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DOMICILIO Curacao, Antillas Holandesas

74. APODERADO Dña Maria Rodriguez D'Alenman

22. BOGOTÁ, D. C. Sept 1, 2003

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2) SOLICITANTE (71)	Nombre: Velcro Industries B.V. Dirección: Castorweg 22-24, Curacao, Antillas Holandesas Nacionalidad o domicilio: Curacao, Antillas Holandesas Lugar de constitución: Curacao, Antillas Holandesas		IDENTIFICACIÓN C.C. ☐ NIT: ☐ C.E. ☐ OTRO ☐ NÚMERO: Cual _____
	Teléfono: _____ Fax: _____ E. Mail: _____		
3) REPRESENTANTE O APODERADO	Nombre: DILIA MARÍA RODRÍGUEZ D'ALEMAN Dirección: Carrera 11 N°. 93-43 Of. 404 Santafé de Bogotá D.C. Teléfono: 6350835 Fax: 6350824 E. Mail: clarkemodet@clarkemodet.com.co		IDENTIFICACIÓN C.C. ☒ NIT: ☐ C.E. ☐ OTRO ☐ NÚMERO: 41.654.882 TP: 20824 CSJ
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***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
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1		TRAMITES DE SOL. DE PATENTE DE IN	400,000.00
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10)

ANEXOS

- ☒ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Comprobante de pago por reivindicación de prioridad
- ☐ Documento que acredita la existencia y representación legal cuando el solicitante sea persona Jurídica
- ☐ Poderes, si fuera el caso
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☐ Copia de la solicitud Internacional. (Resumen, descripción, reivindicación, Dibujos).
- ☒ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicación, Dibujos)
- ☒ Copia del examen preliminar efectuado por la IPEA
- ☐ De ser el caso, copia del contrato de acceso
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- ☐ De ser el caso, certificado de depósito del material biológico
- ☐ Arte final 12 x 12 y 6 x 6 cm
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionados parcial o totalmente con la invención de esta solicitud.
- ☒ Otros:
 1. Publicación internacional WO 02/0602294 A 1
 2. Reporte de búsqueda internacional
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11) FIGURA CARACTERÍSTICA:

12) Solicitud concesión de la patente,

NOMBRE: DILIA RODRÍGUEZ D'ALEMAN

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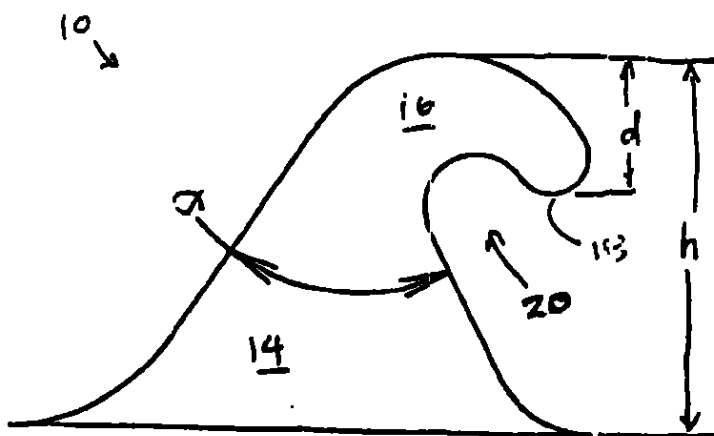
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DIRECT HOOK ENGAGEMENT



(57) Abstract: A fastening tape has a sheet-form base carrying an array of hooking members (10, 22, 24, 34) each having a height (h) of about 0.008 inch (0.2 millimeter) or less, as measured from the base, and fiber-engaging features, such as re-entrant tips (18, 32), disposed less than about 0.003 inch (0.08 millimeter) from their upper surfaces, as measured normal to the base. Such hooking members are employed to releasably engage directly into foams and fine denier non-woven materials, such as those of insulation, filters, construction moisture barriers, disposable gowns and diapers.

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DIRECT HOOK ENGAGEMENT

TECHNICAL FIELD

This invention relates to hook and loop fastening, and more particularly to male hook members adapted to engage a penetrable surface to form a releasable closure.

BACKGROUND

Plastic hook tape can be produced in a continuous molding process described by Fischer in U.S. Patent No. 4,794,028, hereby incorporated by reference. Such hook tapes have small hook members integrally molded to extend from a broad side of a sheet form base, and each hook member generally has a head portion overhanging the base to form an engageable crook in at least one direction along the longitudinal molding direction of the hook tape. Mushroom-type hook fasteners may be formed by molding stems in a Fischer-type continuous molding process, and then flattening the ends of the molded stems to form heads overhanging the base in generally all directions.

Traditionally, a male fastener tape will be provided with an array of many such hook members and arranged to engage a mating loop product or other female fastener member, to form a releasable closure by what has come to be known as hook and loop fastening. Discrete sections of hook and loop fastener tape may be sewn as specifically located patches onto a garment, for example.

SUMMARY

We have developed hooking members of a size and shape suitable for releasable engagement directly with many materials commonly employed in many products for reasons completely unrelated to hook fastening, effectively enabling such products to be provided with cost-effective, releasable fastening means without the need of a separate hook-engageable (e.g., loop) member.

Examples of the common materials into which our hooks can directly engage include non-woven materials employed in inexpensive medical gowns and other

garments, non-woven polypropylene construction barrier materials, and some open cell foams in common use as padding and filter materials.

Because no separate loop patch need be added to the product, the fastening is provided with substantial ease of use, as the hooking member can be engaged directly into any exposed portion of the product comprised of the engageable material. This can enable a garment to be readily fitted to many user sizes, and donned and removed rapidly. Garment closures incorporating these hooks can also be engaged anywhere on the garment after use, for holding the garment in a wrapped, compact condition. This can be particularly useful for storage, or for disposal after garment contamination, for example.

Our invention results in part from our realization that many applications do not require substantial closure holding forces, and that low peel and shear strengths have some useful advantage over stronger fastenings in some applications.

In some preferred embodiments, the invention features hooking members of molded form, having a molded head portion that overhangs the base of the fastener to form a crook for engaging a discrete feature of the mating fastening material. In some cases, the hooking member is a J-shaped hook overhanging the base in a single direction, and in other cases it is of palm-tree shape, overhanging the base in two opposite directions.

In another preferred embodiment, the invention features particularly small mushroom-type hooking members, preferably with molded stems and head portions that overhang the stems in multiple directions. Preferably, the head portions are formed by rapidly heating the ends of the molded stems, such as by open flame, and then quickly flowing the stem end material radially outward while chilling the molten ends, such as by application of pressure by a cold roller.

For useful engagement in a broad array of non-woven materials and foams employed in several common industries, the hooking members preferably have a height of 0.008 inch (0.2 millimeter) or less. Molded hooking members of J-shape or palm tree shape preferably have re-entrant tips disposed less than about 0.003 inch (0.008 millimeter) from the upper surface of the hooking members, as measured normal to the base, and a thickness of less than about 0.005 inch (0.13 millimeter).

According to one aspect of the invention, a fastening tape has a sheet-form base carrying an array of hooking members, each hooking member having a stem integrally molded with and extending from a side of the base, and a head overhanging the base in a common direction along the tape. The head extends from the stem to a distal, re-entrant tip to define an engageable crook. The hooking members each have a height of about 0.008 inch (0.2 millimeter) or less, as measured from the base, and the re-entrant tips are each disposed less than about 0.003 inch (0.08 millimeter) from an upper surface of their respective hooking members, as measured normal to the base.

In some embodiments the hooking members are of J-shape, preferably with stems having tapered pedestal profiles with front and rear edges defining an included angle (α) of about 60 degrees.

In some other embodiments the hooking members are of palm tree shape, each having two re-entrant tips and defining two engageable crooks, preferably with stems having front and rear edges defining an included angle of about 24.5 degrees.

Preferably, the hooking members each have a thickness, as molded, of less than about 0.005 inch (0.13 millimeter).

According to another aspect of the invention, a wearable garment has a non-woven material broadly covering an outer surface thereof, and a piece of the featured fastening tape permanently attached to one region of the non-woven material and releasably engaging another portion of the non-woven material, with the hooking members of the fastening tape each directly engaging the non-woven material.

