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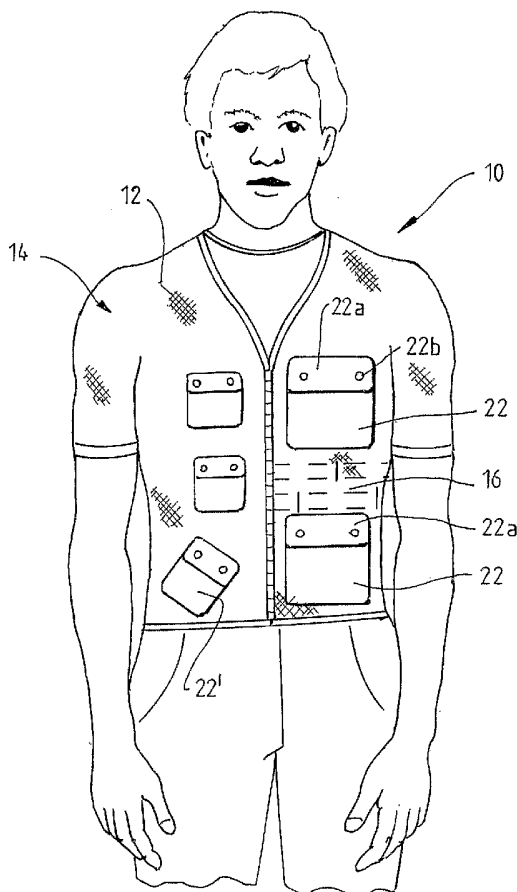
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[Continued on next page]

(54) Title: LOAD-BEARING EQUIPMENT



(57) Abstract: A load-bearing system having a web (12) of sufficient strength to support predetermined loads suspended from the web, and an array of apertures (16) in the web. The apertures are elongate slots (16) and the array is such that the slots form plural pairs of slots (16a, 16b) defining respective positions at each of which a pouch (22) may be attached to the web (12) by attachment means (28) that forms a closed loop through the respective pair of slots.



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- with amended claims

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.

the mesh is provided on the pouches. A stud-like fastener is used to secure each pouch to the panel by passing a shank through a registered pair of holes in the panel and in the pouch and using a keeper to secure the shank in place. The shank has a series of barbs or grooves to engage the keeper. Due to the array of
5 holes provided by the mesh forming the panel, the pouches can be located at any of a variety of positions and moreover may be positioned at an angle to the vertical.

In a similar system that has been disclosed, instead of a panel of mesh overlaying the garment, the stud-like fasteners are employed to attach the
10 pouches to the mesh openings in the vest itself: load-bearing vests are commonly of open-weave mesh construction to improve ventilation and minimise the vest's contribution to greater body heat.

Another reconfigurable system, adopted by some United States military personnel, has a vest with an attached array of vertical and horizontal webbing to
15 which pouches are hooked by clips of a kind conventionally employed to fasten items to waist-belts.

An issue with the above described reconfigurable systems is the lack of reliability of the fastener arrangements. Where attachment is to mesh, the openings in the mesh are not stable and the fasteners tend to pull out through the
20 holes. The fasteners are intended to be disengageable by hand, and so have a tendency to be too easily released when other forces are applied. This is unsatisfactory, for example, because personnel may be required to crawl along the ground or manoeuvre in situations where they would be brushing past objects. The fasteners are also considered too bulky, as they project from the garment.
25 The stud-like fasteners have a small head and therefore create a localised pressure point, which is uncomfortable for the wearer.

It is therefore an object of the invention, at least in a particular application, to provide a personal load-bearing system with a more reliable and durable pouch attachment system which is reconfigurable and comfortable for the user.

Summary of the Invention

In a first aspect, the invention provides a load-bearing system having:

a web of sufficient strength to support predetermined loads suspended from the web;

5 a primary array of apertures in said web;

a plurality of pouches having in their rear faces respective secondary arrays of apertures; and

10 attachment means to attach each of said pouches to said web at one or more positions at each of which the attachment means forms a closed loop through respective pairs of apertures in the primary array and in the secondary array of the respective pouch.

