(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 570 757 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
07.09.2005 Bulletin 2005/36

(51) Int Cl.[7]: **A41D 19/00**

(21) Application number: **04090084.7**

(22) Date of filing: **04.03.2004**

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

(71) Applicant: **Foodhandler Inc.**
11590 New York (US)

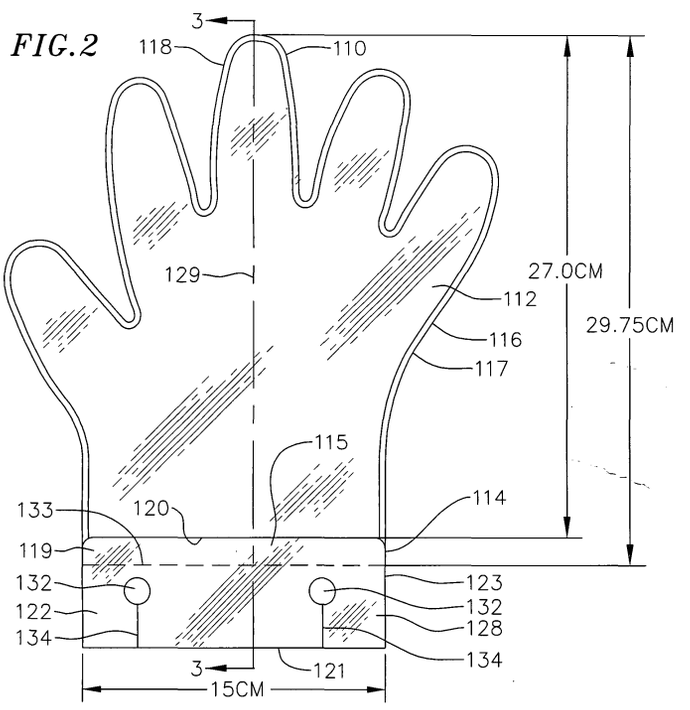
(72) Inventor: **West, Kimberly Ann**
Westbury, New York 11590 (US)

(74) Representative: **Müller, Wolfram Hubertus et al**
Patentanwälte
Maikowski & Ninnemann,
Postfach 15 09 20
10671 Berlin (DE)

(54) Disposable gloves having improved sanitary characteristics

(57) A disposable glove (110) including a first layer (114) and a second layer (112) overlaying a region of the first layer (114), said first and second layers (112,114) being joined together along their peripheries to form an abutted portion (116,117,118) and an opening (120) for inserting a hand between the first and second layers (112,114). The first layer (114) of the glove (110) has a mounting section (128) attached to the rest of the first layer (114) by a transverse line of weakness (133), and the mounting section (128) has a mounting hole (132) for mounting the glove (110) on a glove rack. A distance between a tip of a middle finger portion of the glove (110) and the transverse line of weakness (133) is between approximately 28 cm and approximately 32 cm. For example, the distance may be approximately 30 cm. The first layer (114) on the palm-side of the disposable glove (110) after detaching from the mounting section may cover the hand and about one-third (e.g., approximately 36%) of the forearm between the wrist and the elbow of a person wearing the glove (110). The second layer (112) on the back-side may cover the hand, the wrist and at least a portion of the forearm of the person wearing the glove (110).

FIG.2



EP 1 570 757 A1

Description

FIELD OF THE INVENTION

[0001] The present invention generally relates to disposable gloves, and more particularly to disposable gloves having improved sanitary characteristics.

BACKGROUND OF THE INVENTION

[0002] Disposable gloves are mandatory equipment in many industries that require clean and/or sterile environments, e.g., the food service industry. The use of disposable gloves reduces the spread of viruses and other contaminants among individuals. In the food service industry, such contaminants are less likely to be transmitted from employees to food when employees regularly wear gloves, and when employees frequently and regularly replace used gloves with new ones. The gloves should be easily removable from the dispenser, and be substantially free of contaminants prior to donning. The gloves should also be easy to wear and to take off.