In various embodiments, the wearable garment is a medical gown, a face mask, or a diaper, for example.

In another aspect of the invention, a roll of moisture barrier construction wrap material has a length of the featured fastener tape permanently secured thereto. The wrap material may be a sheet of non-woven polypropylene, for example.

In another aspect of the invention, a releasable fastening essentially comprises a length of the featured fastener tape as a first half of the fastening, and an open cell foam as a second half of the fastening. The hooking members of the fastener tape are disposed within apertures of an open cell structure of the foam to engage reticulated portions of the foam in their crooks.

According to yet another aspect of the invention, a method of covering a structure is provided. The method includes providing a covering consisting essentially of a sheet of non-woven material and a length of the featured fastener tape permanently secured to the non-woven material in a first region thereof; wrapping the structure with the covering, such that a second region of the non-woven material overlaps the fastener tape in the first region; and engaging the hooking members of the fastener tape directly into the non-woven material to releasably secure the covering to itself.

In some applications, the non-woven material is polypropylene moisture barrier construction wrap material, and the structure is a wall surface.

According to another aspect of the invention, a method of securing a garment includes providing a garment with a non-woven material broadly covering an outer surface thereof, and a piece of the featured fastening tape permanently attached to one region of the non-woven material; overlapping a second region of the non-woven material with the fastener tape in the first region; and engaging the hooking members of the fastener tape directly into the non-woven material to releasably secure the non-woven material of the garment to itself.

The profile shapes of the hooking members shown in the illustrated embodiments, in combination with their small size, are particularly useful for engaging many fine-featured materials, as the wide bases of the hooking members resists vertical deflection of the hooks as they penetrate the mating material.

The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

DESCRIPTION OF DRAWINGS

Fig. 1 is a side view of a first J-shaped hooking member.

Fig. 1A is an end view of the hooking member of Fig. 1.

Fig. 2 is a side view of a second J-shaped hooking member.

Fig. 2A is an end view of the hooking member of Fig. 2.

Fig. 3 is a side view of a palm tree shaped hooking member.

Fig. 3A is an end view of the hooking member of Fig. 3.

Fig. 4 is a side view of a mushroom-shaped hooking member.

Fig. 4A is an end view of the hooking member of Fig. 4.

Like reference symbols in the various drawings indicate like elements.

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DETAILED DESCRIPTION

The hooking member 10 of Figs. 1 and 1A has a J-shaped profile and curved sides, such as may be molded in a cavity formed between two adjacent mold plates in a mold roll employed in the Fischer process, leaving a parting line 12 down the middle of the hook at the interface between the two mold plates. The pedestal stem portion defines a rather large included angle α of about 61.5 degrees between front and rear edges. The head portion 16 has a re-entrant tip 18, meaning that it extends downward toward the base of the hook to form a concave crook 20 for trapping features of a mating material. Tip 18 extends downward to a distance "d" of about 0.0028 inch (0.07 millimeter) from the most upper surface of the hooking member, and the entire hooking member has an overall height "h", as measured normal to the base, of only about 0.0076 inch (0.19 millimeter).

The hooking member 22 of Figs. 2 and 2A also has a J-shaped profile, but has flat sides as seen in Fig. 2A. Thus, its tip 18' extends completely across the hooking member, and the upper surface of its head portion 16' presents a rather broad surface to the mating material. Stem portion 14' defines the same included angle α of about 61.5 degrees, top 18' also extends down to a distance "d" of about 0.0028 inch (0.07 millimeter), and hooking member 22 also has a height "h" of only about 0.0076 inch (0.19 millimeter).

The hooking member 24 of Figs. 3 and 3A has a palm tree shaped profile, as seen in Fig. 3. As such, it has two head portions 26 that extend from a common stem portion 28 to overhang the base in opposite directions, defining two discrete feature-trapping crooks 30. In this case, stem portion 28 defines an included angle α' of about 24.5 degrees between front and rear edges. Tips 32 also extend down to a distance "d" of about 0.0028 inch (0.07 millimeter), and hooking member 24 also has a height "h" of only about 0.0076 inch (0.19 millimeter).

The hooking member 34 of Figs. 4 and 4A is a mushroom-type hooking member, having a molded stem portion 36 and an enlarged head portion 38. The stem portion is of square cross-section, each side having a nominal lateral dimension "t" of about 0.004 inch (0.1 millimeter), and was molded to have a total height of 0.133 inch (3.4 millimeters). After molding, the upper part of stem portion 36 was flame-heated and passed under a cold roll to cause the resin of the upper end of the stem portion to flow radially outward to form a generally circular disk-shaped head portion 38 having an overall dimension "D" of about 0.0092 inch (0.23 millimeter) and a vertical thickness "d₁" of only about 0.002 inch (0.05 millimeter). After this post-forming of head portion 38, hooking member 34 has a final overall height "h₁" of about 0.0105 inch (0.27 millimeter). In another embodiment (not shown), head portion 38 is of generally elliptical shape, having a major axis dimension of 0.0097 inch (0.25 millimeter) and a minor axis dimension of 0.0086 inch (0.22 millimeter).

Each of the hooks described above is useful for engaging many common surface materials, such as non-woven fabrics and open cell foams, and can be permanently bonded to garments and other products by ultrasonic or adhesive bonding. In one application, a non-woven medical gown, available as Medicom Non-Woven Gown REF 8012 blue from A.R. Medicom Inc. of Buffalo, New York, was provided with a patch of hook tape having an array of hooking members 22 (as shown in Figs. 2 and 2A). Engaging directly into the non-woven material of the medical gown (i.e., without any added loop material), the hook tape provided sufficient fastening strength to perform as a garment closure. As lightly pressed against the non-woven gown material by rolling a 4.5 pound roller topped with 1 kilogram of additional weight back and forth one time, in the direction of the hooks, across a one inch by two inch (25 millimeter by 50 millimeter) patch of hook tape, the hook tape exhibited a peel resistance of about 15 to 18 grams per inch (6 to 7 grams per centimeter) of width (as a three highest peak average), and a maximum shear resistance of 830 to 1085 grams per square inch (130 to 170 grams per square centimeter). Other medical applications for which this hook is suitable include engagement of face masks, surgery drapes, or bandages. These small hooking members are also useful in the direct engagement of many of the non-woven and other materials employed to broadly cover the outer surfaces of diapers.

However, these particularly small, strong hooking members are also useful in other industries. For example, we have found that in large arrays they provide sufficient engagement in common low pile, fine denier, non-woven polypropylene moisture barrier construction wrap material (e.g., such as is known under the trade names TYVEK and TYPAR) that they can be employed to secure such materials in place against wall surfaces instead of adhesive tape or staples. Such hooks can be provided on the surface to which the wrap is to be applied, or can be provided on one side of the wrap itself, such that the wrap can be wrapped about a structure and secured to itself. Other industrial packaging applications are envisioned, as are covers for vehicles and such.

In addition, these small hooking members are useful in the direct engagement of open cell foams, either of thermoset or thermoplastic materials. The head portions of the hooking members, particularly of the J-shaped and palm tree shaped hooking members, are small enough to fit within the apertures defined by the open cell structure of the foam to trap reticulated portions of the foam material in crooks of the hooks. Thus, these hooks can be used to advantage in many applications commonly employing such foams as filters (for air or liquid), padding (such as in fruit handling equipment), or insulation (automotive and industrial), to cite but a few examples. Suitable polyurethane foams include, for example, the HSS product of Lendell Manufacturing of St. Charles, Michigan.

A number of embodiments of the invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. Accordingly, other embodiments are within the scope of our invention.

