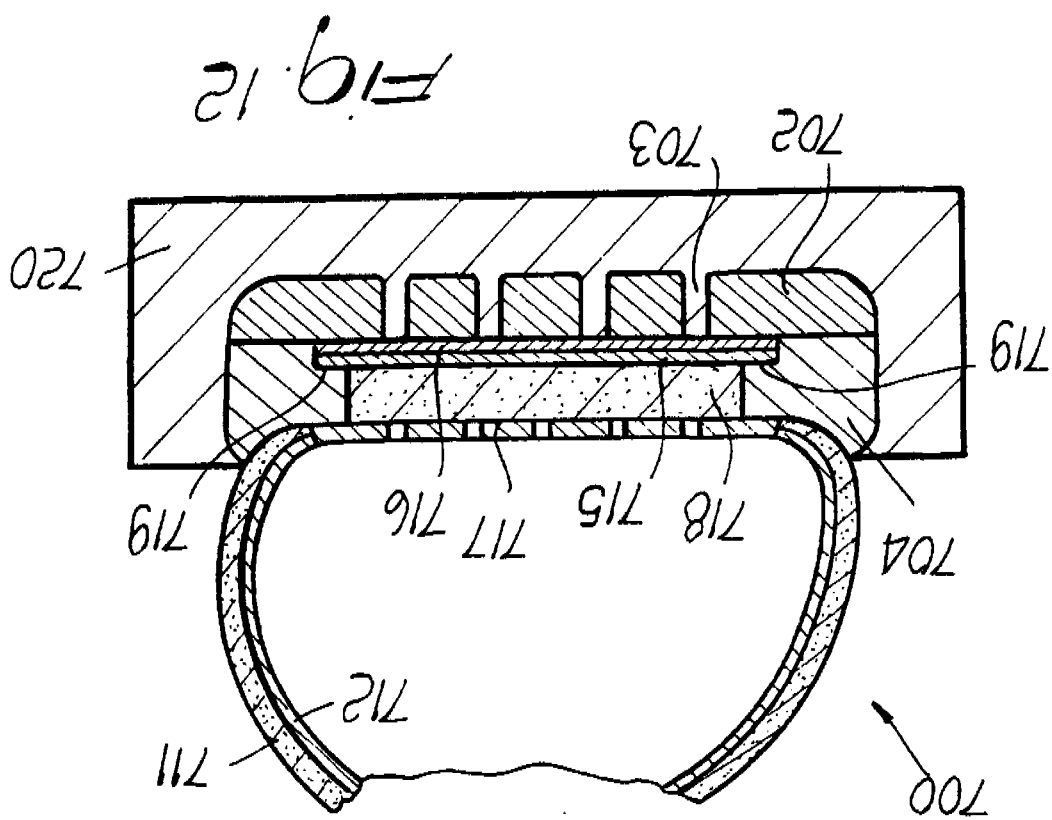
Fig. 6



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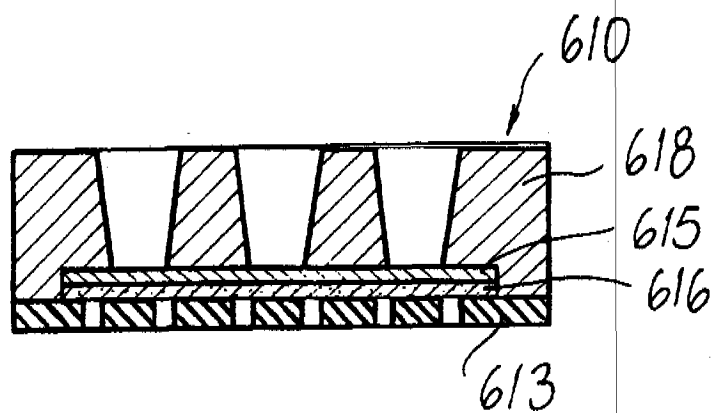