[0003] Many types of disposable gloves are known to and used by the food service industry. These disposable gloves are typically fabricated using vinyl, latex or polyethylene. Disposable gloves are generally sold in stacked units containing a supply of gloves layered one on top of the other. Gloves may be sold in a dispenser, such as a paperboard box, which encloses the stack and from which gloves may be removed one at a time. A glove is typically removed in the manner that a tissue paper is removed from a tissue dispenser.

[0004] As shown in FIG. 1, a conventional disposable glove 10 has a top thermoplastic layer 12 and a bottom thermoplastic layer 14. One such conventional disposable glove is disclosed in U.S. Patent No. 6,497,340 entitled "Disposable Glove Donning System" and U.S. Patent No. 6,578,729 entitled "Glove Cartridge and Method of Donning a Disposable Glove," the entire contents of both of which are incorporated by reference herein.

[0005] The distance from the tip of the middle finger portion to the opposing end of the top layer is approximately 21.5 cm. The distance from the tip of the middle finger portion to of the bottom layer and a line of weakness 33 is approximately 24.5 cm. The top and bottom layers 12 and 14 are joined together along their peripheries 16 and 17, respectively, to form an abutted portion 18. The layers in the wrist region of the glove are not joined together in order to provide a glove opening 20 where the hand is inserted between the layers 12 and 14.

[0006] An extended region 19 of the bottom layer 14 is not overlayed by the top layer 12, providing the bare inner surface 15 of the bottom layer 14 for permitting the easy donning of a glove. By making the width of the glove/opening at the wrist region to be approximately 15.0 cm, the glove has been made easy to slip on and off.

[0007] The bottom layer 14 of the glove has a mounting section 28 attached to its extended region 19 by the transversely oriented line of weakness 33, i.e., a perforated line in the plastic film substantially perpendicular to the longitudinal axis 29 of the glove. The mounting section 28 includes two key-holes 32, wherein each key-hole is positioned approximately 2.54 cm from the rearmost edge 21 of the mounting section and approximately 2.54 cm from the respective side edges 22 and 23 of the mounting section. The mounting section of a glove may also have longitudinal lines of weakness 34 extending from each mounting hole 32 to the rearmost edge 21 of the mounting section 28.

[0008] As can be seen in FIG. 1, the conventional disposable gloves for handling food typically cover the hand and the wrist of the person wearing it. For example, the conventional disposable glove after detaching from the mounting section is designed to cover less than one-sixth (1/6) (e.g., approximately 15%) of the forearm on the palm-side between the wrist and the elbow of an average person. On the back-side (i.e., the top layer side), the glove merely covers the hand. Because of this, when the person wearing the glove is preparing food, there is a substantial risk of the exposed wrist/forearm touching food, thereby contaminating it.

[0009] Therefore, disposable gloves having improved sanitary characteristics are desired.

SUMMARY OF THE INVENTION

[0010] In an exemplary embodiment of the present invention, a disposable glove includes a first layer, and a second layer overlaying a region of the first layer. The first and second layers are joined together along their peripheries to form an abutted portion and an opening for inserting a hand between the first and second layers. The first layer of the glove has a mounting section attached to the rest of the first layer by a transverse line of weakness. The mounting section has a mounting hole for mounting the glove on a glove rack. A distance between a tip of a middle finger portion of the glove and the transverse line of weakness is between approximately 28 cm and approximately 32 cm.

[0011] In another exemplary embodiment of the present invention, a disposable glove includes a first layer, and a second layer overlaying a region of the first layer. The first and second layers are joined together along their peripheries to form an abutted portion and an opening for inserting a hand between the first and second layers. The first layer of the glove has a mounting section attached to the rest of the first layer by a transverse line of weakness, the mounting section having a mounting hole for mounting the glove on a glove rack. The first layer after detaching from the mounting section covers a hand and about one-third of a forearm between a wrist and an elbow of a person wearing the glove. The second layer covers the hand, the wrist and

at least a portion of the forearm of the person wearing the glove.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

FIG. 1 is a top view of a conventional disposable glove;
FIG. 2 is a top view of a disposable glove in an exemplary embodiment of the present invention; and
FIG. 3 is a cross-sectional view of the disposable glove of FIG. 2, taken along the line 3-3.