What is claimed is:

1. A fastening tape comprising
a sheet-form base carrying an array of hooking members (10,22,24), each
hooking member having a stem (14,14',28) integrally molded with and extending
from a side of the base, and a head (16,16',26) overhanging the base in a common
direction along the tape, the head extending from the stem to a distal, re-entrant tip
(18,18',32) to define an engageable crook (20,30); wherein
the hooking members each have a height (h) of about 0.008 inch (0.2
millimeter) or less, as measured from the base; and
the re-entrant tips (18,18',32) are each disposed less than about 0.003 inch (d,
0.08 millimeter) from an upper surface of their respective hooking members, as
measured normal to the base.
2. The fastening tape of claim 1 wherein the hooking members (10,22)
are of J-shape.
3. The fastening tape of claim 2 wherein the stems (14,14') of the
hooking members have tapered pedestal profiles with front and rear edges defining an
included angle (α) of about 60 degrees.
4. The fastening tape of claim 1 wherein the hooking members (24) are of
palm tree shape, each having two re-entrant tips (32) and defining two engageable
crooks (30).
5. The fastening tape of claim 4 wherein the stems (28) of the hooking
members (24) have front and rear edges defining an included angle (α') of about 24.5
degrees.
6. The fastening tape of claim 1 wherein the hooking members (10,22,24)
each have a thickness, as molded, of less than about 0.005 inch (0.13 millimeter).

7. A wearable garment with a non-woven material broadly covering an outer surface thereof, and a piece of the fastening tape of claim 1 permanently attached to one region of the non-woven material and releasably engaging another portion of the non-woven material, with the hooking members (10,22,24) of the fastening tape each directly engaging the non-woven material.

8. The wearable garment of claim 7 comprising a medical gown.

9. The wearable garment of claim 7 comprising a face mask.

10. The wearable garment of claim 7 comprising a diaper.

11. A roll of moisture barrier construction wrap material having a length of the fastener tape of claim 1 permanently secured thereto.

12. The roll of moisture barrier construction wrap material of claim 11, wherein the wrap material comprises a sheet of non-woven polypropylene.

13. A releasable fastening comprising a length of the fastener tape of claim 1 as a first half of the fastening; and an open cell foam as a second half of the fastening; wherein the hooking members (10,22,24) of the fastener tape are disposed within apertures of an open cell structure of the foam to engage reticulated portions of the foam in their crooks.

14. A method of covering a structure, the method comprising providing a covering consisting essentially of a sheet of non-woven material; and a length of the fastener tape of claim 1 permanently secured to the non-woven material in a first region thereof; wrapping the structure with the covering, such that a second region of the non-woven material overlaps the fastener tape in the first region; and

engaging the hooking members (10,22,24) of the fastener tape directly into the non-woven material to releasably secure the covering to itself.

5 15. The method of claim 14 wherein the non-woven material is polypropylene moisture barrier construction wrap material, and wherein the structure is a wall surface.

10 16. A method of securing a garment, the method comprising providing a garment with a non-woven material broadly covering an outer surface thereof, and a piece of the fastening tape of claim 1 permanently attached to one region of the non-woven material;
 overlapping a second region of the non-woven material with the fastener tape in the first region; and
15 engaging the hooking members (10,22,24) of the fastener tape directly into the non-woven material to releasably secure the non-woven material of the garment to itself.