Fig. 10

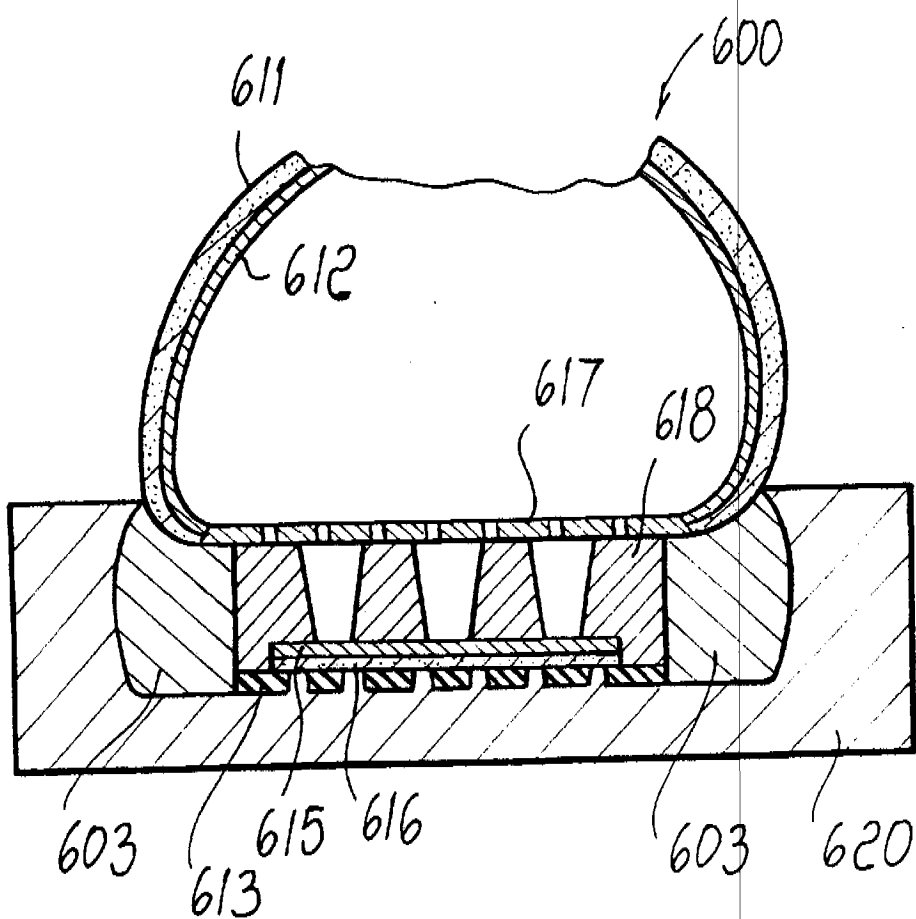


Fig. 11

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

2020

Bogotá, D.C.,

Abogada

✓ **Dra. LUZ CLEMENCIA DE PAEZ.****ASUNTO****Radicación 06 - 82849****Trámite 011****Evento 379****Actuación 430****Oficio Nº 05087****Folios 14**

Patente de Invención

☒

Patente de Modelo de Utilidad

☐

Vía Nacional

☐

Vía PCT (fase nacional)

☒

Cap. I

☒

Cap. II

☐

No. Sol. Internacional

PCT/EP2005/000524

Fecha de Presentación Internal.

2005/01/20

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: Folios: 35 a 46 Como se radico inicialmente.

Reivindicaciones: Folios: 97 Modificación radicada.

Dibujos: Folios: 53 a 57 Como se radico inicialmente.

Prioridad: Folios: 1 (IT) 2004-PD2004A000014 (2004/01/22).

2. Objeto de la invención

Título de la invención: "CALZADO CON UNA SUELA Y UN PALA RESPIRABLES E IMPERMEABLES". (Folio 1).

Problema Técnico Planteado:

- Evitar que la permeabilidad de los materiales en que está fabricado el calzado lo afecte al mismo tiempo, debido a que esta permeabilidad también deja introducir agentes externos como la lluvia o humedad al calzado, la cual no se asegura una total impermeabilidad, absorbiendo agua con relativa facilidad.
- Evitar la infiltración de agua o humedad en las zonas de unión como la plantilla y el revestimiento junto con la membrana y la suela.
- Facilitar la transpiración del pie en el calzado, permitiendo que el vapor del sudor del pie transpire de forma libre entre la suela y el pie,

evitando condensación del sudor en la suela del calzado, y asimismo evitando que la transpiración del calzado sea mínima.

