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(54) **Multipurpose container**

(57) The invention relates to a container wrap (1) that can be worn either as a backpack or as a bag suspended in front of the body of a person, who can wear it together with a backpack, a harness, a parachute or the like.

The wrap consists of a main portion (2) made out of a flexible layer of fabric, film or the like, which can be

closed in a bag-like fashion around the material it must contain.

The wrap also comprises an additional compartment (30) for smaller objects, which is provided with an inflatable wall.

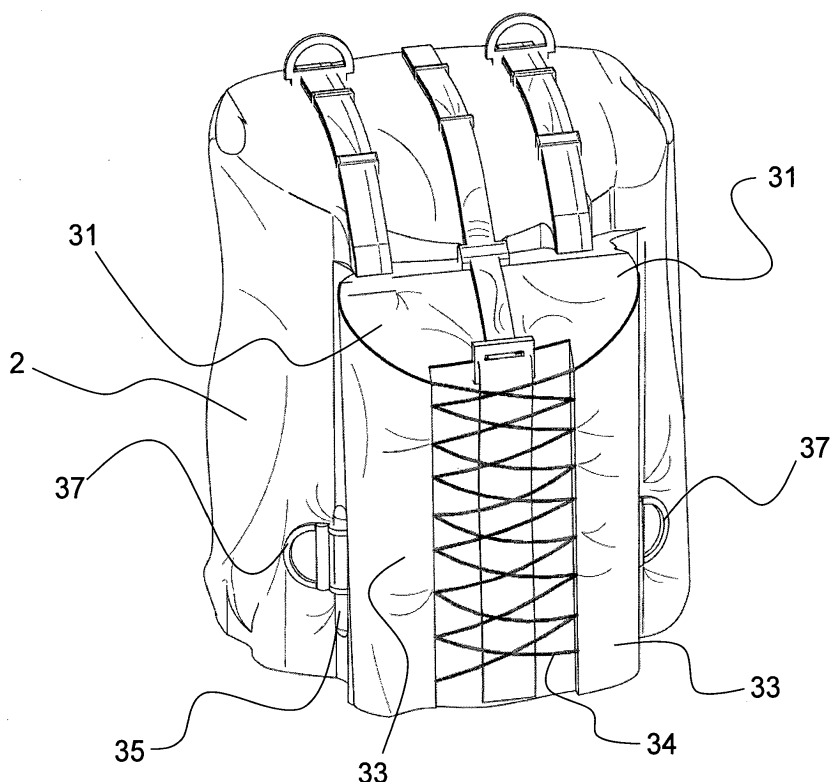


Fig.2

Description

[0001] The present invention relates to a container wrap that can be worn on the shoulders or on the chest by a person, intended in particular, but non exclusively, as equipment for skydiving, terrestrial or marine rescue, exploration activities or the like.

[0002] As is known, the equipment of people engaged in the above-mentioned activities includes a backpack or a similar container bag to be worn on the shoulders and also, should its capacity be insufficient for all the material to be carried, additional handheld bags or waist pouches.

[0003] In general, these solutions are not very ergonomical because the weight of the material may vary in the different bags, thus compelling the person to make an effort to compensate for such imbalance, which may cause problems when skydiving while carrying heavy loads or when walking on difficult paths (e.g. in snowy conditions) or for long distances.

[0004] On the other hand, the quantity and dimensions of the material to be carried are often variable from time to time, so that sometimes the additional bags or sacks turn out to be too big or too small for the intended use; however, bags are not available in many sizes, because this would be costly and anyway unfavourable in terms of efficiency. It follows, therefore, that a need is felt for a container that can be worn by a person in an ergonomical manner, while also being suitable for different quantities and/or types of objects to be carried: the present invention aims at fulfilling this need.

[0005] Its object is therefore to provide a container for stand-alone or combined use, whose structural and operational features make it suitable for containing objects and/or materials in general having variable weight and dimensions, and which can be worn by a person either on the shoulders or on the chest in a balanced manner.

[0006] The idea that solves this problem is to provide a container shaped like a flexible and substantially flat wrap, which can be closed in a bag-like fashion around the material to be contained, so that it can be easily adapted to materials in different quantities and/or of different dimensions.

[0007] Advantageously, the wrap is provided with means such as belts, cords or the like that allow a person to close it and wear it on the shoulders or on the chest.

[0008] Preferably, said means also allow adjusting the position where the container wrap is worn, so that it can be adapted to the parachute for people of different height, or anyway it can be made more ergonomical.

[0009] Furthermore, in accordance with a preferred embodiment the wrap also comprises a compartment configured substantially as a pocket, for containing small, dangerous or fragile materials.

[0010] The features of the invention will be more specifically set out in the appended claims; said features and the advantages deriving therefrom will become more apparent from the following description of a preferred but not limiting embodiment of the invention with reference

to the annexed drawings, wherein:

- Fig. 1 shows a container wrap according to the invention, in the open and spread condition;
- Figs. 2 and 3 are perspective and side views, respectively, of the container wrap of Fig. 1 in the closed condition;
- Figs. 4 and 5 are side and front views, respectively, of the wrap of the preceding figures in the closed condition and worn on a person's chest;
- Fig. 6 shows the wrap of the preceding figures, with a part thereof in view;
- Fig. 7 shows in detail the part of Figure 6;
- Fig. 8 is a view along the direction of the arrow of Fig. 7;
- Fig. 9 shows another detail of the wrap of the preceding figures.

[0011] With reference to the above-listed drawings, numeral 1 designates as a whole a container wrap according to the invention.

[0012] The wrap 1 comprises a main portion 2 consisting of a flexible layer of fabric or the like (e.g. film, felt or a similar material); regardless of the type of layer, the latter is preferably impermeable and adequately strong.

[0013] Suitable materials for the portion 2 of the wrap are fabrics made from synthetic yarn (polyester, polyamide, polypropylene, acrylic yarn, etc.), or plastic films based on the same synthetic materials and other materials known to those skilled in the art (e.g. polyethylene, PVC, etc.).

[0014] The main portion 2 of the wrap 1 of this example has a substantially elliptic shape, with a longitudinal axis X-X lying along the major axis of the ellipsis; it must however be pointed out that the shape of the main portion 2 may be different from the one shown herein, e.g. circular, polygonal or even more complex, perhaps with lobes, appendices and the like.

[0015] The shape of the wrap 1 and that of the layer that constitutes the main portion 2, as well as the dimensions thereof (length, width, thickness), also depend, among other things, on the applications for which the wrap is intended, on what it has to contain (e.g. rounded, dangerous, sharp, big or small, rigid or soft objects), etc.

[0016] The length of the wrap along the main axis X-X is in this case between 150 and 220 mm, while the thickness of the cloth that constitutes its portion 2 is about 0.5-0.8 mm.

[0017] However, what is important is that loops 4 be arranged along the edge of the main portion 2, in this case regularly spaced apart even though this is not strictly necessary; through said loops 4, a high-strength cord 5, consisting of a high-strength string, is inserted for closing the wrap.

[0018] Parallel and symmetrical to the main axis X-X, belts 10, 11, 12, 13 and 14 are secured on the portion 2 of the wrap, which are fitted with length adjusting means such as common buckles 16, 17, as well as means for

fixing them, as will be described below, e.g. hooks 18, 19 and rings 20, 21, 22, 23.

[0019] In the middle of the main portion 2 of the wrap 1 a compartment 30 is applied, which is configured substantially as a pocket that can be closed by a foldable flap 31, and one belt 16 of those associated with the main portion 2 of the wrap; the belt 16 is threaded into a series of loops 26 associated with the inner wall of the compartment 30.

[0020] In accordance with a preferred embodiment, at least one wall 30a (the front one) of the compartment 30 is inflatable, so that it can advantageously protect the objects housed therein, if they are fragile, dangerous or anyway in case of need; this feature is very favourable because the compartment 30 is the most exposed part at the front when the wrap 1 is closed and is worn by a person.

[0021] For this reason, on the front wall 30a there is a valve 32 that allows it to be easily inflated; said valve is similar to those commonly used for inflatable mattresses, life rings, etc., and allows a person to inflate the wall 30a by directly blowing into it (or by using a pump).

[0022] In order to further protect the compartment 30, along the sides thereof there are flaps 33 that can be folded around the compartment and fastened with a string 34, as shown in the drawings; optionally, the flaps 33 may be inflatable just like the front wall 30a of the compartment 30.

[0023] At the sides of the compartment 30, couplings 35 are advantageously also provided for connecting snap links or rings 37 for hooking the wrap 1 with belts or strings 38: this allows the wrap 1 to be secured to a backpack, a harness or the like when it is worn by a person.

[0024] This improves the stability of the wrap, both while skydiving and when moving on the ground, preventing it from oscillating with respect to the body of a person and from throwing him/her off balance due to its weight.

[0025] The container wrap 1 according to the invention operates as follows.

[0026] For filling it, the main portion 2 of the wrap is spread on the ground, with the face comprising the compartment 30 facing downwards, i.e. towards the floor, the ground or whatever surface it is laid on.

[0027] In this way it is possible to optimally arrange the material on the wrap 1, choosing a balanced weight distribution for the person that will have to put on the wrap.

[0028] After this step, the wrap 1 is closed by threading the cord 5 into the loops 4 and tightening it in order to close the wrap and cause it to take a substantially bag-like shape, as shown in the drawings.

[0029] The closure of the strap and its configuration are also ensured by the belts 16 and 17, which are fastened and tightened, thereby adjusting the length thereof, by using the rings 22, 23; furthermore, if in this condition the hooks 18, 19 of the belts 12, 13 are engaged with the rings 20, 21 provided on the main portion 2 of the strap, the latter can be carried on the shoulders like a backpack

(Figs. 2 and 3).

[0030] In this condition it is also possible to fill the compartment 30 and close it with the flap 31 and the belt 16 associated therewith; it is also during this step that the wall 30a can be inflated in order to protect the material contained in the compartment 30. It must also be pointed out that the wrap 1, once it has been closed as explained above, can advantageously be worn by a person on his/her chest, as shown in Figs. 4 and 5.

[0031] To this end, the rings 20, 21 positioned in the upper part of the strap 1 can be used as connecting elements for a harness, a parachute, a backpack or another element worn by a person; in this regard various solutions are possible, one of which is visible in Fig. 9, which shows an accessory 40 for connecting the strap 1 with the shoulder straps 41 of a harness, a backpack, a parachute or the like.

[0032] In this example, the accessory 40 is provided with hooks 42 that engage into respective buckles 43 of the shoulder straps 41 of a backpack 44; this solution is particularly suitable for applications wherein the strap 1 with the material contained therein is heavy, or anyway whenever great strength is required.

[0033] Other solutions are also possible when much strength is not required; for example, snap-type buckles as commonly used for fastening belts, bags, sacks and the like, or snaplinks and other mating elements.

[0034] The hooks 42 are connected to a cross element 45 with handles 46, 47 that allow it to be easily held together with the closed strap 1; the latter is, in fact, connected to the accessory 40 by means of eyelets 48, 49 respectively engaging with the rings 20, 21. When the wrap 1 is worn by a person on his/her chest, it will be balanced because it will have been fastened symmetrically to the longitudinal axis X-X, at the rings 20, 21; moreover, as explained above, the wrap 1 can be stabilized with lateral belts 38, which can be connected to the wrap 1 through sleeve-like supports 35 at the height that best suits the person involved.

[0035] The wrap 1 is also kept balanced by the compartment 30, which is also arranged symmetrically relative to the longitudinal axis X-X.

[0036] From what has been described hitherto, it can be understood that the wrap 1 according to the invention achieves the object set forth initially.

[0037] Indeed, since it has a main portion 2 consisting of a flexible layer that can be closed in a bag-like fashion, it can contain any kind of object that can be wrapped with said portion 2.

[0038] In other words, this feature de facto makes the wrap of the invention a multipurpose container that can accommodate objects and materials of any kind, since it is flexible and has no localized apertures that would unavoidably limit its filling possibilities. The material can thus be easily arranged in the container 1 by simply laying it thereon when the portion 2 is initially spread: after this step, in order to close the wrap 1 it will be sufficient to tighten the cord 5 extending in the loops 4 along the edge

of the portion 2.

[0039] In addition, after the bag has been closed, the adjustable belts 10, 11 will allow settling the wrap 1 as a function of the dimensions of its contents, thereby adapting it to situations wherein the material contained therein cannot completely fill its capacity.

[0040] In this context, the presence of the compartment 30 must also be underlined, which is suitable for containing small objects and protecting them thanks to the inflatable wall.

[0041] Therefore, the wrap 1 has very good containment properties, regardless of its filling level: this makes it easier to handle and carry because, as explained above, the wrap 1 can be effectively carried on the shoulders like a backpack or on the chest like some sort of poche.

[0042] In both cases, the container wrap 1 is axially centered with respect to the person's body, so that its weight will be balanced and easier to bear.

[0043] Of course, the invention may be subject to a number of variations with respect to the description provided so far.

[0044] As aforesaid, the elliptic shape of the main portion 2 of the wrap may be different (e.g. polygonal, with lobes, complex mixtilinear or the like), and the material of said portion may be a fabric or a film, but possibly also a multilayer material made up of stacked layers of the aforementioned (and/or different) types.

[0045] Of course, depending on the selected materials, different embodiments will be possible not only of the main portion 2 of the wrap, but also of the belts 10-14.

[0046] In fact, if a high-strength textile material is used, the belts will have similar strength characteristics; to this end, the belts may be similar to the safety belts used in the automotive or aircraft fields.

[0047] The belts are preferably fixed to the main portion 2 by stitching, the stitches being also appropriately strong; alternatively, textile belts or moulded plastic belts may be used.

[0048] This latter solution is particularly suitable for the case wherein the material of the main portion 2 of the wrap is also a mouldable plastic material, e.g. a thermoplastic material: in fact, it is conceivable to directly manufacture the container wrap 1 by moulding, with clear advantages in terms of production and costs.

[0049] Similar considerations also apply, mutatis mutandis, to the means for adjusting the length of the belts 10-14, consisting of the buckles 16, 17, and to the means for fastening them, such as the hooks 18, 19 and the rings 20, 21, 22, 23.

[0050] All these elements are, in fact, preferably made of metal material, such as aluminium, titanium, steel or alloys comprising one or more of such metals; this will provide higher strength, thus making the container wrap of the invention also suitable for extreme applications, such as skydiving, exploration and rescue in adverse environments, whether terrestrial (mountain, desert, etc.) or marine.

[0051] It can however be easily understood that the above-mentioned materials may be replaced with plastic or composite materials, such as polypropylene, PVC or carbon fibres, aramidic fibres, etc.

[0052] The same applies to the configuration of the rings, hooks and buckles, which may be modified according to specific design choices.

[0053] All of these variants will still fall within the scope of the following claims.

Claims

1. Container of the bag-like type, comprising belts (10, 11, 12, 13, 14) for bearing it on the shoulders of a person, intended in particular, but not exclusively, as equipment of skydiving, terrestrial or marine rescue, exploration activities and the like, **characterized by** comprising a wrap (1) with a main portion (2) substantially consisting of a layer of flat flexible material to which the belts (10-14) are fixed, closing means (4, 5) active along the edge of said main portion (2), thereby allowing the bag-like closure of the container (1).
2. Container according to claim 1, comprising an additional compartment (30) configured substantially as a pocket, arranged in a substantially middle area of the main portion (2) of the wrap.
3. Container according to claim 2, wherein the compartment (30) comprises an inflatable wall (30a).
4. Container according to claims 2 or 3, wherein the compartment can be closed by a flap (31) or the like.
5. Container according to any one of the preceding claims, wherein the closing means comprise a cord (5) engaged in cord loops (4) or similar elements, arranged along the edge of the main portion (2) of the wrap (1).
6. Container according to any one of the preceding claims, wherein the belts (10-14) are adjustable in length.
7. Container according to any one of the preceding claims, wherein the belts are provided with means (18, 19, 20, 21, 22, 23) for their connection.
8. Container according to any one of the preceding claims, wherein the belts (10-14) are substantially parallel to a reference direction (X-X).
9. Container according to claim 8, wherein the reference direction (X-X) is an axis of symmetry of the main portion (2) of the wrap (1).

10. Container according to claim 9, wherein the belts (10-14) and the additional compartment (30) are arranged symmetrically with respect to the axis (X-X) of the main portion (2) of the wrap (1). 5
11. Container according to any one of the preceding claims, comprising connecting means (35) for additional belts (38) for lateral stabilization of the wrap in the closed condition. 10
12. Container according to any one of the preceding claims, comprising an accessory (40) connectable to the main portion (2) of the wrap (1) and adapted to serve as a connecting element for a backpack, a harness, a parachute or the like, worn on the shoulders by a person. 15
13. Container according to claim 12, wherein the accessory (40) comprises a cross element (45) with at least one handle (46, 47) that makes it possible to firmly hold it integrally with the wrap (1) to which the accessory (40) is connected. 20

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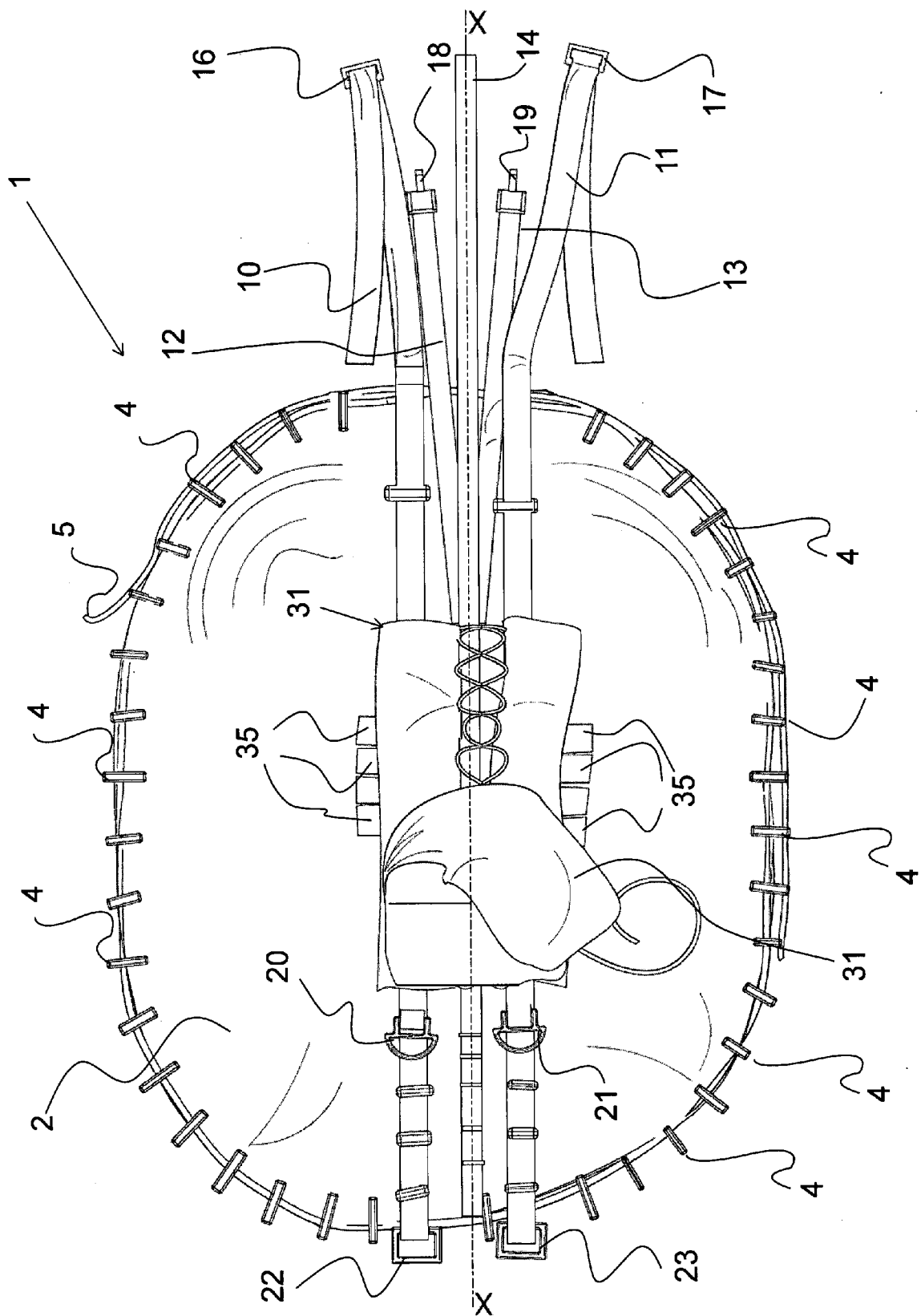


Fig.1

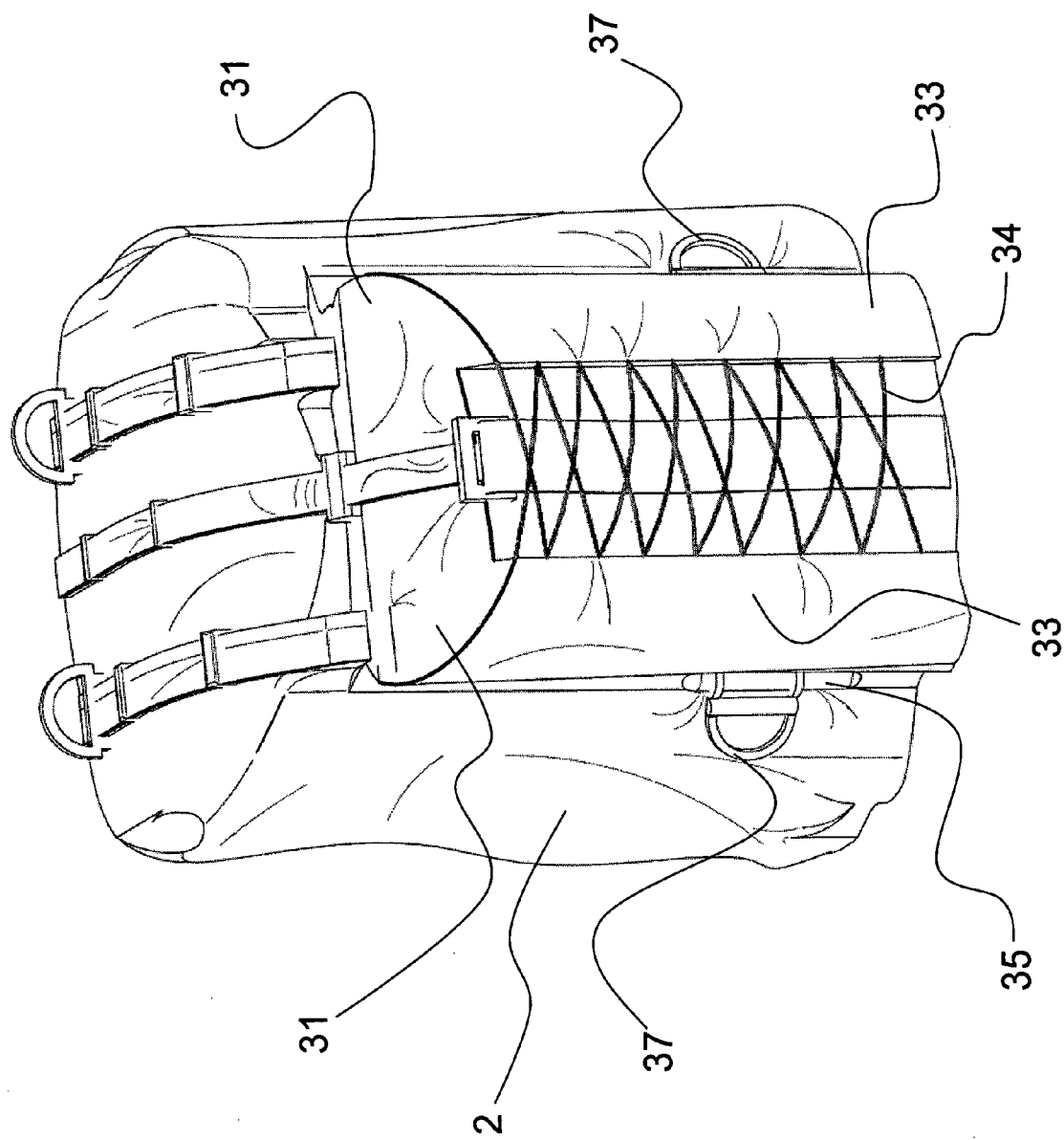


Fig.2

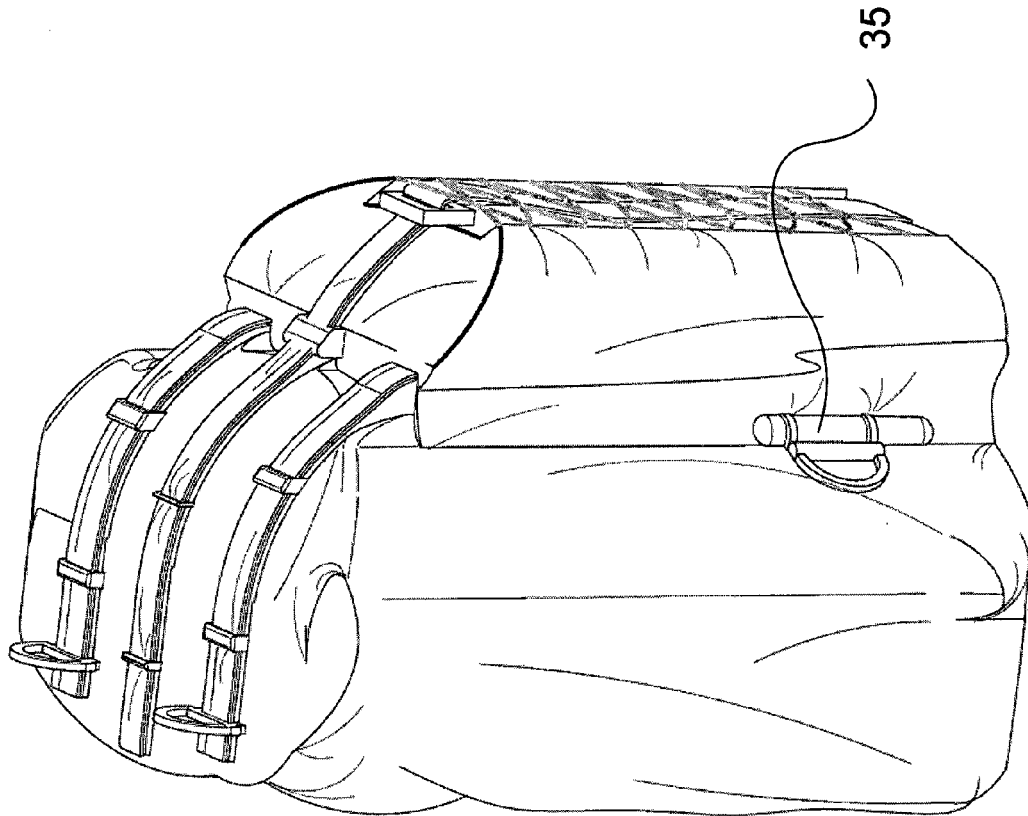


Fig.3

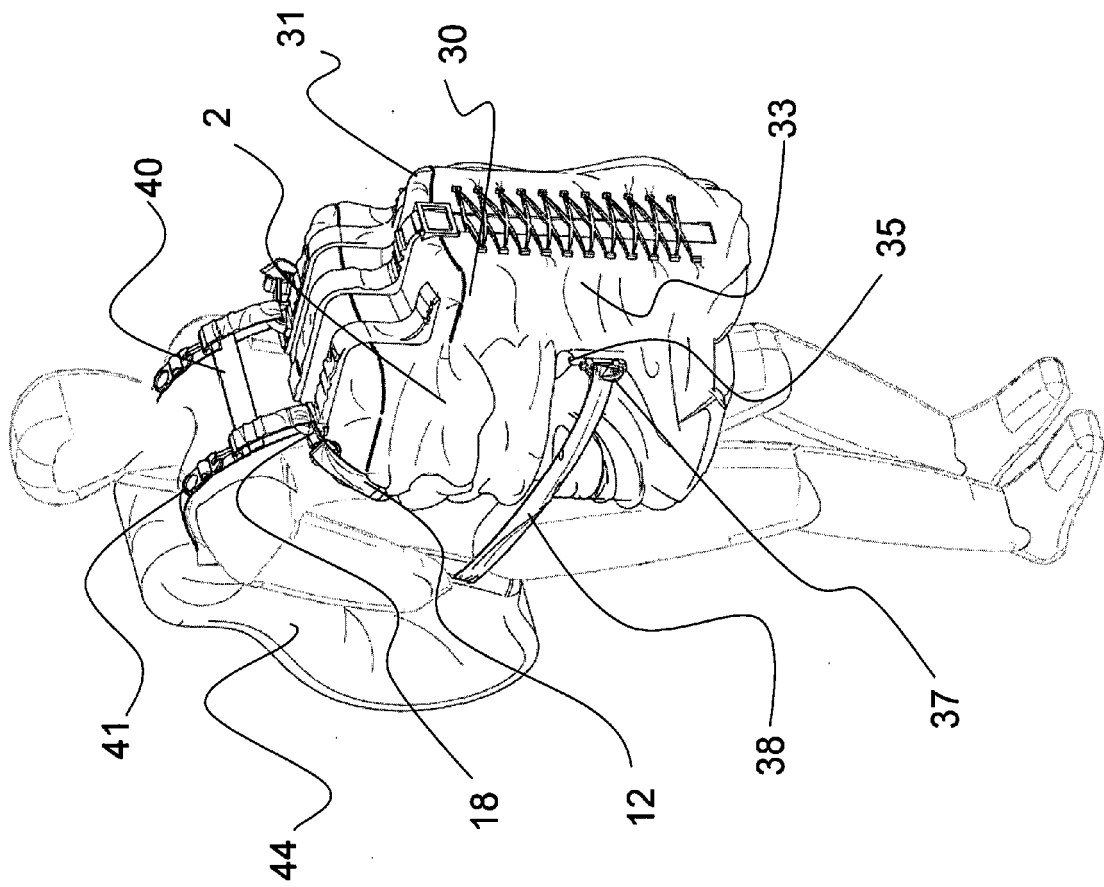


Fig.4

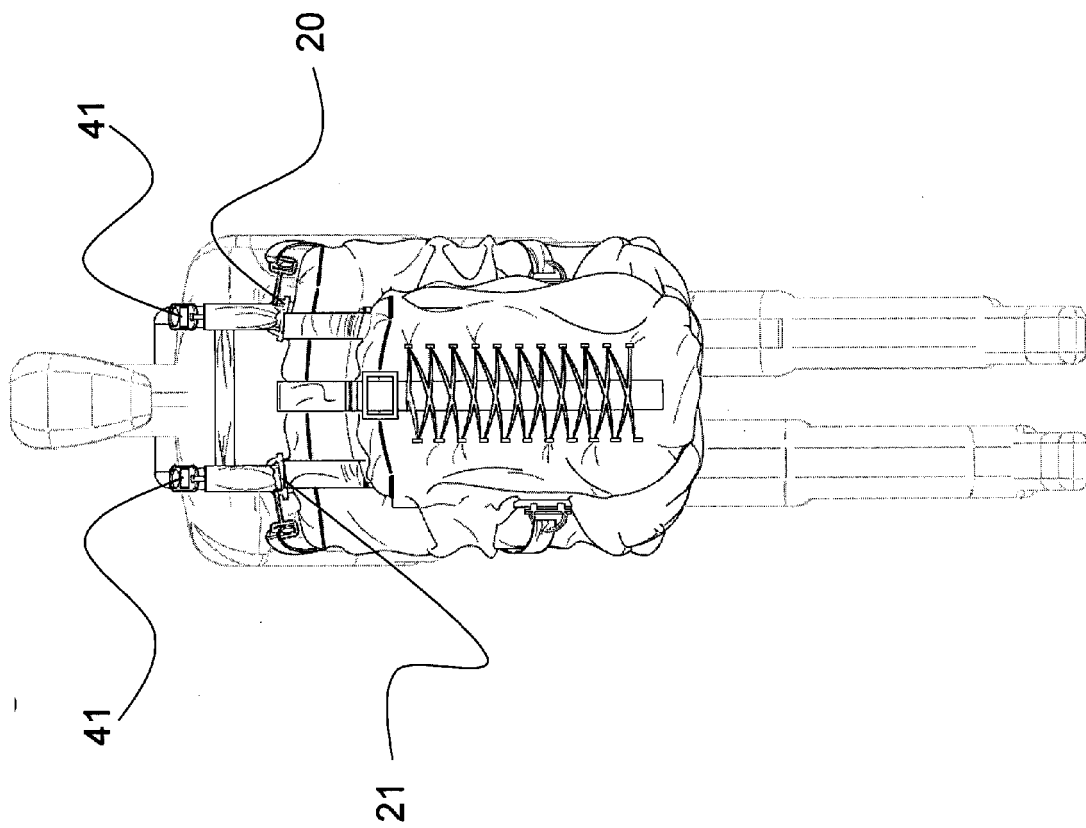