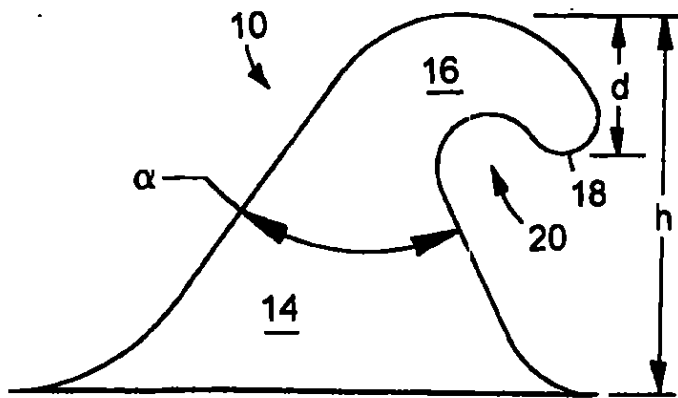


FIG. 1

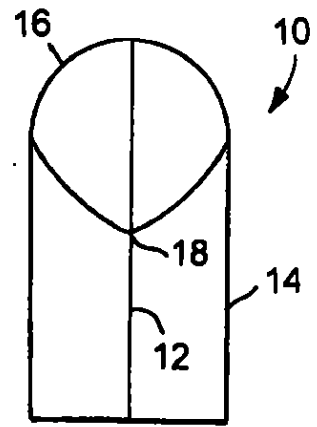


FIG. 1A

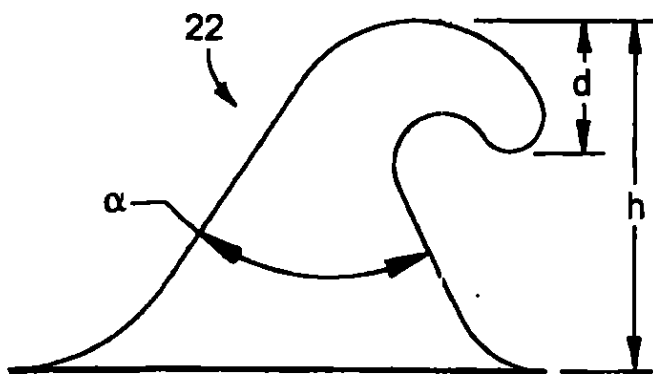


FIG. 2

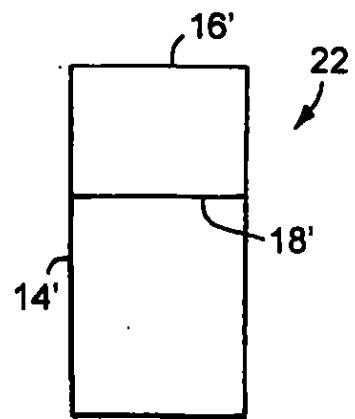


FIG. 2A

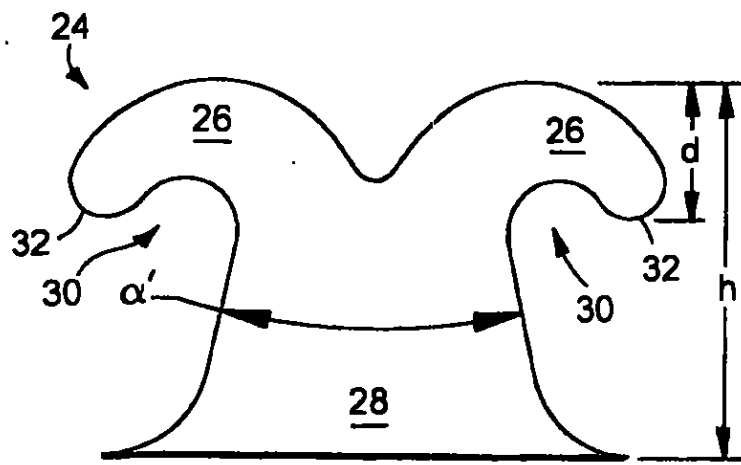


FIG. 3

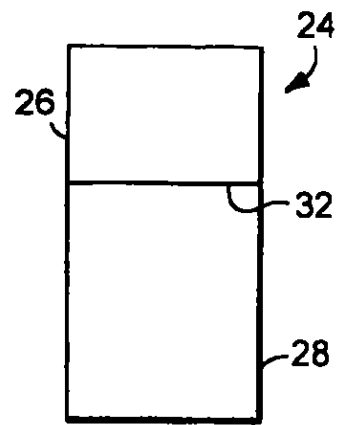


FIG. 3A

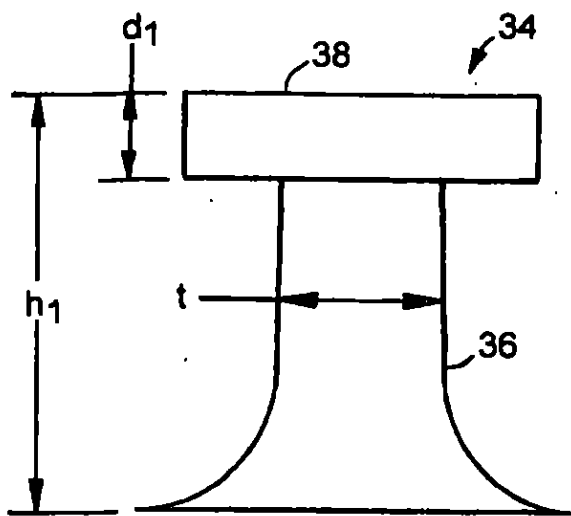


FIG. 4

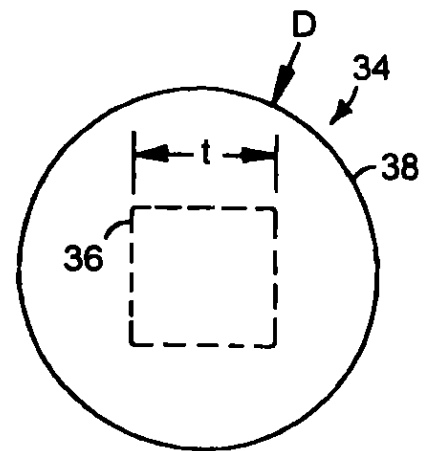


FIG. 4A

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/09570

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A44B 15/00 US CL : 84/482 According to International Patent Classification (IPC) or to both national classification and IPC																				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 84/482, 306, 442, 584.1, 450, 447, 448; 428/100. Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)																				
C. DOCUMENTS CONSIDERED TO BE RELEVANT																				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																		
A	US 5,900,350 A (PROVOST et al.) 04 May 1999 (04-04-99), see whole document.	1-16																		
A	US 5,953,797 A (PROVOST et al.) 21 September 1999 (21-09-99), see whole document.	1-16																		
A	US 5,875,527 A (LACEY et al.) 02 May 1999 (02-03-99), see whole document.	1-16																		
A, P	US 6,209,177 B1 (MURASAKI) 03 April 2001, see whole document.	1-16																		
A	US 6,163,939 A (LACEY et al.) 26 December 2000 (26-12-00), see whole document.	1-16																		
A	US 5,781,969 A (AKENO et al.) 21 July 1998 (21-07-98), see whole document.	1-16																		
☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.																				
<table border="0"><tr><td colspan="2">* Special categories of cited documents:</td><td></td></tr><tr><td>"A"</td><td>document defining the general state of the art which is not considered to be of particular relevance</td><td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td></tr><tr><td>"E"</td><td>earlier document published on or after the international filing date</td><td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td></tr><tr><td>"L"</td><td>document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td><td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td></tr><tr><td>"O"</td><td>document referring to an oral disclosure, use, exhibition or other means</td><td></td></tr><tr><td>"P"</td><td>document published prior to the international filing date but later than the priority date claimed</td><td>"G" document member of the same patent family</td></tr></table>			* Special categories of cited documents:			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means		"P"	document published prior to the international filing date but later than the priority date claimed	"G" document member of the same patent family
* Special categories of cited documents:																				
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention																		
"E"	earlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone																		
"L"	document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art																		
"O"	document referring to an oral disclosure, use, exhibition or other means																			
"P"	document published prior to the international filing date but later than the priority date claimed	"G" document member of the same patent family																		
Date of the actual completion of the international search 01 MAY 2002		Date of mailing of the international search report 29 MAY 2002																		
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 805-2850		Authorized officer ROBERT J. SANDY <i>Diane Smith</i> Telephone No. (703) 805-2168																		

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/08570

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,604,963 A (AKENO) 25 February 1997 (85-02-97), see whole document	1-16
A	US 5,551,130 A (TOMINAGA et al.) 03 September 1996 (03-09-96), see whole document	1-16

19
The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line IPEA/ US

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only	
Identification of IPEA	Date of receipt of DEMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION	
International application No. PCT/US02/02570	Applicant's or agent's file reference 05918-210WO1
International filing date (day/month/year) 30 January 2002 (30.01.02)	(Earliest) Priority date (day/month/year) 31 January 2001 (31.01.01)
Title of invention DIRECT HOOK ENGAGEMENT	
Box No. II APPLICANT(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) VELCRO INDUSTRIES B.V. 22-24 Castorweg Curacao Netherlands Antilles	Telephone No.
	Facsimile No.
	Teleprinter No.
	Applicant's registration No. with the Office
State (that is, country) of nationality: NL	State (that is, country) of residence: NL
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) VAN BENSCHOTEN, Brian J. 10 Abbott Street Rochester, New Hampshire 03868 United States of America	
State (that is, country) of nationality: US	State (that is, country) of residence: US
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) GALLANT, Christopher M. 21 Ledge Farm Road Nottingham, New Hampshire 03290 United States of America	
State (that is, country) of nationality: US	State (that is, country) of residence: US
☒ Further applicants are indicated on a continuation sheet.	

Continuation of Box No. II APPLICANT(S)

If none of the following sub-boxes is used, this sheet should not be included in the demand.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

TREMBLAY, Heidi Scheerer
45 Blossom Road
Windham, New Hampshire 03087
United States of America

State (that is, country) of nationality:

US

State (that is, country) of residence:

US

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

SEPANIK, Halani Zakl
38 Hawthorne Drive, Apt. F204
Bedford, New Hampshire 03110
United States of America

State (that is, country) of nationality:

US

State (that is, country) of residence:

US

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:



Further applicants are indicated on another continuation sheet.

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representative
 and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.
☐ is hereby appointed and any earlier appointment of (an) agent(s) /common representative is hereby revoked.
☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: *(Family name followed by given name; for a legal entity, full official
The address must include postal code and name of country.)*

WILLIAMS, John N. and BABINEAU, James W.
 Fish & Richardson, P.C.
 225 Franklin Street
 Boston, Massachusetts 02110-2804
 United States of America

Telephone No.
(817) 542-5070

Facsimile No.
(817) 542-8908

Teleprinter No.

Agent's registration No. with the Office
42,276

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION**Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed.

the description ☐ as originally filed

☐ as amended under Article 34

the claims ☐ as originally filed

☐ as amended under Article 19 (together with any accompanying statement)

☐ as amended under Article 34

the drawings ☐ as originally filed

☐ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.

3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

☒ which is the language in which the international application was filed.

☐ which is the language of a translation furnished for the purposes of international search.

☐ which is the language of publication of the international application.

☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (specify) | : | sheets |

For International Preliminary Examining Authority use only

received not received

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

The demand is also accompanied by the item(s) marked below:

- | | |
|---|--|
| 1. ☒ fee calculation sheet | 5. ☐ statement explaining lack of signature |
| 2. ☐ original separate power of attorney | 6. ☐ sequence listing in computer readable form |
| 3. ☐ original general power of attorney | 7. ☒ other (specify): Transmittal Letter, Postcard, Check, Copies of Separate POA's (4), and Formal Drawings |
| 4. ☒ copy of general power of attorney; reference number, if any: | |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

 Reg. No. 45,388
James W. Balineau
Reg. No. 42,278

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:
2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):
3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.
4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.
5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PC 1

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) 05918-210WO1Box No. I TITLE OF INVENTION
DIRECT HOOK ENGAGEMENT

Box No. II APPLICANT

☐ This person is also inventorName and address: (Family name followed by given names; for a legal entity, full official designation.
The address must include postal code and name of country. The country of the address indicated in this
Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)VELCRO INDUSTRIES B.V.
Castorweg 22-24
Curacao
Netherlands Antilles

Telephone No.

Facsimile No.

Teleprinter No.

Applicant's registration No. with the Office

State (that is, country) of nationality:
NLState (that is, country) of residence:
NLThis person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given names; for a legal entity, full official designation.
The address must include postal code and name of country. The country of the address indicated in this
Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)VAN BENSCHOTEN, Brian J.
10 Abbott Street
Rochester, New Hampshire 03868
United States of America

This person is:

☐ applicant only☒ applicant and inventor☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:
USState (that is, country) of residence:
USThis person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent ☐ common representativeName and address: (Family name followed by given names; for a legal entity, full official designation.
The address must include postal code and name of country.)BABINEAU, James W.; WILLIAMS, John N.
Fish & Richardson P.C.
225 Franklin Street
Boston, Massachusetts 02110-2804
United States of AmericaTelephone No.
(617) 542-5070Facsimile No.
(617) 542-8906

Teleprinter No.

Agent's registration No. with the Office
42,276; 18,948☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Continuation of Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not to be included in the request.

Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) GALLANT, Christopher M. 21 Legefarm Road Nottingham, New Hampshire 03290 United States of America		This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (If this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US	
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box		
Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) SEPANIK, Hariani Zaki 38 Hawthorne Drive, Apt. F204 Bedford, New Hampshire 03110 United States of America		This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (If this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US	
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box		
Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) TREMBLAY, Heidi Scheerer 45 Blossom Road Windham, New Hampshire 03087 United States of America		This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (If this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US	
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box		
Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) 		This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (If this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US	
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box		
☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.		