In a second aspect, the invention provides a load-bearing component for a load-bearing system having:

15 a web of sufficient strength to support predetermined loads suspended from the web; and

an array of apertures in said web;

20 wherein said apertures are elongate slots and said array is such that the slots form plural pairs of slots defining respective positions at each of which a pouch may be attached to the web by attachment means that forms a closed loop through respective pairs of slots in the web and in the pouch.

Advantageously, in either aspect of the invention, the load-bearing system is a personal load-bearing system, in which said web is of a form able to be worn or carried on the body of a person.

In one application, said web is in the form of a garment. More typically, said garment is a vest. Alternatively, said web is in the form of a pack, eg. a backpack. In a still further application, the web is a panel or plate, flexible or semi-flexible or rigid, adapted to be carried by a support surface. One such support surface might
5 be on a vehicle. The panel or plate may be moulded, eg injection moulded, in a suitable material.

Advantageously, in the first aspect of the invention, said apertures are slots. In either aspect, the array of apertures comprises a multiplicity of parallel elongate slots, which preferably include subsets of aligned or co-linear slots. There may be
10 plural sub-arrays of the slots in which the slots are respectively at different alignments, for example, in the case of a vest, horizontally, vertically and diagonally with respect to the orientation of the vest when being worn.

The apertures in the web are preferably of substantially stable dimensions and shape, and may have reinforced edges.

15 The vest is preferably a fabric, and the apertures thereon are preferably preformed during the manufacture of the fabric.

The attachment means is conveniently an elongate clip being a strip that either is preformed to define, or can be folded to define, two generally parallel overlaid arms that are integrally joined at one end and have fastener means for
20 disengageably linking them at or adjacent the other end. In situ, the integral join and the fastener means traverse the respective pair of apertures in the arrays of apertures in the web and the pouch, whereby to form said closed loop.

The fastener means is preferably a snap-fastener, and is advantageously arranged for minimal protrusion outwardly of said strip forming the attachment
25 means. Disengagement is preferably by use of a tool, so as to lessen the risk of accidental release.

In the first aspect of the invention, the secondary arrays of apertures in the respective pouches may be provided by a load-bearing system according to the

second aspect of the invention, eg a system in the form of the aforementioned panel or plate.

The invention further provides, in a third aspect, a pouch component for a load-bearing system, including:

5 a pouch body; and

a backing panel attached to the rear of the pouch body;

wherein the backing panel includes an array of elongate slots that form one or more pairs of slots defining respective positions at each of which the pouch may be attached to a complementary web by attachment means that
10 forms a closed loop through respective pairs of slots in the backing panel and the web.

Brief Description of the Drawings

The invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:

15 Figure 1 is an illustration of a load-bearing system according to an embodiment of the present invention, being worn by a person;

Figure 2 is a fragmentary perspective view of a section of the load-bearing system of Figure 1 with a part of a pouch cut-away; and

Figure 3 is a not-to-scale cross-sectional view on the line 3-3 in Figure 2,
20 with some dimensions exaggerated for purposes of illustration.

Embodiments of the Invention

Figure 1 illustrates a load-bearing system 10 having a web 12 of fabric in the form of a vest 14, and a set of pouches 22 of variable size and purpose that are selectively and detachably engageable with the vest 14. Pouches 22 each

have a pouch body and a closure flap 22a with releasable fasteners 22b. As is typical for load-bearing vests, web 12 is of open-weave mesh construction to improve ventilation and minimise the vest's contribution to greater body heat.

5 The web 12 includes a primary array of apertures 16 in addition to the holes of the open-weave mesh. Pouches 22 have a backing panel 23, fixed to the rear face 20 of the pouch body, for example by stitching 21 about the periphery of the backing panel. The term "panel" does not typically indicate a rigid component: any suitable material of adequate strength will suffice. A complementary secondary array of apertures 18 is formed in backing panel 23 as best shown in Figures 2
10 and 3.