Solución:

- La solución a los problemas técnicos planteados es proporcionar un calzado con suela y una pala que son respirables y aseguran una impermeabilidad completa. Este calzado comprende una suela respirable e impermeable y un conjunto asociado con la suela, ubicado en una zona superior, la cual está constituido por una pala respirable exterior, un revestimiento interior y entre estos, una membrana respirable e impermeable, asimismo cuenta con una plantilla por lo menos parcialmente perforada o respirable unida a dicha pala y a dicha membrana respirable e impermeable. El calzado así conformado tienen la particularidad de tener una suela unida herméticamente y por la periferia a dicho conjunto en dicha zona de conexión entre dicha pala y dicha membrana respirable e impermeable.

IPC: A43B7/12, A43B9/02, B29D31/508, B29C45/14, B29C45/26, B29D31/50.

3. Análisis de la solicitud de Patente

Reivindicaciones (*artículo 30 D 486, Art 22 PCT*).

Claridad:

- En la reivindicación independiente No.1, se presentan las siguientes falencias, así:
 - Se evidencia, que es extensa, no es clara y concisa, debido a que no se logra comprender de todos los elementos o características que se están ilustrando en esta reivindicación, cuales elementos o características se desean proteger en concreto y la hacen diferente frente al estado de la técnica.
 - En esta reivindicación no se logra entender un orden secuencial de cada elemento o característica con sus respectivos sub-elementos, en donde no se muestra de manera clara como interactúan entre sí con los otros elementos o características técnicas que se ilustran en esta reivindicación.
 - A pesar de que esta reivindicación tiene una estructura, la cual contiene un preámbulo y seguidamente muestra las características técnicas que definen la invención, no muestra de manera clara su parte caracterizante en donde se defina las características técnicas esenciales que se desean proteger.

Se le sugiere al solicitante presentar una nueva reivindicación independiente No.1, que contenga en el preámbulo los elementos conocidos en el estado de la técnica y en la parte caracterizadora presentar los elementos y/o características novedosas que lo hacen diferente del estado de la técnica.

Se le recuerda al solicitante que en la reivindicación independiente, la parte caracterizadora, que suele seguir al preámbulo precedida por la frase

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“caracterizado por”, recoge las características técnicas que van hacer protegidas y que constituyen la novedad frente al objeto conocido del estado de la técnica.

- En la reivindicación dependiente No.4, se evidencia que el preámbulo esta mal formulado, debido a que no se encuentra la reivindicación No.9 dentro del capitulo reivindicatorio, originando una inconsistencia con respecto a su dependencia.

Se le sugiere al solicitante que redacte nuevamente esta reivindicación, colocando de manera correcta su preámbulo y su dependencia refiriéndose a una reivindicación que se encuentre contenida dentro del capitulo reivindicatorio de la solicitud en estudio.

Descripción (artículo 28 D 486).

Claridad:

- En la figura o dibujo No.4, se evidencia que no se encuentra, ni se ilustra el número de referencia (216) del elemento o característica llamada *“Plantilla”*, esto es con el objetivo de comprender mejor la invención al momento de hacer el análisis y distinguir los elementos de dicha invención.

Se le sugiere presentar nuevamente la figura No.4, colocando de manera clara, el número de referencia (216) en la grafica señalando la característica llamada *“plantilla”*.

4. Determinación del Estado de la Técnica

El estado de la técnica se determino con base en la fecha de presentación 2006/08/22, se encontraron los siguientes documentos que anticipan el objeto de esta solicitud:

Nº	Documento	Título	Fecha de Publicación
D1	EP1197158	WATERPROOF SHOE WITH SOLE OR MID-SOLE MOLDED ONTO THE UPPER	2002/04/17
D2	WO9714326	VAPOR-PERMEABLE SHOE	1997/04/24

5. Análisis de Patentabilidad (Art 14 D486):

Nivel Inventivo (Art 18 D486)

1. Respecto a la solicitud en estudio:

La reivindicación No.1 dice: “Calzado (200) provisto de una suela y un pala respirables e impermeables, que comprende una suela respirable e impermeable (211).....,constituido por:

- Una pala respirable exterior (213), un revestimiento interior (214) y, entre ellos, una membrana respirable e impermeable (215).
- Una plantilla por lo menos parcialmente perforada o respirable (216), unida por lo menos parcialmente a dicha membrana respirable e impermeable (215).

estando dicho calzado (200) comprendido por un calzado interior (227), por lo menos parcialmente perforado o respirable en la zona de dicha suela (211) asignada a la permeación de vapor, estando dicho calzado interior (227) asociado en una zona hacia abajo con dicha plantilla (216), solapando totalmente su borde periférico (230) la zona conexión (217) entre dicha plantilla (216) y dicha membrana respirable e impermeable (215) para proporcionar una estanqueidad periférica, adhiriéndose dicha pala (213) a dicho calzado interior (227), estando dicha suela respirable e impermeable (211), comprendida por un faldón periférico externo (220), herméticamente y por la periferia asociada a dicho conjunto (212) únicamente en dicha pala (213) y en la parte expuesta, en su caso, de dicho calzado interior (212), sin afectar la parte central restante que corresponde a la zona asignada a la permeación de vapor, y dicho faldón periférico externo (220) de dicha suela respirable e impermeable (211) esta sobremoldeada y herméticamente conectada a la región periférica de un elemento de membrana (222) respirable e impermeable e impermeable de dicha suela respirable e impermeable (211), para asegurar una completa impermeabilidad de dicho calzado con un sello completo contra la infiltración de agua entre dicha suela respirable e impermeable (211) y dicho conjunto de pala respirable e impermeable (212)". (Ver folio 97).

Para efectos del examen, se toma en cuenta como características técnicas esenciales las que se encuentran subrayadas por el examinador.

2. Respecto al estado de la técnica:

El documento **D1 EP1197158** ilustra un calzado impermeable cuya estructura comprende, una capa transpirable superior, el cual internamente esta asociada con una capa de revestimiento y una membrana que es permeable al vapor e impermeable al agua, asimismo cuenta con una plantilla periféricamente y una suela o media suela la cual están hechas de material impermeable para el agua, la cual están directamente inyectadas, moldeadas y ensambladas junto a la capa transpirable superior, la capa de revestimiento y la membrana. (Ver "Abstract", "columnas 1 a 6" y las "figuras No.1 a 3").

El documento **D2 WO9714326** ilustra un calzado permeable al vapor, la cual comprende una capa superior permeable al vapor que interactúa con un revestimiento de vapor perforado, una suela hecha de material elastomérico, que tiene unas membranas hechas de un material impermeable al agua y permeable al vapor, en donde estas están ensambladas a una capa que tiene resistencia a la hidrólisis, es repelente al agua, es permeable al vapor. (Ver "Abstract", "hoja 1 a 3, 9 a 15" y las "figuras No.6 a No.12").

3. Análisis de las diferencias con respecto al estado de la técnica:

En la tabla No.1 se ilustran en las casillas de comparación, la explicación de Afirmativa si las reivindicaciones están comprendidas dentro del estado de la técnica (documentos D1 y D2), en caso contrario se enunciará como No es Afirmativa.