Box No.V DESIGNATION OF STATES

Mark the applicable check-boxes below; at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH & LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|---|--|--|
| ☒ AE United Arab Emirates | ☒ GH Ghana | ☒ MX Mexico |
| ☒ AG Antigua and Barbuda | ☒ GM Gambia | ☒ MZ Mozambique |
| ☒ AL Albania | ☒ HR Croatia | ☒ NO Norway |
| ☒ AM Armenia | ☒ HU Hungary | ☒ NZ New Zealand |
| ☒ AT Austria | ☒ ID Indonesia | ☒ PL Poland |
| ☒ AU Australia | ☒ IL Israel | ☒ PT Portugal |
| ☒ AZ Azerbaijan | ☒ IN India | ☒ RO Romania |
| ☒ BA Bosnia and Herzegovina | ☒ IS Iceland | ☒ RU Russian Federation |
| ☒ BB Barbados | ☒ JP Japan | |
| ☒ BG Bulgaria | ☒ KE Kenya | ☒ SD Sudan |
| ☒ BR Brazil | ☒ KG Kyrgyzstan | ☒ SE Sweden |
| ☒ BY Belarus | ☒ KP Democratic People's Republic of Korea | ☒ SG Singapore |
| ☒ BZ Belize | ☒ KR Republic of Korea | ☒ SI Slovenia |
| ☒ CA Canada | ☒ KZ Kazakhstan | ☒ SK Slovakia |
| ☒ CH & LI Switzerland and Liechtenstein | ☒ LC Saint Lucia | ☒ SL Sierra Leone |
| ☒ CN China | ☒ LK Sri Lanka | ☒ TJ Tajikistan |
| ☒ CO Colombia | ☒ LR Liberia | ☒ TM Turkmenistan |
| ☒ CR Costa Rica | ☒ LS Lesotho | ☒ TR Turkey |
| ☒ CU Cuba | ☒ LT Lithuania | ☒ TT Trinidad and Tobago |
| ☒ CZ Czech Republic | ☒ LU Luxembourg | |
| ☒ DE Germany | ☒ LV Latvia | ☒ TZ United Republic of Tanzania |
| ☒ DK Denmark | ☒ MA Morocco | ☒ UA Ukraine |
| ☒ DM Dominica | ☒ MD Republic of Moldova | ☒ UG Uganda |
| ☒ DZ Algeria | | ☒ US United States of America |
| ☒ EC Ecuador | ☒ MG Madagascar | continuation |
| ☒ EE Estonia | ☒ MK The former Yugoslav Republic of Macedonia | ☒ UZ Uzbekistan |
| ☒ ES Spain | ☒ MN Mongolia | ☒ VN Viet Nam |
| ☒ FI Finland | ☒ MW Malawi | ☒ YU Yugoslavia |
| ☒ GB United Kingdom | | ☒ ZA South Africa |
| ☒ GD Grenada | | ☒ ZW Zimbabwe |
| ☒ GE Georgia | | |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☒ all countries added since the printing
- ☐ of this form

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Supplemental Box*If the Supplemental Box is not used, this sheet should not be included in the request.*

- Continuation of Box V**
Continuation of US Provisional Application
60/265,258 filed 31 January 2001 (31.01.01)
1. *If, in any of the Boxes, except Boxes Nos VIII(i) to (v) for which a special continuation box is provided, the space is insufficient to furnish all the information: in such case, write "Continuation of Box No." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:*
 - (i) *If more than two persons are to be indicated as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;*
 - (ii) *If, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;*
 - (iii) *If, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;*
 - (iv) *If, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;*
 - (v) *If, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;*
 - (vi) *If, in Box No. VI, there are more than five earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.*
 2. *If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.*

27

Box No. VI PRIORITY CLAIM				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: regional Office	international application: receiving Office
item (1) 31 January 2001 (31.01.01)	60/285,258	US		
item (2)				
item (3)				
item (4)				
item (5)				

☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:

☒ all items
 ☐ item (1)
 ☐ item (2)
 ☐ item (3)
 ☐ item (4)
 ☐ item (5)
 ☐ other, see Supplemental Box

* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):

.....

Box No. VII INTERNATIONAL SEARCHING AUTHORITY			
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used): ISA/ .US..... Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority): <table style="width: 100%; border: none;"> <tr> <td style="width: 35%; border: none;">Date (day/month/year)</td> <td style="width: 20%; border: none;">Number</td> <td style="width: 45%; border: none;">Country (or regional Office)</td> </tr> </table>	Date (day/month/year)	Number	Country (or regional Office)
Date (day/month/year)	Number	Country (or regional Office)	

Box No. VIII DECLARATIONS	
The following declarations are contained in Boxen Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):	Number of declarations
☐ Box No. VIII (i) Declaration as to the identity of the inventor :	
☐ Box No. VIII (ii) Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent :	
☐ Box No. VIII (iii) Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application :	
☐ Box No. VIII (iv) Declaration of inventorship (only for the purposes of the designation of the United States of America) :	
☐ Box No. VIII (v) Declaration as to non-prejudicial disclosures or exceptions to lack of novelty :	

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Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:

(a) the following number of sheets in paper form:

request (including declaration sheets) : 6
 description (excluding sequence listing part) : 7
 claims : 3
 abstract : 1
 drawings : 2
 Sub-total number of sheets : 19

sequence listing part of description (actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (b) below) : _____

Total number of sheets : 19

(b) sequence listing part of description filed in computer readable form

(i) ☐ only (under Section 801 (a)(i))(ii) ☐ in addition to being filed in paper form (under Section 801 (a)(ii))

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (additional copies to be indicated under item 9(ii), in right column):

This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):

Number of items

1. ☒ fee calculation sheet
2. ☐ original separate power of attorney
3. ☐ original general power of attorney
4. ☒ copy of general power of attorney; reference number, if any: _____
5. ☐ statement explaining lack of signature
6. ☐ priority document(s) identified in Box No. VI as item(s): _____
7. ☐ translation of international application into (language): _____
8. ☐ separate indications concerning deposited microorganism or other biological material
9. ☐ sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other))
 - (i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application)
 - (ii) ☐ (only where check-box (b)(i) or (b)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter
 - (iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column
10. ☒ other (specify): check, postcard

Figure of the drawings which should accompany the abstract:

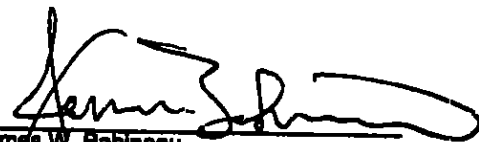
1

Language of filing of the international application:

English

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).


 James W. Babineau

1. Date of actual receipt of the purported international application:		2. Drawings: ☐ received: ☐ not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA/	6. ☐ Transmittal of search copy delayed until search fee is paid	

Date of receipt of the record copy by the International Bureau: _____

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 05918-910WO1	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US02/08870	International filing date (day/month/year) 30 JANUARY 2003	Priority date (day/month/year) 31 JANUARY 2001
International Patent Classification (IPC) or national classification and IPC IPC(7): A44B 18/00 and US Cl.: 24/452		
Applicant VELCRO INDUSTRIES B.V.		

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

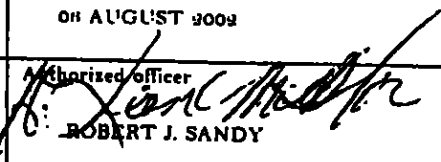
2. This REPORT consists of a total of 3 sheets.

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

These annexes consist of a total of 4 sheets.

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

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 11 JUNE 2003	Date of completion of this report 08 AUGUST 2003
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  ROBERT J. SANDY
Facsimile No. (703) 305-3330	Telephone No. (703) 308-2168

Form PCT/IPEA/409 (cover sheet) (July 1998)*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/02570

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☒ the description:

pages 1-7 , as originally filed

pages NONE , filed with the demand

pages NONE , filed with the letter of

☒ the claims:

pages 8-10 , as originally filed

pages NONE , as amended (together with any statement) under Article 19

pages NONE , filed with the demand

pages NONE , filed with the letter of

☒ the drawings:

pages 1 AND 2 , as originally filed

pages NONE , filed with the demand

pages NONE , filed with the letter of

☒ the sequence listing part of the description:

pages NONE , as originally filed

pages NONE , filed with the demand

pages NONE , filed with the letter of

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

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

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

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

☐ contained in the international application in printed form.