In this embodiment, the apertures 16, 18 are elongate slots, with the slots 16 in the web 12 being of similar dimensions to the slots 18 in the rear face of 20 of pouches 22. Conveniently, slots 16 and 18 may be at 50mm centres. The slots may typically be 3mm or more in width and 6mm or more in length.

15 The primary array comprises a multiplicity of slots 16 arranged in respective sub-arrays 17, 19 of slots 16a, 16b (Figure 2) in each of which the slots are parallel in aligned or co-linear subsets at uniform spacings. Adjacent parallel slots in successive lines are aligned perpendicular to the elongate dimension of the slots. Two sub-arrays 17, 19 are depicted in which the slots are at different
20 alignments, in this case horizontally and vertically with respect to the orientation of the vest when being worn. The slots 18 of the secondary array are arranged to be complementary to one of the sub-arrays 17, 19, albeit on a much smaller scale, and at the same spacings or at a spacing that is an integral multiple of the slot spacings in the primary array.

25 Slots 16, 18 are preformed during weaving of the fabric of web 12, and are typically reinforced at or near their edges.

When a pouch 22 is required to be attached to vest 14, backing panel 23 is positioned against the web 12 so as to match and align a set of parallel slots 18a, 18b of the secondary array with a set of slots 16a, 16b in the web array. In the

illustrated case, there is a 2:1 ratio between the slot spacings. An attachment means in the form of an elongate clip 28 is passed through the pair of adjacent slots 18a, 16a and is then secured in position by fastener means 30 through slots 18b, 16b. Clip 28 is a flat strip that either is preformed to define, or can be folded
 5 to define, two generally parallel overlaid arms 29a, 29b that are integrally joined at one end and have fastener means 30 adjacent the other end. Fastener means 30 is a snap fastener comprising a pair of resiliently deflectable barbed prongs 31 on one arm 29a and a complementary socket 33 to receive the prongs and latch them behind an internal shoulder 35.

10 It will be seen that, once snap fastener 30 is engaged, clip 28 forms a closed loop through the respective pairs of apertures 16a, 16b; 18a, 18b of the primary and secondary arrays.

Snap fastener 30 is able to be engaged by hand, but preferably a tool must be used to disengage prong 31 from socket 33 and so detach the clip from the
 15 vest. This reduces the chance of the clips 28 accidentally unlocking during use. The tool may be originally made integrally with fastener 30, joined by web portions, such that the tool may be snapped off from fastener 30 and carried by the wearer of the vest. A suitable tool might comprise a handle with a small tubular head able to fit into space 37 in socket 33 about the prong 31, for engaging
 20 the tapered external surface 31a of the prong and deforming it sufficiently to release the prong from shoulder 35.

Even if the snap fastener 30 of a clip 28 were to disengage, a level of security is provided in that the clip will remain, at least for some time, attached at the other of the apertures 16 through which it is placed. This gives time for the
 25 slack attachment to be noticed and the clip re-fastened.

As can be seen in Figure 2, two clips 28 may typically be used to secure a pouch 22 to the web 12. For smaller pouches, one clip 28 may be sufficient and for larger pouches, or pouches for carrying greater loads, more than two clips 28 may be used.

As previously discussed, current systems use a stud-like fastener which is bulky and uncomfortable. Elongate clips 28 lie flat against the wearer's body and provide a secure, stable fixing at at least two points, substantially without pouch rotation. Their elongate flat form avoids any localised pressure point, adding to the
5 comfort of the wearer, and it will be further noted that the components of snap fastener 30 do not protrude outwardly of the strip of clip 28.

The pouch depicted in Figures 2 and 3 is shown attached to vest sub-array 17 having slots that are oriented generally horizontally. It will be understood that pouches might instead be attached to vertically aligned slots of sub-array 19. In
10 another variation, there might be a sub-array of diagonally oriented slots: in Figure 1, pouch 22¹ is shown attached to such slots. It is also emphasised that while apertures in the form of slots are advantageous, especially with clips of the kind illustrated, this is by no means critical. The apertures 16, 18 may be several round or square holes or any other shape and need not be elongate.