Tabla No.1

ESTUDIO DE NIVEL INVENTIVO		
Características esenciales de la Solicitud en estudio	Documento D1	Documento D2
....., - Una pala respirable exterior (213), un revestimiento interior (214) y, entre ellos, una membrana respirable e impermeable (215),	Afirmativa (Ver "Abstract" <i>Columna 1 (lin 52 a 58), Columna 2 (lin 1 a 7), columna 2 (lin 8 a 25) figuras 1 a 3).</i>	Afirmativa (Ver "Abstract" Hoja 2 (lin 1 a 30), Hoja 9 (lin 12 a 30), Hoja 10 (lin 1 a 30), Hoja 11 (lin 1 a 30), figura 5, 6, 7.).
Una plantilla por lo menos parcialmente perforada o respirable (216), unida por lo menos parcialmente a dicha membrana respirable e impermeable (215),	Afirmativa (Ver "Abstract" <i>Columna 1 (lin 52 a 58), Columna 2 (lin 1 a 7), columna 2 (lin 8 a 25) figuras 1 a 3).</i>	Afirmativa (Ver "Abstract" Hoja 2 (lin 1 a 30), Hoja 9 (lin 12 a 30), Hoja 10 (lin 1 a 30), Hoja 11 (lin 1 a 30), figura 5, 6, 7.).
estando dicho calzado (200) comprendido por un calzado interior (227), por lo menos parcialmente perforado o respirable en la zona de dicha suela (211) asignada a la permeacion de vapor, estando dicho calzado interior (227) asociado en una zona hacia abajo con dicha plantilla (216),	Afirmativa (Ver "Abstract" <i>Columna 1 (lin 25 a 58) figuras 1 a 3).</i>	Afirmativa (Ver "Abstract" Hoja 2 (lin 1 a 30), Hoja 9 (lin 12 a 30), Hoja 10 (lin 1 a 30), Hoja 11 (lin 1 a 30), figura 5, 6, 7.).
solapando totalmente su borde periférico	No Afirmativa	Afirmativa (Ver "Abstract" Hoja 12 (lin 4 a 24), ver figura 8).
(230) la zona conexión (217) entre dicha plantilla (216) y dicha membrana respirable e impermeable (215) para proporcionar una estanquidad periférica, adhiriéndose dicha pala (213) a dicho calzado interior (227), estando dicha suela respirable e impermeable (211),	Afirmativa (Ver "Abstract" <i>Columna 4 (lin 36 a 45) figuras 1 a 3).</i>	Afirmativa (Ver "Abstract" Hoja 2 (lin 1 a 30), Hoja 9 (lin 12 a 30), Hoja 10 (lin 1 a 30), Hoja 11 (lin 1 a 30), figura 5, 6, 7.).
.....por un faldón periférico externo (220), herméticamente y por la periferia asociada a dicho conjunto (212) únicamente en dicha pala (213) y en la parte expuesta, en su caso, de dicho calzado interior (212), sin afectar la parte central restante que corresponde a la zona asignada a la permeacion de vapor,	Afirmativa (Ver "Abstract" <i>Columna 3 (lin 57 a 58), columna 4 (lin 1 a 3), figura 2).</i>	No Afirmativa
.....faldón periférico externo (220) de dicha suela respirable e impermeable (211) esta sobremoldeada y herméticamente conectada a la región periférica de un elemento de membrana (222) respirable e impermeable e impermeable de dicha suela respirable e impermeable (211), para asegurar una completa impermeabilidad de dicho calzado con un sello completo contra la infiltración de agua entre dicha suela respirable e impermeable (211) y dicho conjunto de pala respirable e impermeable (212)"	Afirmativa (Ver "Abstract" <i>Columna 3 (lin 57 a 58), columna 4 (lin 1 a 3), columna 4 (lin 4 a 30) figura 1 a 3).</i>	No Afirmativa

- 4. Realizada la comparación y el análisis del documento D1, mediante la tabla No.1 con respecto a la solicitud en estudio donde se presenta la reivindicación No.1, se evidencia que la diferencia existente que se encontró en D1, con respecto a la solicitud en estudio fue: *"solapando totalmente su borde periférico"*.
- 5. El documento D2 enseña un zapato moldeado por su tipo de suela que tiene *"solapando totalmente su borde periférico"*, (ver *"figura 5, 7 y 8"*, *"Hoja 12 (lin 4 a 24)"*).

Por lo tanto, la solicitud como esta reivindicada se considera obvia, porque para una persona versada en la materia que tenga que solucionar el problema y conozca el estado de la técnica haría la combinación de D1 (estado de la técnica más cercano), junto con D2, en donde se llegaría al contenido de la reivindicación independiente No.1.

Por tal razón la presente solicitud se ve afectada en su nivel inventivo.

Conclusión:

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

N°	Documento N°	Reivindicaciones Afectadas	Requisito que Afecta
D1	EP1197158	1 a 4	Nivel Inventivo
D2	WO9714326	1 a 4	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 días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2 literal e), del capítulo quinto del título primero de la circular única, No. 10 del 2001.


ALIX CESPEDES DE VERGEL
Directora de Nuevas Creaciones (C)

El anterior requerimiento fue notificado por fijación en lista, de fecha **16 ABR. 2010**

CONCEPTO TECNICO Numero: 372	EXAMINADOR TECNICO Código No. 202072
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