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

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

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

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

4. ☒ The amendments have resulted in the cancellation of:

☒ the description, pages NONE

☒ the claims, Nos. NONE

☒ the drawings, sheets/fig. NONE

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

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

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

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/02570

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

1. statement

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims	<u>NONE</u>	NO
Inventive Step (IS)	Claims	<u>1-16</u>	YES
	Claims	<u>NONE</u>	NO
Industrial Applicability (IA)	Claims	<u>1-16</u>	YES
	Claims	<u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1-16 meet the criteria set out in PCT Article 35(2)-(4), because the prior art does not teach or fairly suggest a fastening tape having the structural combination wherein the hooking members each have a height of about 0.008 inch (0.2 millimeter) or less, as measured from the base, and the re-entrant tips are each disposed less than about 0.003 inch (0.08 millimeter)) from the upper surface of their respective hooking members, as measured normal to the base. The fastening tape has industrial applicability when employed as a garment closure.

NEW CITATIONS

NONE

ENGANCHE DIRECTO POR GANCHO

Campo técnico

Esta invención se relaciona con aseguramientos tipo gancho y argolla y más particularmente con miembros de gancho machos adaptados para acoplar una superficie penetrable para formar un cierre liberable.

Antecedentes

Las cintas plásticas de gancho se pueden producir en un proceso de moldeo continuo descritos por Fisher en la patente estadounidense No. 4,794,028, incorporada aquí como referencia. Tales cintas de gancho tienen pequeños miembros de gancho moldeados integralmente para extenderse desde un lado amplio de una base en forma de lámina, y cada miembro de gancho tiene una porción de cabeza que cuelga de la base para formar un gancho acoplable en al menos una dirección a lo largo de la dirección de moldeo longitudinal de la cinta de gancho. Los aseguradores de gancho tipo hongo se pueden formar al moldear vástagos en un proceso de moldeo continuo tipo Fisher, y luego aplanar los extremos de los vástagos moldeados para formar cabezas que cuelgan de la base, generalmente en todas las direcciones.

Tradicionalmente, una cinta aseguradora macho se suministrará con una disposición de muchos de tales miembros de gancho y dispuesta para acoplar un producto de argolla que empata u otro miembro asegurador hembra, para formar un cierre liberable por medio de lo

que se ha conocido como aseguramiento de gancho y argolla. Las secciones discretas de la cinta aseguradora tipo gancho y argolla pueden ser cosidas como, por ejemplo, parches específicamente localizados sobre una prenda.

Resumen

Nosotros hemos desarrollado miembros de enganche de un tamaño y forma adecuados para acoplamiento liberable directamente con muchos materiales comunmente empleados en muchos productos por razones completamente no relacionadas con aseguramientos de gancho, posibilitando que tales productos sean suministrados con medios de aseguramiento liberables económicos sin la necesidad de un miembro separado acoplable de gancho (por ejemplo, gancho).

Ejemplos de materiales comunes en los cuales se pueden acoplar directamente nuestros ganchos incluyen materiales no tejidos, vestidos largos médicos económicos y otras prendas, materiales de barrera de construcción de polipropileno no tejido, y algunas espumas de celda abierta en común usan una almohadilla y materiales de filtro.

En razón a que ningún parche de gancho separado requiere ser agregado al producto, el aseguramiento se suministra para un uso sustancialmente fácil en razón a que el miembro de enganche puede ser acoplado directamente en cualquier porción expuesta del producto comprendido del material acoplable. Esto puede posibilitarle a la prenda ser facilmente ajustada a muchos tamaños de usuario, y puestas y removidas rápidamente. Los cierres de las prendas que incorporan estos ganchos también se pueden acoplar en cualquier parte sobre la prenda después de uso, para mantener la prenda en una condición compacta, envuelta. Esto,

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por ejemplo, puede ser particularmente útil para el almacenamiento, o para desecharla después de la contaminación de la prenda.

Nuestra invención resulta en parte de habernos dado cuenta de que muchas aplicaciones no requieren fuerzas grandes de sostenimiento del cierre, y que resistencias bajas de pelado y corte tienen alguna ventaja útil sobre aseguramientos más fuertes en algunas aplicaciones.

En algunas modalidades preferidas, la invención que caracteriza los miembros de enganche de forma moldeada tienen una porción de cabeza moldeada que cuelga de la base del asegurador para formar un gancho para acoplar una característica discreta del material de aseguramiento de empate. En algunos casos, el miembro de enganche es un gancho en forma de J que cuelga de la base en una única dirección y en otros casos tiene la forma de una palma que cuelga de la base en dos direcciones opuestas.

En otra modalidad preferida, la invención se caracteriza particularmente por pequeños miembros de enganche tipo hongo, preferiblemente con vástagos moldeados y porciones de cabeza que cuelgan de los vástagos en múltiples direcciones. Preferiblemente, las porciones de cabeza se forman al calentar rápidamente los extremos de los vástagos moldeados, tal como mediante llama abierta y luego hacer fluir rápidamente el material del extremo del vástago radialmente hacia fuera mientras se congelan los extremos fundidos, tal como mediante aplicación de presión de un rodillo frío.

Para el acoplamiento útil en una disposición amplia de materiales y espumas no tejidos empleados en varias industrias comunes, los miembros de enganche tienen preferiblemente

una altura de 0,008 pulgadas (0,2 mm) o menos. Los miembros de enganche moldeados con forma de J o de palma tienen preferiblemente puntas reentrantes dispuestas a menos de cerca de 0,003 pulgadas (0,08) desde la superficie superior de los miembros de enganche, según se midieron perpendicular a la base y un grosor de menos de aproximadamente 0,005 pulgadas (0,13 mm).

De acuerdo con un aspecto de la invención, una cinta de aseguramiento tiene una base en forma de lámina que lleva una disposición de miembros de enganche, cada miembro de enganche tiene un vástago moldeado integralmente y que se extiende desde un lado de la base, y una cabeza que cuelga de la base en una dirección común a lo largo de la cinta. La cabeza se extiende desde el vástago hasta una punta reentrante distante para definir un gancho acoplable. Los miembros de enganche tienen cada uno una altura de aproximadamente 0,008 pulgadas (0,2 mm) o menos, medidos desde la base, y las puntas reentrantes están cada una dispuestas a menos de aproximadamente 0,003 pulgadas (0,08 mm) desde una superficie superior de sus respectivos miembros de enganche, medidos perpendiculares a la base.

En algunas modalidades los miembros de enganche tienen forma de J, preferiblemente con vástagos que tienen perfiles de pedestal ahusados con bordes delanteros y traseros que definen un ángulo (α) incluido de aproximadamente 60° .

En algunas otras modalidades los miembros de enganche tienen la forma de una palma, teniendo cada una dos puntas reentrantes y definiendo dos ganchos acoplables, preferiblemente con vástagos que tienen bordes delantero y trasero que definen un ángulo incluido de aproximadamente $24,5^\circ$.

Preferiblemente, los miembros de enganche tienen cada uno un grosor, después de moldeados, de menos de aproximadamente 0,005 pulgadas (0,13mm).

De acuerdo con otro aspecto de la invención, una prenda vestible tiene un material no tejido que cubre una superficie exterior de esta, y una pieza de la cinta de aseguramiento caracterizada unida a una región del material no tejido y acoplando liberablemente otra porción del material no tejido, con el miembro de enganche de la cinta de aseguramiento acoplando cada uno el material no tejido.

En varias modalidades, la prenda vestible es, por ejemplo, una bata médica, un tapabocas, o un pañal.

En otro aspecto de la invención, un rodillo de material de envoltura de construcción para barrera contra la humedad tiene una longitud de la cinta de aseguramiento caracterizada permanentemente asegurada a esta. El material de envoltura puede ser, por ejemplo, una lámina de polipropileno no tejida.