DETAILED DESCRIPTION

[0013] As shown in FIGS. 2 and 3, a glove 110 in an exemplary embodiment of the present invention has a top thermoplastic layer 112 and a bottom thermoplastic layer 114. The top layer 112 is shorter than the bottom layer 114 to provide a bare inner surface 115 of the bottom layer 114 along which a hand may be slid easily into a glove opening 120. The distance between the tip of the middle finger portion and the opposing end of the top layer is approximately 27.0 cm. The distance between the tip of the middle finger portion of the bottom layer and a line of weakness 133 is approximately 29.75 cm or 30 cm. While the length of the glove 110 is longer than that of the conventional disposable glove 10 of FIG. 1, the width at the wrist region is substantially the same at approximately 15.0 cm. The width of the wrist region may be different in other embodiments.

[0014] The glove 110 is slightly more than 5 cm longer than the glove 10. By elongating the glove, the glove 110 (after detaching from the mounting section) is designed to cover about one-third (1/3) (e.g., approximately 36%) of the forearm on the palm-side between the wrist and the elbow (e.g., of an average person). Further, the glove on the back-side covers the wrist and at least a portion of the forearm (e.g., of an average person) This way, there is less risk of an exposed area of the wrist or forearm coming into contact with the food, thereby contaminating it. Further, the glove 110 is not so long (e.g., covers the entire forearm) as to hinder easy donning.

[0015] The two layers are superimposed and may be fabricated from tear-resistant plastic film, such as polyethylene film, or any other suitable material that allows the glove to be easily slipped on and off. The glove 110 may be non-transparent, transparent or semi-transparent. Further, the glove 110 may have any desired color, such as, for example, white or blue.

[0016] The top and bottom layers 112 and 114 are joined together along their peripheries 116 and 117, respectively, to form an abutted portion 118. The layers in the wrist region of the glove are not joined together in order to provide the glove opening 120 where a hand is inserted between the layers 112 and 114. The top and bottom layers may be joined by heat welding or a similar process.

[0017] The glove opening 120 allows the entire hand to be inserted quickly and easily between the two layers of plastic film. In particular, an extended region 119 of the bottom layer 114 is not overlayed by the top layer 11,2, providing the bare inner surface 115 of the bottom layer 114 for permitting the easy donning of a glove. Moreover, each plastic layer should be fabricated from a material having little elasticity, such as polyethylene, causing the glove opening 120 to open immediately with little effort by a user upon donning the glove. The top 112 and bottom 114 layers of the glove of FIG. 2 are shaped to form a separate pocket for each finger, where each pocket is sufficiently large to permit a finger to be slid easily thereinto. Alternately, the glove may be shaped to form a mitt having a thumb region and a separate pocket for covering all other fingers.

[0018] The bottom layer 114 of the glove has a mounting section 128 attached to its extended region 119 by the transversely oriented line of weakness 133, i.e., a perforated line in the plastic film substantially perpendicular to the longitudinal axis 129 of the glove.

[0019] The mounting section 128 should be integrally formed with the bottom layer 114. The mounting section 128 includes at least one hole 132 (or "key-hole 132") for receiving an arm or other type of fastener of a glove rack. The mounting section 128 as shown has two keyholes 132, wherein each keyhole is positioned approximately 2.54 cm from the rearmost edge 121 of the mounting section and approximately 2.54 cm from the respective side edge 122 and 123 of the mounting section.

[0020] The mounting section of the glove may also have longitudinal lines of weakness 134 extending from each mounting hole 132 to the rearmost edge 121 of the mounting section 128. In other embodiments, the disposable glove may have either the line of weakness 133 or the longitudinal lines of weakness 134, but not both.

[0021] The glove 110 has five pockets for each of the five fingers, as shown in FIG. 2. In other embodiments, the glove may be a mitt having a compartment for four fingers and a separate thumb compartment. The gloves may also have various different sizes, all packaged in a single case or different sizes in different cases.

[0022] It will be appreciated by those of ordinary skill in the art that the invention can be embodied in other specific forms without departing from the spirit or essential character hereof. The present description is therefore considered in all respects to be illustrative and not restrictive, the scope of the invention to be determined by the appended claims and their equivalents.

[0023] For example, while the disposable glove of FIGs. 2 and 3 is a right-hand glove which is normally donned on a right hand, the disposable gloves in other embodiments may be a left-hand glove which is a mirror-image of the right-hand glove.

Claims

1. A disposable glove comprising:

a first layer;
a second layer overlaying a region of the first layer, said first and second layers being joined together along their peripheries to form an abutted portion and an opening for inserting a hand between the first and second layers,

wherein the first layer of the glove has a mounting section attached to the rest of the first layer by a transverse line of weakness, the mounting section having a mounting hole for mounting the glove on a glove rack, and

wherein a distance between a tip of a middle finger portion of the glove and the transverse line of weakness is between approximately 28 cm and approximately 32 cm.

2. The disposable glove of claim 1, wherein the distance between the tip of the middle finger portion and the transverse line of weakness is approximately 30 cm.

3. The disposable glove of claim 1, wherein the first layer of the glove has an extended region proximate the opening and not overlaid by the second layer, and wherein the mounting section of the glove is attached to the extended region of the first layer of the glove by the transverse line of weakness.

4. The disposable glove of claim 1, wherein the glove is fabricated from a thermoplastic film or a tear-resistant plastic film.

5. The disposable glove of claim 1, wherein the mounting section has two mounting holes.

6. The disposable glove of claim 1, wherein the transverse line of weakness comprises a perforated line.

7. A disposable glove comprising:

a first layer;
a second layer overlaying a region of the first layer, said first and second layers being joined together along their peripheries to form an abutted portion and an opening for inserting a hand between the first and second layers,

wherein the first layer of the glove has a mounting section attached to the rest of the first layer by a transverse line of weakness, the mounting section having a mounting hole for mounting the glove on a glove rack,

wherein the first layer after detaching from the mounting section covers a hand and about one-third of a forearm between a wrist and an elbow of a person wearing the glove, and

wherein the second layer covers the hand, the wrist and at least a portion of the forearm of the person wearing the glove.

8. The disposable glove of claim 7, wherein the first layer after detaching from the mounting section covers approximately 36% of the forearm between the wrist and the elbow.

9. The disposable glove of claim 7, wherein the first layer of the glove has an extended region proximate the opening and not overlaid by the second layer, and wherein the mounting section of the glove is attached to the extended region of the first layer of the glove by the transverse line of weakness.

10. The disposable glove of claim 7, wherein the glove is fabricated from a thermoplastic film or a tear-resistant plastic film.