Fig.5

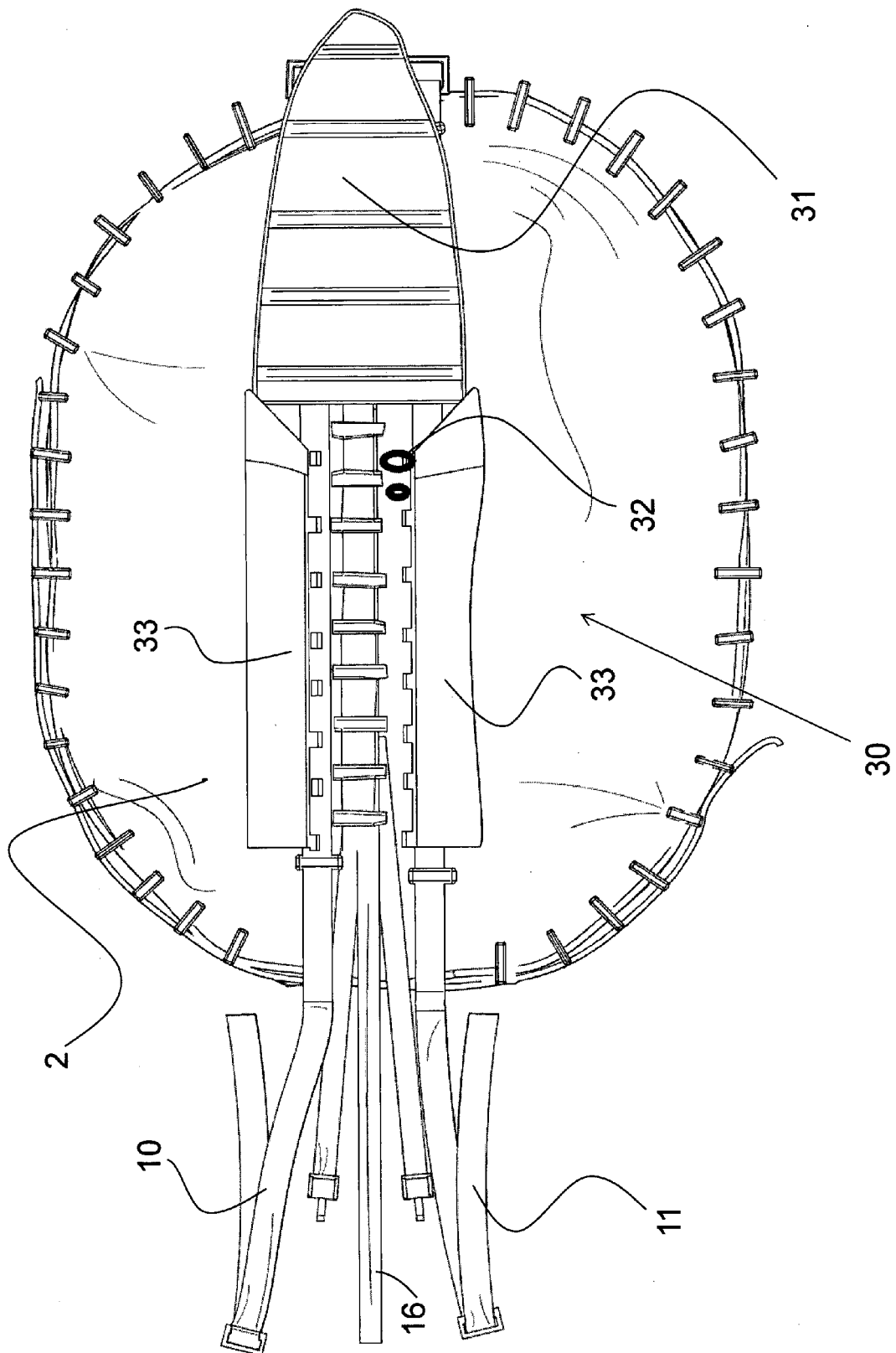
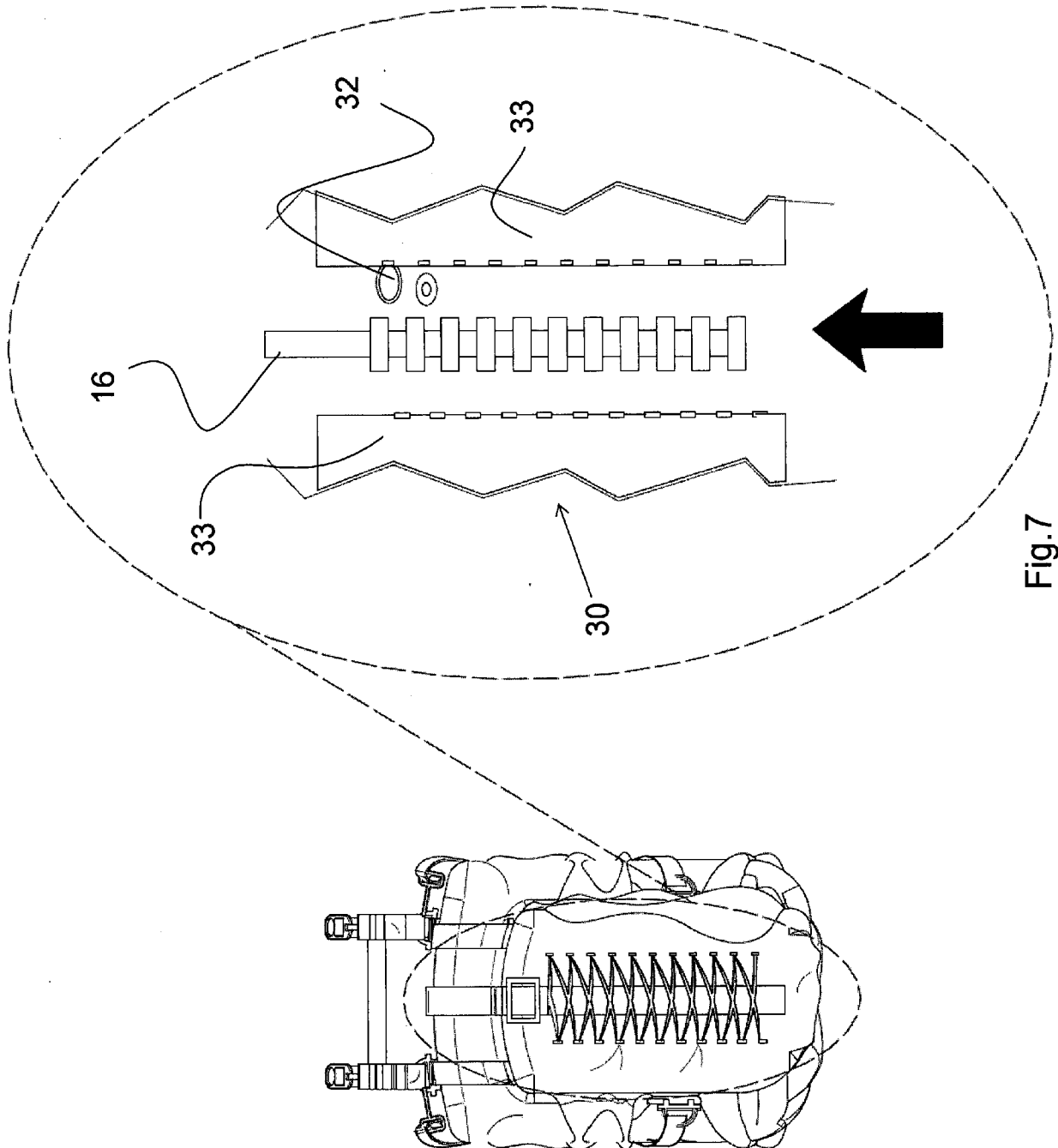


Fig.6



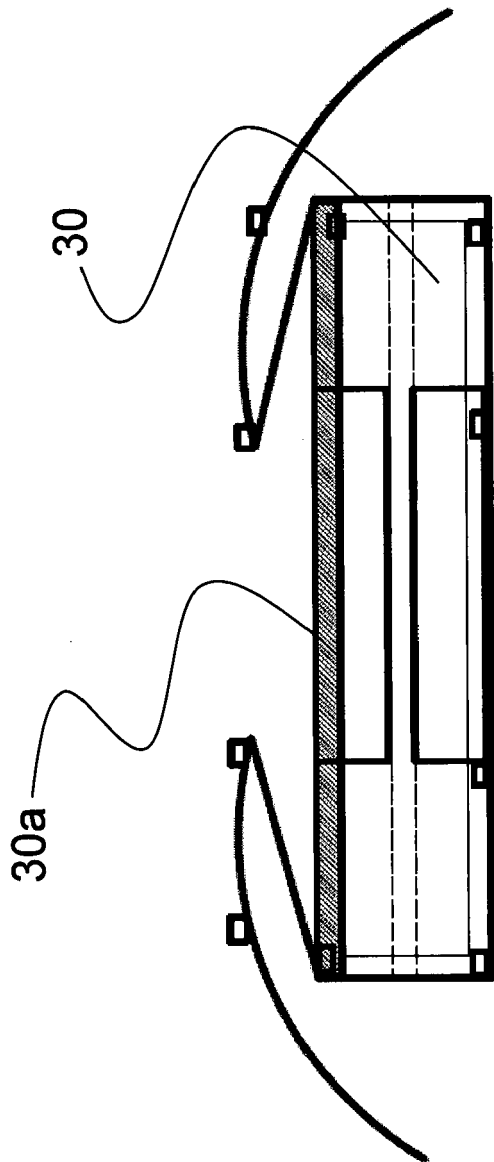


Fig.8

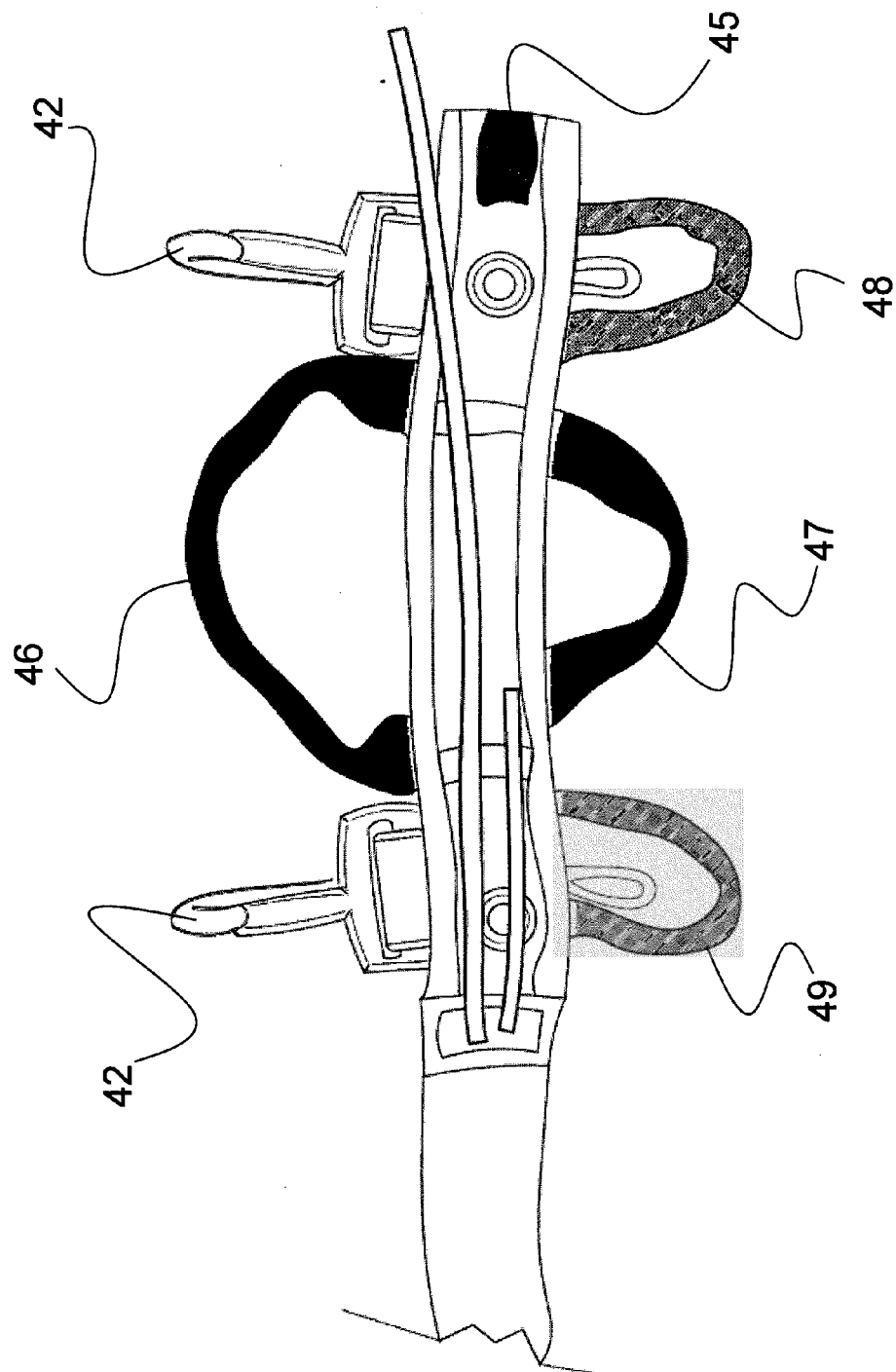


Fig.9



EUROPEAN SEARCH REPORT

Application Number
EP 14 17 6591

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 326 225 A2 (FALLETTA ANGELO [IT]; BARBIERATO ROBERTO [IT]) 2 August 1989 (1989-08-02) * column 2, line 35 - column 4, line 50; figures 1-5 *	1-12	INV. A45F3/04
X	US 2013/175310 A1 (TURNER TIERRE [US] ET AL) 11 July 2013 (2013-07-11) * paragraph [0024] - paragraph [0027]; figures 1-10 *	1-3,6-13	
			TECHNICAL FIELDS SEARCHED (IPC)
			A45F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		31 October 2014	Hinrichs, Wiebke
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