En otro aspecto de la invención, un aseguramiento liberable comprende esencialmente una longitud de la cinta aseguradora caracterizada como una primer mitad del aseguramiento, y una espuma de celda abierta como una segunda mitad del aseguramiento. Los miembros de aseguramiento de la cinta aseguradora están dispuestos dentro de aberturas de una estructura de celda abierta de la espuma para acoplar porciones reticuladas de la espuma en sus ganchos.

De acuerdo a otro aspecto de la invención, se suministra un método para cubrir una estructura. El método incluye suministrar una cubierta que consiste esencialmente de una

lámina de material no tejido y una longitud de la cinta aseguradora caracterizada permanentemente asegurada al material no tejido en una primer región de esta; envolviendo la estructura con la cubierta, de tal forma que una segunda región del material no tejido traslapa la cinta aseguradora en la primer región; y acopla los miembros de enganche de la cinta aseguradora directamente en el material no tejido para asegurar liberablemente la cubierta a sí misma.

En algunas aplicaciones, el material no tejido es un material de envoltura de construcción de barrera contra la humedad de polipropileno y la estructura es una superficie de pared.

De acuerdo con otro aspecto de la invención, un método para asegurar una prenda incluye suministrar una prenda con un material no tejido que cubre ampliamente una superficie exterior de esta y una pieza de la cinta aseguradora caracterizada unida permanentemente a una región del material no tejido; que traslapa una segunda región del material no tejido con la cinta aseguradora en la primer región; y acoplando los miembros de aseguramiento de la cinta aseguradora directamente en el material no tejido para asegurar liberablemente el material no tejido de la prenda a sí misma.

Las formas del perfil de los miembros de enganche mostrados en las modalidades ilustradas en combinación con su tamaño pequeño son particularmente útiles para acoplar muchos materiales de características finas, a medida que las bases de los miembros de enganche resisten la deflexión vertical de los ganchos mientras penetran el material de acople.

Los detalles de una o más modalidades de la invención se establecen en los dibujos adjuntos y en la descripción siguiente. Otras características, objetivos y ventajas de la invención serán evidentes de la descripción y dibujos, y de las reivindicaciones.

Descripción de los dibujos

La figura 1 es una vista lateral de un primer miembro de enganche en forma de J.

La figura 1A es una vista del extremo del miembro de enganche de la figura 1.

La figura 2 es una vista lateral de un segundo miembro de enganche en forma de J.

La figura 2A es una vista del extremo del miembro de enganche de la figura 2.

La figura 3 es vista lateral de un miembro de enganche en forma de palma.

La figura 3A es una vista del extremo del miembro de enganche de la figura 3.

La figura 4 es vista lateral de un miembro de enganche en forma de hongo.

La figura 4A es una vista del extremo del miembro de enganche de la figura 4.

Simbolos de referencia similares en los varios dibujos indican elementos similares.

Descripción detallada

El miembro de enganche 10 de las figuras 1 y 1A tiene un perfil y lados curvados en forma de J, tal como puede ser moldeado en una cavidad formada entre dos platos de molde adyacentes en un rodillo de molde empleado en un proceso Fischer, dejando una línea de partición 12 por debajo de la mitad del gancho en la interfase entre los dos platos del molde. La porción de vástago de pedestal define un ángulo α incluido algo grande de aproximadamente $61,5^\circ$ entre los bordes delantero y trasero. La porción de cabeza tiene una punta reentrante 18, que significa que esta se extiende hacia abajo hacia la base del gancho para formar un gancho cóncavo 20 para atrapar las características de un material de acople. La punta 18 se extiende hacia abajo a una distancia "d" de aproximadamente 0,0028 pulgadas (0,07 mm) desde la superficie más superior del miembro de enganche, y el miembro de enganche completo tiene una altura total "h" medida perpendicular a la base, de solo aproximadamente 0,0076 pulgadas (0,19 mm).

El miembro de enganche 22 de las figuras 2 y 2A también tiene un perfil en forma de J, pero tiene lados planos como se ve en la fig. 2A. Así, su punta 18' se extiende completamente a través del miembro de enganche, y la superficie superior de su porción de cabeza 16' presenta una superficie bastante amplia al material de acople. La porción de vástago 14' define el mismo ángulo α incluido de aproximadamente $61,5^\circ$, la parte superior 18' también se extiende hacia abajo a una distancia "d" de solo aproximadamente 0,0076 pulgadas (0,19 mm).

El miembro de enganche 24 de las figs. 3 y 3A tiene un perfil con forma de palma, como se ve en la fig. 3. Como tal, este tiene dos porciones de cabeza 26 que se extienden

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desde una porción de vástago común 23 para colgar de la base en direcciones opuestas, definiendo dos ganchos discretos con características de atrapamiento 30. En este caso la porción de vástago 28 define un ángulo α' incluido de aproximadamente $24,5^\circ$ entre los bordes delantero y trasero. Las puntas 32 también se extienden hacia abajo a una distancia "d" de aproximadamente 0,0028 pulgadas (0,07 mm), y el miembro de enganche 24 también tiene una altura total "h" de solo aproximadamente 0,0076 pulgadas (0,19 mm).

El miembro de enganche 34 de la fig. 4 y 4A es un miembro de enganche tipo hongo, que tiene una porción de vástago moldeada 36 y una porción de cabeza agrandada 38. La porción de vástago es de sección transversal cuadrada, teniendo cada lado una dimensión nominal lateral "t" de aproximadamente 0,004 pulgadas (0,1 mm), y fue moldeada para tener altura total de 0,133 pulgadas (3,4 mm). Después del moldeo, la parte superior de la porción de vástago 36 fue calentada con llama y pasada bajo un rodillo frío para hacer que la resina del extremo superior de la porción de vástago fluya radialmente hacia fuera para formar una porción de cabeza con forma de disco generalmente circular 38 que tiene una dimensión total "D" de aproximadamente 0,0092 pulgadas (0,23 mm) y un grosor vertical "d₁" de solo aproximadamente 0,002 pulgadas (0,05 mm). Después de esta post formación de la porción de cabeza 38, el miembro de enganche 34 tiene una altura final total "h₁" de aproximadamente 0,0105 pulgadas (0,27 mm). En otra modalidad (no mostrada) la porción de cabeza 38 es de forma generalmente elíptica, teniendo una dimensión del eje mayor de 0,0097 pulgadas (0,25 mm) y una dimensión del eje menor de 0,0086 pulgadas (0,22 mm).

Cada uno de los ganchos descritos anteriormente es útil para acoplar muchos materiales de superficie común, tal como telas no tejidas y espumas de celda abierta, y se pueden unir permanentemente a prendas y otros productos mediante unión ultrasónica o

adhesiva. En una aplicación, una bata médica no tejida, disponible como Medicom Non-Woven Gown REF 8012 blue de A. R. Medicom Inc. De Buffalo, NY se suministró con un parche de cinta de gancho que tiene una disposición de miembros de enganche 22 (como se muestra en las figuras 2 y 2A). Acoplando directamente dentro del material no tejido de la bata médica (es decir, sin ningún material de argolla agregado) la cinta de gancho suministra suficiente resistencia de aseguramiento para desempeñarse como un cierre de la prenda. En la medida en que se presiona ligeramente contra el material de bata no tejido al hacer rodar un rodillo de 4,5 lbs en la parte superior con 1 kg de peso adicional hacia atrás y hacia delante una vez, en la dirección de los ganchos, a través de un parche de 1 plg x 2 plgs (25 mm x 50 mm) de cinta de gancho, la cinta de gancho exhibe una resistencia de pelado de aproximadamente 15 a 18 g/plg (6 a 7 g/cm) de anchura (como uno de los tres promedios picos más altos), y una resistencia al corte máxima de 830 a 1085 g/plg² (130 a 170 g/cm²). Otras aplicaciones médicas para la cual es adecuado el gancho incluye acoplamiento de tapabocas, cortinas de cirugía o vendas. Estos pequeños miembros de enganche también son útiles en el acoplamiento directo de muchos de los materiales no tejidos y otros empleados para cubrir ampliamente las superficies exteriores de los pañales.