11. The disposable glove of claim 7, wherein the transverse line of weakness comprises a perforated line.

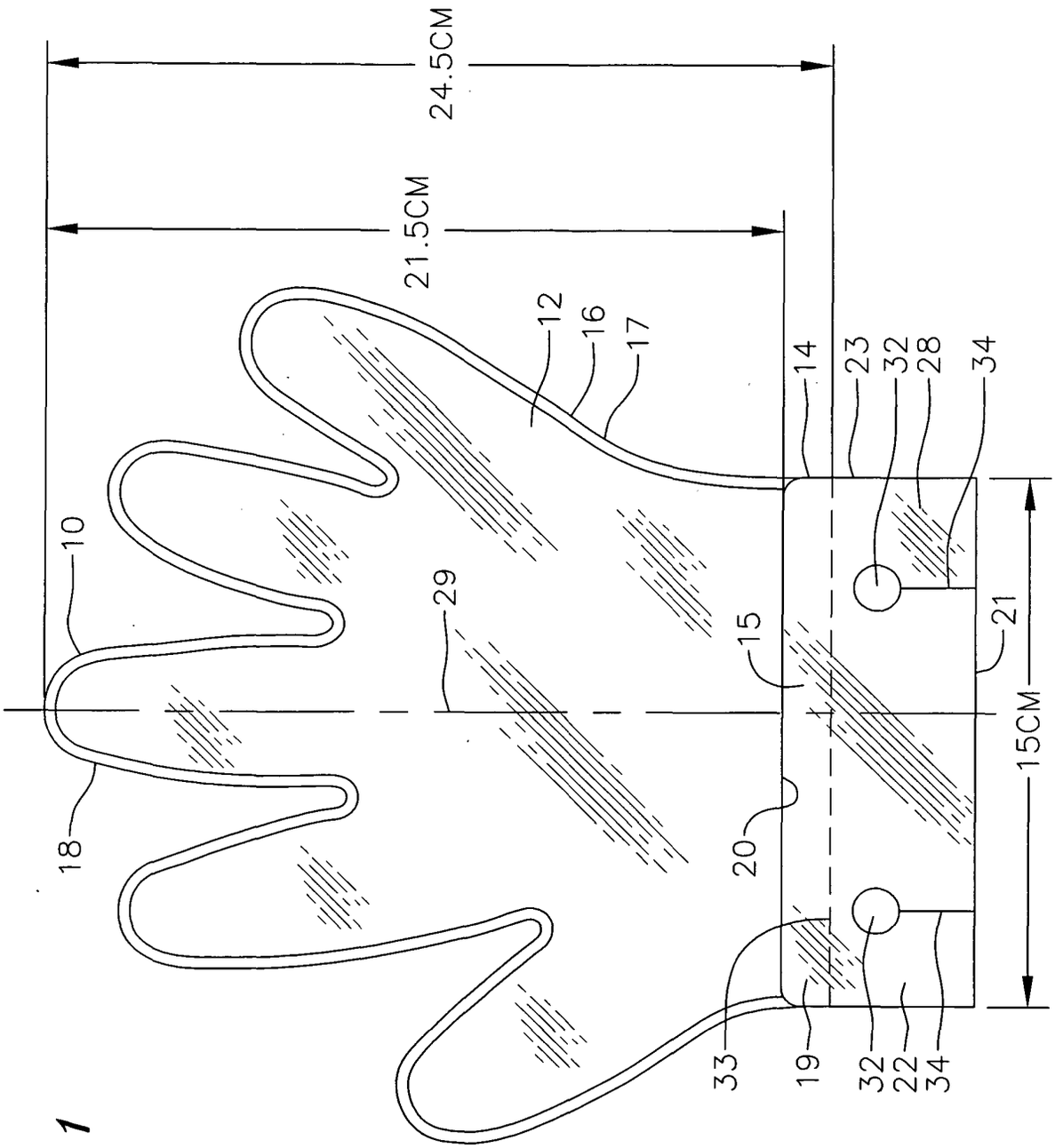


FIG. 1

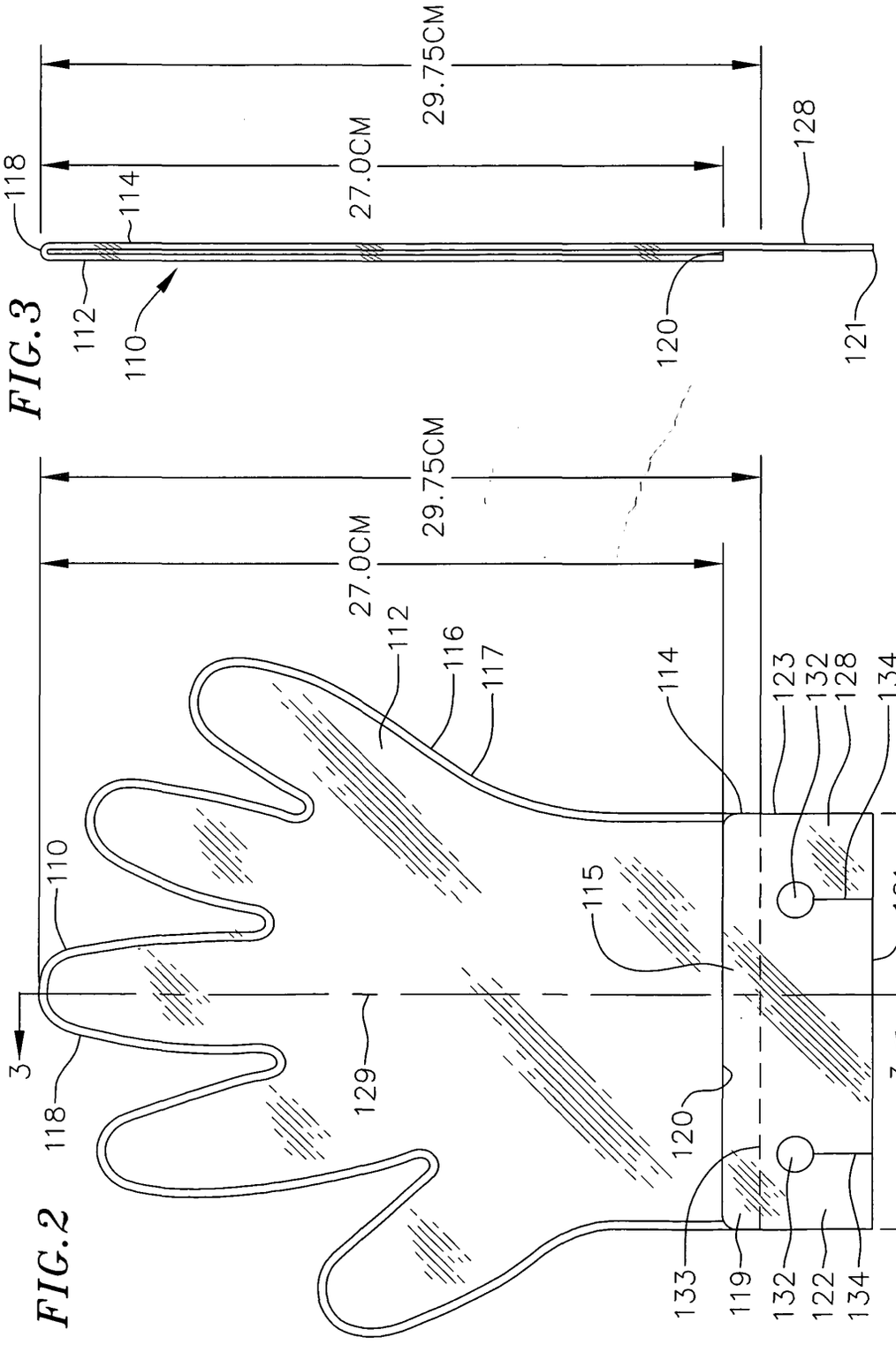

29.75CM
27.0CM
118
114
128
112
110
120
121
3
15CM
116
117
123
132
134
115
129
133
119
122

FIG.3

FIG.2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 09 0084

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 3 681 784 A (LINDLEY DONALD C) 8 August 1972 (1972-08-08) * column 1, line 27 - line 31 * * column 3, line 15 - line 22; figures *	1-11	A41D19/00
D,Y	US 2001/037516 A1 (GRINBERG DANIEL) 8 November 2001 (2001-11-08) * paragraphs [0019], [0024]; figures 1,5 *	1-11	
Y	US 6 298 491 B1 (BLUSTIN LESLIE MILES ET AL) 9 October 2001 (2001-10-09) * column 4, line 39 - line 42 *	1,7	
A	US 5 966 741 A (KLECINA MIRO) 19 October 1999 (1999-10-19) * column 5, line 18 - line 35; claim 1; figure 1 * * column 6, line 9 - line 11 * * column 6, line 45 - line 60 *	1-11	
A	WO 00/01515 A (GOCHANOUR G GARY) 13 January 2000 (2000-01-13) * page 15, line 27 - page 16, line 2; figure 4b *	1-11	TECHNICAL FIELDS SEARCHED (Int.Cl.7): A41D, B65D, A61B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 July 2004	Uhlig, R

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 09 0084

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-07-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3681784 A	08-08-1972	NONE	
US 2001037516 A1	08-11-2001	US 2003136792 A1	24-07-2003
		AU 6773400 A	16-07-2001
		EP 1265800 A1	18-12-2002
		WO 0149597 A1	12-07-2001
		US 2002060221 A1	23-05-2002
US 6298491 B1	09-10-2001	GB 2339137 A	19-01-2000
		AT 259605 T	15-03-2004
		AU 4918599 A	24-01-2000
		DE 69914913 D1	25-03-2004
		EP 1094725 A1	02-05-2001
		WO 0001262 A1	13-01-2000
US 5966741 A	19-10-1999	NONE	
WO 0001515 A	13-01-2000	AU 5091599 A	24-01-2000
		WO 0001515 A1	13-01-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82