15 The illustrated embodiment is a load-bearing vest. It is emphasized that the invention has much wider application, eg to other garments, to backpacks and other load carriers, and more generally to any system adapted to be carried by a support surface. The system might be, eg a panel or plate, flexible, semi-flexible or rigid according to application. A particularly convenient further application of the
20 invention is to a vehicle.

It will be understood that the invention disclosed and defined in this specification extends to all alternative combinations of two or more of the individual features mentioned or evident from the text or drawings. All of these different combinations constitute various alternative aspects of the invention.

CLAIMS

1. A load-bearing system having:
 - 5 a web of sufficient strength to support predetermined loads suspended from the web;
 - a primary array of apertures in said web;
 - a plurality of pouches having in their rear faces respective secondary arrays of apertures; and
 - 10 attachment means to attach each of said pouches to said web at one or more positions at each of which the attachment means forms a closed loop through respective pairs of apertures in the primary array and in the secondary array of the respective pouch.
2. A load-bearing system according to claim 1, wherein the apertures are slots.
- 15 3. A loading-bearing system according to claim 1 or 2, being a personal load-bearing system, in which said web is of a form able to be worn or carried on the body of a person.
4. A loading-bearing system according to claim 3, wherein the web is in the form of a garment.
- 20 5. A load-bearing system according to claim 4, wherein the garment is a vest.
6. A load-bearing system according to claim 3, 4 or 5, wherein the web is made of fabric and the apertures are preformed during the manufacturing of the fabric.

7. A load-bearing system according to any preceding claim, wherein the array of apertures includes one or more subsets each comprising a multiplicity of parallel elongate slots.
- 5 8. A load-bearing system according to claim 7, wherein the parallel elongate slots include slots that are aligned or co-linear.
9. A load-bearing system according to any preceding claim, wherein the slots are aligned horizontally, vertically or diagonally with respect to the orientation of the load-bearing system.
- 10 10. A load-bearing system according to any preceding claim, wherein the apertures are of substantially stable dimensions and shape.
11. A load-bearing system according to any preceding claim, wherein the apertures have reinforced edges.
12. A load-bearing system according to any preceding claim, wherein the attachment means is an elongate clip being a strip that either is preformed to define, or can be folded to define, two generally parallel overlaid arms that are integrally joined at one end and have fastener means for disengageably linking them at or adjacent the other end.
- 15 13. A load-bearing system according to claim 12, wherein in situ the integral join and the fastener means traverse the respective pairs of apertures in the arrays of apertures in the web and the pouch, whereby to form said closed loop.
- 20 14. A load-bearing system according to claim 13, wherein the fastener means is a snap-fastener.
- 15 15. A load-bearing system according to any one of claims 12 to 14, wherein disengagement of the fastener means is by use of a tool.
- 25 16. A load-bearing component for a load-bearing system, including:

a web of sufficient strength to support predetermined loads suspended from the web; and

an array of apertures in said web;

5 wherein said apertures are elongate slots and said array is such that the slots form plural pairs of slots defining respective positions at each of which a pouch may be attached to the web by attachment means that forms a closed loop through respective pairs of slots in the web and in the pouch.

10 17. A loading-bearing component, according to claim 16 being a personal load-bearing system, in which said web is of a form able to be worn or carried on the body of a person.

18. A loading-bearing component according to claim 17, wherein the web is in the form of a garment.

19. A load-bearing component according to claim 18, wherein the garment is a vest.

15 20. A load-bearing component according to claim 17, 18 or 19, wherein the web is made of fabric and the apertures are preformed during the manufacturing of the fabric.

20 21. A load-bearing system according to any one of the claims 16 to 20, wherein the array of apertures includes one or more subsets each comprising a multiplicity of parallel elongate slots.

22. A load-bearing component according to claim 21, wherein the parallel elongate slots include slots that are aligned or co-linear.

25 23. A load-bearing component according to any one of claims 16 to 22, wherein the slots are aligned horizontally, vertically or diagonally with respect to the orientation of the load-bearing system.

24. A load-bearing component according to any one of claims 16 to 23, wherein the apertures are of substantially stable dimensions and shape.
25. A load-bearing component according to any one of the claims 16 to 24, wherein the apertures have reinforced edges.
- 5 26. A pouch component for a load-bearing system, including:
- a pouch body; and
- a backing panel attached to the rear of the pouch body;
- 10 wherein the backing panel includes an array of elongate slots that form one or more pairs of slots defining respective positions at each of which the pouch may be attached to a complementary web by attachment means that forms a closed loop through respective pairs of slots in the backing panel and the web.
27. A pouch component according to claim 26 wherein the or each pair of slots comprises a pair of parallel slots.

AMENDED CLAIMS

[received by the International Bureau on 23 November 2004 (23.11.04);
original claim 26 amended; remaining claims unchanged (1 page)]

24. A load-bearing component according to any one of claims 16 to 23, wherein the apertures are of substantially stable dimensions and shape.

25. A load-bearing component according to any one of the claims 16 to 24, wherein the apertures have reinforced edges.

5 26. A load-bearing system according to any one of claims 1 to 15, wherein said pouch includes:

a pouch body; and

a backing panel attached to the rear of the pouch body;

10 wherein the backing panel includes an array of elongate slots comprising said apertures in the secondary array that form one or more pairs of slots defining respective positions at each of which the pouch may be attached to said web by said attachment means that forms said closed loop.

15 27. A load-bearing system according to claim 26, wherein the or each pair of elongate slots comprising said apertures in the secondary array comprises a pair of parallel slots.

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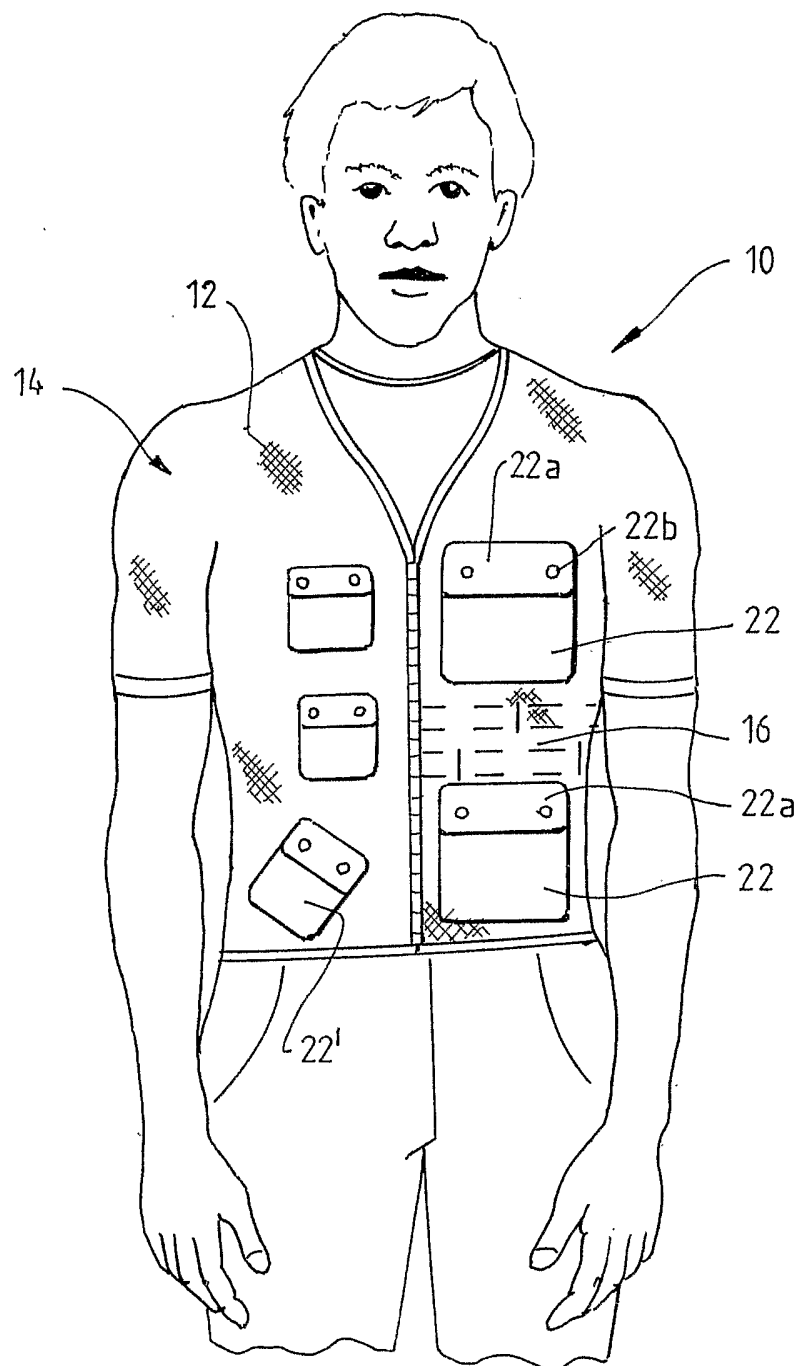
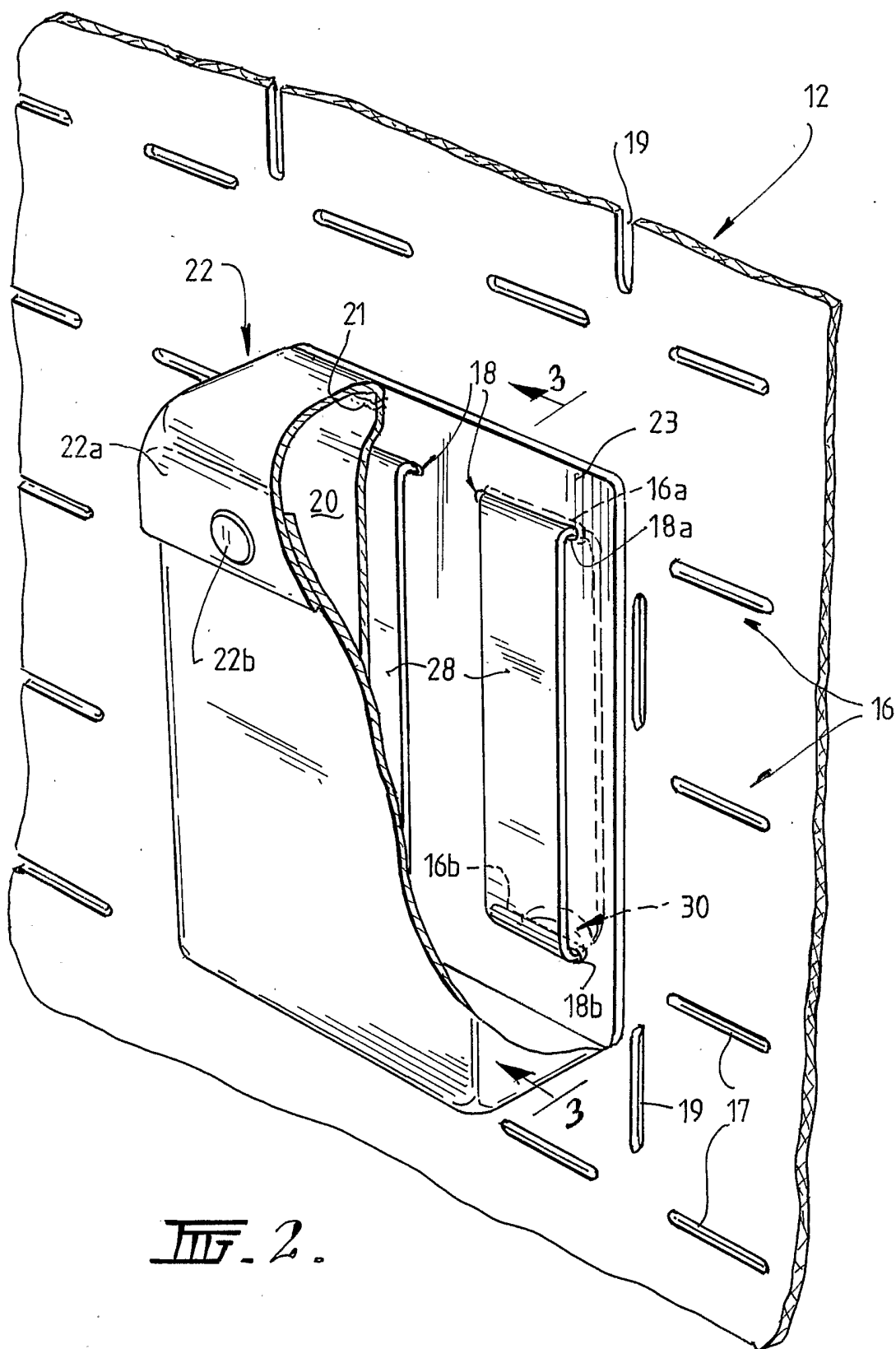


FIG. 1.

2/3



3/3

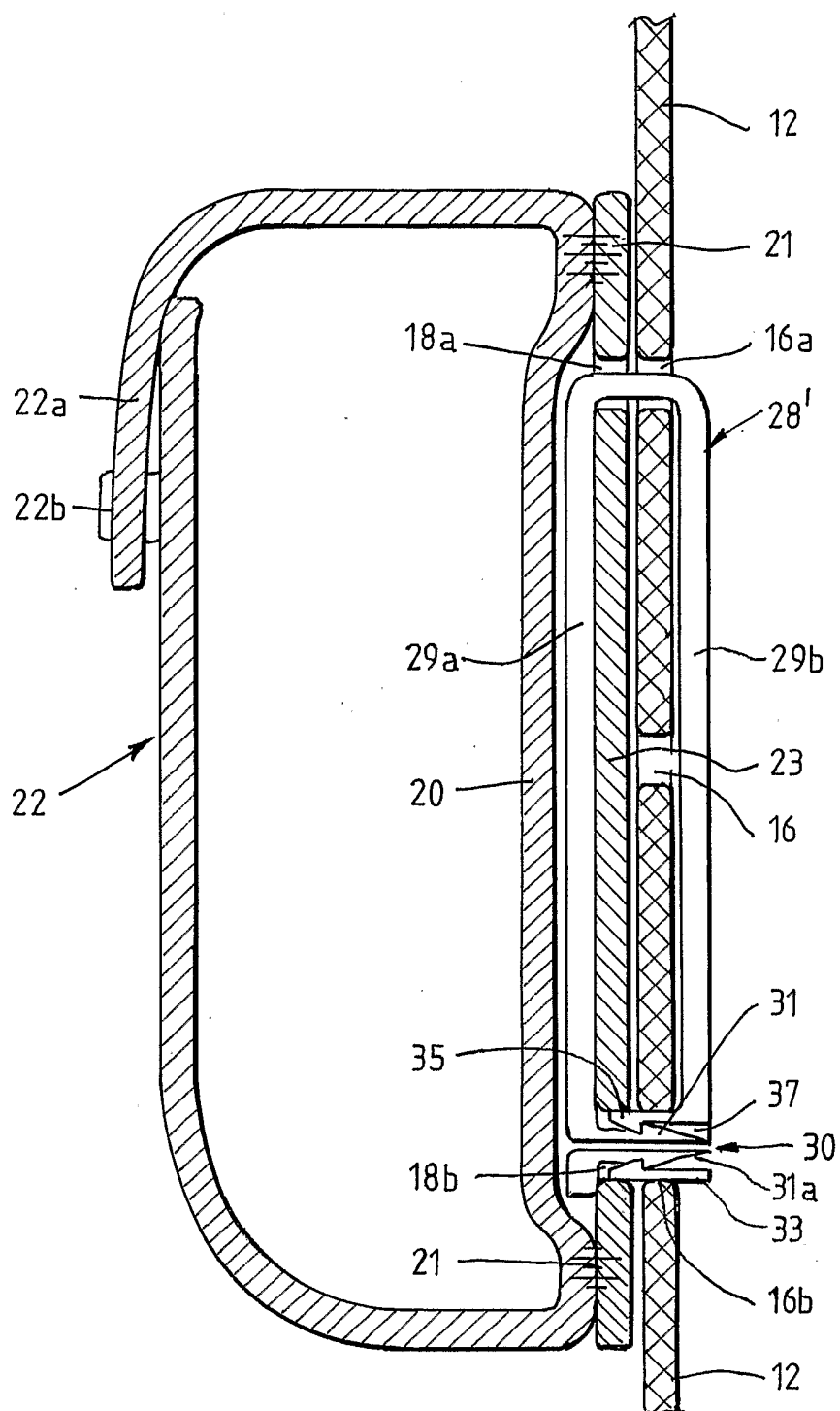


Fig. 3.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/001114

A. CLASSIFICATION OF SUBJECT MATTER					
Int. Cl. ⁷ : A41D 1/04, 27/00, 27/20 A47G 29/00 B25H 3/00 A45C 1/00 A45 F 3/14 F41C 33/02					
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)					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched US CLASS MARKS: 2/102 224/623, 224/625, 224/257, 224/930					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI: IPC(7) A41D/-, A41B/- A47G/- + Keywords (Dress, Fabric, Shirt, Garment, Trouser, Textile, Vest, Jacket, Web, Coat, Overall, Pocket, Pouch, Holder, Container, Carrier, Holster, Support, Sack, Bag, Aperture, Slot, Slit, Hole, Loop, Ring, Circle, Band, Attach...) A45F 3/14, A45C/- + Keywords (Slot, Slit, Loop, Opening< Strap, Back, Pack, Pouch) IFIPAT: US Class mark 2/102, 224/623, 224/625, 224/257, 224/930 + Kew words (Slot, Slit, Opening, Aperture, Strap, Loop, Pouch, Sack, Pack, Back)					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.			
A	WO 2001/093710 A (MARSHALL), 13 December 2001 Figures	1-25			
A	CH 627118 A (HAMANN), 31 December 1981 Figures	1-25			
A	US 5617582 A (BURWELL), 8 April 1997 Figures	1-25			
☒ Further documents are listed in the continuation of Box C ☒ See patent family annex					
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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 </td> <td style="width: 33%; vertical-align: top;"> "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 "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 "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 "&" document member of the same patent family </td> <td style="width: 33%;"></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 "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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	"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 "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 "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 "&" 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 "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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	"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 "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 "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 "&" document member of the same patent family				
Date of the actual completion of the international search 30 August 2004		Date of mailing of the international search report 29 SEP 2004			
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer G.B. NATH Telephone No : (02) 6283 2126			

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001114

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 4106121 A (BELSON), 15 August 1978 Figures	1-25
A	US 6397392 B1 (WOOLEY et al), 4 June 2002 Figures	1-25
A	US 5278998 A (BOOK), 18 January 1994 Figures	1-25
X	JP 11-290114 A (NEC SAITAMA LTD), 26 October 1999 Figures	26-27

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001114

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are two inventions::

See supplemental sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001114

Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

1. Claims 1-25 are directed to a load bearing system the essential features of which are defined in independent claim 1 which is considered to comprise a "first special technical feature".
2. Claims 26-27 are directed to a pouch for (suitable for) any load bearing system but not limited to the load bearing system as defined in the independent claim 1 which may be attached to a complementary web and thus considered to comprise a second separate "special technical feature"

Since the abovementioned group of claims do not share either of the technical features identified, a "technical relationship" between the inventions as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2004/001114

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
WO	0193710	AU	61924/01	CA	2408932	GB	2377159
		US	2003101508				
CH	627118	AT	323678				
US	5617582		NONE				
US	4106121		NONE				
US	6397392	US	2002040493				
US	5278998	CA	2155031	EP	0686003	WO	9417682
JP	11-290114		NONE				
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.							
END OF ANNEX							