Sin embargo, estos miembros de enganche fuertes particularmente pequeños, también son útiles en otras industrias. Por ejemplo, hemos encontrado que en grandes disposiciones ellos suministran suficiente acoplamiento en material de envoltura de construcción de barrera contra la humedad de polipropileno no tejido en pilas bajas comunes con un denier fino (por ejemplo, tal como es conocido bajo el nombre comercial TYVEK y TYPAR) y que se pueden emplear para asegurar tales materiales en su lugar contra superficies de pared en lugar de cintas o grapas adhesivas. Tales ganchos se pueden suministrar sobre la superficie a la cual se aplica la envoltura, o se puede suministrar sobre un lado de la envoltura misma, de tal forma

que la envoltura se pueda envolver alrededor de una estructura y asegurarse a sí misma. Se prevén otras aplicaciones de empaque, como son las cubiertas para vehículos y similares.

Además estos pequeños miembros de enganche son útiles en el acoplamiento directo de espumas de celda abierta, o materiales termoendurecidos o termoplásticos. Las porciones de cabeza de los miembros de enganche, particularmente los miembros de enganche con forma de J y de palma, son suficientemente pequeños para ajustar dentro de aberturas definidas por la estructura de celda abierta de la espuma para atrapar porciones reticuladas del material de espuma en los recodos de los ganchos. De esta manera estos ganchos se pueden utilizar para aventajar en muchas aplicaciones empleando comunmente tales espumas como filtros (para aire o líquido), para citar solo unos pocos ejemplos. Las espumas de poliuretano adecuadas incluyen, por ejemplo, el producto HSS de Lendell Manufacturing de St. Charles, Michigan.

Se han descrito un número de modalidades de la invención. Sin embargo, se entenderá que se pueden hacer varias modificaciones sin apartarse del espíritu y alcance de la invención. De acuerdo con esto, otras modalidades están dentro del alcance de nuestra invención.

REIVINDICACIONES

1. Una cinta de aseguramiento que comprende

Una base con forma de lámina que lleva una disposición de miembros de enganche (10, 22, 24), cada miembro de enganche tiene un vástago (14, 14', 28) moldeado integralmente y extendiéndose desde un lado de la base, y una cabeza (16, 16', 26) que cuelga desde la base en una dirección común a lo largo de la cinta, la cabeza se extiende desde el vástago, a una punta reentrante distante (18, 18', 32) para definir un recodo acoplable (20, 30); en donde

los miembros de enganche tienen cada uno una altura (h) de aproximadamente 0,008 plg (0.2 mm) o menos, medidos desde la base; y

las puntas reentrantes (18, 18', 32) están cada una dispuesta a menos de aproximadamente 0,003 plg (d, 0,08 mm), desde la superficie superior de sus respectivos miembros de enganche, medidos perpendicularmente desde la base.

2. La cinta de aseguramiento de la reivindicación 1, en donde los miembros de enganche (10, 22) tienen forma de J.

3. La cinta de aseguramiento de la reivindicación 2, en donde los vástagos (14, 14') de los miembros de enganche tienen perfiles de pedestal ahusados con bordes delantero y trasero que definen un ángulo (α) incluido de aproximadamente 60° .
4. La cinta de aseguramiento de la reivindicación 1, en donde los miembros de enganche (24) tienen forma de palma, tiene cada uno dos puntas reentrantes (32) y define dos recodos acoplables (30).
5. La cinta de aseguramiento de la reivindicación 4, en donde los vástagos (28) de los miembros de enganche (24) tienen bordes delanteros y traseros que definen un ángulo (α') incluido de aproximadamente $24,5^\circ$.
6. La cinta de aseguramiento de la reivindicación 1, en donde los miembros de enganche (10, 22) tienen cada uno un grosor luego de moldeado, de menos de aproximadamente 0,005 plg (0,13 mm).
7. Una prenda vestible con un material no tejido que cubre ampliamente una superficie exterior de dicha prenda, y una pieza de la cinta de aseguramiento de la reivindicación 1 unida permanentemente a una región del material no tejido y que acopla liberablemente otra porción del material no tejido, con los miembros de enganche (10, 22, 24) de la cinta de aseguramiento acoplando directamente cada una al material no tejido.
8. La prenda vestible de la reivindicación 7 que comprende una bata médica.
9. La prenda vestible de la reivindicación 7 que comprende un tapabocas.
10. La prenda vestible de la reivindicación 7 que comprende un pañal.
11. Un rodillo de material de envoltura de construcción de barrera contra la humedad que tiene una longitud de la cinta aseguradora de la reivindicación 1 permanentemente asegurada a esta.

12. Un rodillo de material de envoltura de construcción de barrera contra la humedad que comprende una lámina de polipropileno no tejido.

13. Un aseguramiento liberable que comprende

una longitud de la cinta de aseguramiento de la reivindicación 1 como una primera mitad del aseguramiento; y una espuma de celda abierta como la segunda mitad del aseguramiento;

En donde los miembros de enganche (10, 22, 24) de la cinta aseguradora están dispuestos dentro de aberturas de una estructura de celda abierta de la espuma para acoplar porciones reticuladas de la espuma en sus recodos.

14. Un método para cubrir una estructura, el método comprende

Suministrar una cubierta que consiste esencialmente de

una lamina de material no tejido; y

una longitud de la cinta aseguradora de la reivindicación 1 asegurada permanentemente al material no tejido en una primera región de esta;

Envolver la estructura con la cubierta, de tal forma que una segunda región del material no tejido traslapa la cinta aseguradora en la primer región; y

Acoplar los miembros de enganche (10, 22, 24) de la cinta aseguradora directamente en el material no tejido para asegurar liberablemente la cubierta a sí misma.

15. El método de la reivindicación 14 en donde el material no tejido es material de envoltura de construcción de barrera contra humedad de polipropileno, y en donde la estructura es una superficie de pared.

16. Un método para asegurar una prenda, el método comprende

suministrar una prenda con un material no tejido que cubra ampliamente una superficie exterior de esta, y una pieza de la cinta aseguradora de la reivindicación 1 unida permanentemente a una región del material no tejido;

traslapar una segunda región del material no tejido con la cinta aseguradora en la primer región;

Acoplar los miembros de enganche (10, 22, 24) de la cinta aseguradora directamente en el material no tejido para asegurar liberablemente el material no tejido de la prenda a sí mismo.

RESUMEN

Esta invención se relaciona con aseguramientos tipo gancho y argolla y más particularmente con miembros de gancho machos adaptados para acoplar una superficie penetrable para formar un cierre liberable.



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2020
Bogotá, D.C.,

Doctora:
Dilia María Rodríguez D'Aleman
Apoderado
Velcro Industries B.V.

Oficio N° 08184

ASUNTO:	Radicación N°	03-75530
	Solicitud internacional	PCT/US2002/02570
	Fecha inicio fase nacional	01/09/2003
	Trámite	011
	Evento	379
	Actuación	430
	Folios	001

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

- ☐ La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486).
- ☐ La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.


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

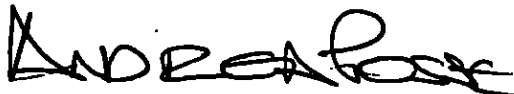
03 OCT. 2003

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

REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE

	USUARIO	RADICADOR
PATENTE DE INVENCION ✓ MODELO DE UTILIDAD	()	()
- Indicación de que se solicita la concesión de una patente.		()
- Datos de identificación del solicitante o de la persona que se presenta la solicitud.		()
- Descripción de la invención.		()
- Dibujos de ser estos pertinentes.		()
- Comprobante de Pago de las tasas establecidas.		()
COMPLETA () INCOMPLETA ()		
DISEÑO INDUSTRIAL ()		
- Indicación de que se solicita el registro de Diseño Industrial	()	()
- Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()
- Representación gráfica y fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño.	()	()
Comprobante de pago de las tasas establecidas	()	()
COMPLETA () INCOMPLETA ()		
ESQUEMA DE TRAZADO ()		
- Indicación de que solicita el registro de un Esquema de trazado.	()	()
- Datos de identificación del solicitante o de la persona que presenta La solicitud.	()	()
Representación gráfica del esquema de trazado	()	()
Comprobante de pago de las tasas establecidas.	()	()
COMPLETA () INCOMPLETA ()		

Firma Responsable:



Fecha: