THE JOINT EXAMINATION BOARD

PAPER P4

AMENDMENT OF SPECIFICATIONS FOR UNITED KINGDOM PATENTS/ APPLICATIONS IN PROSECUTION, REVOCATION PROCEEDINGS OR OTHERWISE

Thursday 4th November 2004

10.00 a.m. - 1.00 p.m.

Time Allowed - THREE HOURS

Please read the following instructions carefully.

1. Note the following:

   - Enter the paper number (P4), a page number and your Examination number in the appropriate boxes at the top of each sheet of paper
   - Write on one side of the paper only, within the printed margins, using a **BLACK** pen
   - **DO NOT** use coloured pens or highlighters within the answers - they will not photocopy
   - **DO NOT** staple or join pages together in any way
   - **DO NOT** state your name anywhere in the answer

2. NO printed matter or other written material may be taken into the examination room. ALL mobile phones and electronic equipment **must be** switched off and stored away.

3. Answers MUST be legible. If the examiners cannot read a candidate's answer no marks will be awarded.

4. **NO WRITING OF ANY KIND WILL BE PERMITTED AFTER THE TIME ALLOTTED TO THIS PAPER HAS EXPIRED. At the end of the examination assemble your answer sheets in order and put them in the WHITE envelope provided.**

   This paper consists of 26 pages including this page.

THE JOINT EXAMINATION BOARD

PAPER P4 - AMENDMENT

QUESTION

A United Kingdom patent application comprising the attached specification (identified as GB 0323231.8) was filed at the UK Patent Office on December 1st, 2002 without any claim to priority. The UK Patent Office has issued the attached Official Letter.

You have received information from your client in the form of the attached letter.

Your task is to prepare the following.

1. A letter to the UK Patent Office in response to the Official Letter, accompanied by a set of amended claims if appropriate. (Please note that for the purpose of this examination you are **not** required to propose any amendments to the description of the patent application.)

2. A memorandum consisting of notes to provide the basis of later advice and comment to your client explaining the actions you have taken and the reasons for those actions. These notes should be restricted to patent matters; you are **not** required to consider any other matters such as copyright or design protection. Letter form is **not** required.

Please note the following.
(a) You should accept the facts given in the paper and base your answer on those facts. In particular, you should **not** make use of any special knowledge that you may have of the subject matter concerned, and you must assume that the prior art referred to is in fact exhaustive. Where only extracts of documents are presented, you should assume that those extracts contain all relevant material.

(b) If your advice to your client will include a suggestion that any divisional application(s) should be filed, you should draft the corresponding independent claim(s) and your memorandum should explain why divisional filing is advisable. You should **not** draft a description or any dependent claims for a divisional application.

(c) If you submit any amended claims and/or divisional claim(s), please put these at the top of the papers when handing in your answer and number the pages accordingly.

Document List:
Client's letter - 1 page
Official letter - 1 page
Client's application GB 0323231.8 - 8 pages text, 2 pages drawings
GB 2 466 566 - 2 pages text, 2 pages drawings
GB 1 200 300 - 2 pages text, 1 page drawings
EP 0500200A – 3 pages text, 2 pages drawings

LETTER FROM CLIENT

3 November 2004

Mrs D Drone
Chartered Patent Attorney

Dear Mrs Drone

Thank you for your letter sending the Patent Office objections and sorry about replying so near the deadline; things are a bit frantic because I'm just now going abroad for a few weeks and will be out of touch. We're still not out of our cash flow problems, I'm afraid, but this product is really looking very promising and we need to get this patent soon. As requested I enclose a cheque for the estimated cost of doing a letter of reply to the objections.

I should say that our priorities have shifted since we agreed the claims. The "detachable quilt" version didn't do as well as we'd expected. It seems that people just like the comfort of the mattress (which is just the same as it was when you prepared the patent), and they're tending to buy the one with the permanently sewn-on quilt because it's cheaper.

The three old patents don't look very relevant. EP 0 500 200 is the most interesting: obviously very different from us but I like the self-inflating feature and am wondering whether we might use this too. People don't like having to blow. GB 1 200 300 isn't what I'd call a sleeping bag at all, and I can't see why it's mentioned. The other (French) one is more similar but it would be very expensive to make with the three air chambers and even then I think ours would be more comfortable.

Worryingly, two competitors have just come out with very close copies of our best-selling version and these are already cutting into our sales. I sent them copies of our patent application but have heard nothing back. My contact at Cellulam supplies these competitors too. Via the grapevine, he's heard that they don't think the patent application can touch them but I guess we can change their tune by getting it granted. I'm in your hands: please do your best.

Yours sincerely

Roger Spring

OFFICIAL LETTER

Application No: GB 0323231.8
Applicant: Bouncy Bag Limited
Examiner: Eric Rambler

Latest date for reply: **5 November 2004**

Patents Act 1977
Examination Report under Section 18(3)

Novelty/Obviousness

The invention as claimed is not new and/or is obvious in view of what has already been disclosed in the following documents:

(1) GB 2 466 566 (Saucisson SA)
(2) GB 1 200 300 (Hardy Ltd)
(3) EP 0 500 200 A (Geyser Inc)

All of (1), (2) and (3) describe sleeping bags with one or more inflatable and removable mattress elements. Note the lacing 8 in (1). Claim 1 seems to have been drawn too broadly in that it arguably covers even the known use of an air bed. Amendment and/or clarification are needed.

The features of the dependent claims all seem to be either admittedly conventional e.g claim 2, or else are disclosed in one or other of the cited documents.

Applicant: Bouncy Bag Limited
Application No. 0323231.8
Filed 1 Dec 2002
Priority Claim: None

SLEEPING BAGS

The present invention relates to sleeping bags.

Sleeping bags are often used for sleeping directly on the ground or on a relatively insubstantial ground covering such as a ground sheet. Sleeping bags are conventionally quilted and filled with an insulating material such as down or synthetic fibres. The weight of a sleeper compresses the insulating material, lowering its insulative effect and causing the sleeper to become chilled by the cold ground.

In an attempt to overcome this problem, those sleeping outdoors often employ a thin foam mattress composed of closed cell foam which provides substantial insulation from the ground.

Whilst such mattresses can provide good insulation, they are bulky to transport. Even so they are generally not very thick, and do not greatly mask the hardness of the ground.

Inflatable air beds are known and are used when camping in conjunction with conventional sleeping bags. Such air beds are however an additional item to transport. Also, since sleeping bags are intended to be usable without an air bed beneath them, the insulation in the lower part of the sleeping bag is then largely

redundant and represents unnecessary weight, bulk and expense.

We now provide a sleeping bag comprising a gas inflatable mattress portion and a body covering portion attached thereto.

Preferably, the body covering portion is a quilt containing a filling of insulative material such as down, fibres or a synthetic substitute therefor.

Quilts may be made in various weights to provide various degrees of insulation for different climates. Alternatively, a body covering portion may be composed of a sheet type fabric or a blanket type fabric, depending upon the conditions in which the sleeping bag is to be used.

Preferably the covering portion is detachable from the mattress portion. For instance, the body covering portion may be attached by a zip-fastener, e.g. an open-ended zip-fastener. This enables covers of different materials to be exchanged, and facilitates cleaning. In an alternative form the body covering portion may be permanently fixed to the mattress portion.

Preferably, the body covering portion attaches to the mattress portion over the greater part of its periphery, leaving only a relatively small opening similar to the mouth of a conventional sleeping bag.

There is no need for any lower layer of the sleeping bag to overlie the mattress under the occupant, and this reduces expense and weight as mentioned above.

Preferably, the body covering portion is wider than the mattress portion to provide a roomy sleeping volume therebetween.

Preferably the body covering portion is provided with pockets. The mattress portion may be divided into separately inflatable body and pillow portions.

Preferably, at least one of the major walls (top and bottom layers) of the inflatable mattress portion is composed of or includes a layer of a foam material, for instance a closed-cell foam. More preferably each of the major walls of the mattress portion is composed of or includes such a layer. Most preferably the bottom major wall is composed of or includes a layer of closed-cell foam harder than that of the top major wall. A closed-cell foam surface is found much more comfortable to lie on than an ordinary "solid" impervious top wall layer, probably because its combination of greater thickness and resilient deformability gives better spreading of forces at "pressure points" of the body.

The sleeping bag may include a hood member attachable to the mattress portion, typically to a pillow portion thereof. The hood may be such as to provide weather protection or may be such as to provide protection from insects. The hood may if desired extend down the length of the sleeping bag from the head-end by

a substantial amount and may even extend over the full length of the sleeping bag.

The invention will be further illustrated by the following description of a specific embodiment thereof with reference to the accompanying drawing in which:-

Figure 1 is a perspective view of a mattress portion of a sleeping bag;

Figure 2 is a perspective view of a body covering portion of the same sleeping bag;

Figure 3 is a cross-sectional view through the mattress portion of Figure 1 on the line iii-iii;

Figure 4 is a perspective view of a hood for a sleeping bag of the invention;

Figure 5 shows an alternative form of hood; and

Figure 6 is a perspective view of an assembled sleeping bag with a hood.

As shown in Figure 1, a sleeping bag comprises a mattress portion 1 comprising a body support portion 2 and a pillow portion 3. The body support body portion 2 and the pillow portion 3 are each provided with a suitable air inlet valve by means of which they may be inflated.

One-half of an open-ended zip 4 extends around the two long sides and the bottom short side of the body support portion 2 of the mattress portion 1.

A flap of material 5 is provided upon each side of the pillow portion 3 and provides a pair of holes 6 for connecting a hood, explained later in connection with Figure 4.

As shown in Figure 3, the material of the mattress portion wall is an air-tight closed-cell foam. Suitable materials are available as "Cellulam" in various grades and have good tensile strength, resilience and toughness. The base 7 of the mattress portion is composed of a similar closed cell foam but of a grade which is harder and less easily compressed than the top part 8 of the mattress portion. Such a construction provides good resistance to puncturing of the mattress by sharp objects on the ground, very good insulation from cold ground and excellent comfort on the top layer.

The mattress portion 1 is formed with a single inflatable chamber made of the closed cell foam material for each of the body support portion 2 and pillow portion 3, to reduce manufacturing costs whilst at the same time providing adequate comfort.

The illustrated mattress portion is permanently sewn into a close-fitting outer fabric cover (not shown) to further increase comfort (skin feel) in use, and to provide a convenient means of attaching the zip part 4 by sewing.

As shown in Figure 2, a body covering portion 9 of the sleeping bag is provided in the form of a quilted fabric material, i.e. divided into pockets, and stuffed with a synthetic fibre insulation material or down. Around the lower edge and the two longer edges of the quilt runs the other half 4a of the open-ended zip. This is engageable with its counterpart 4 on the mattress portion to join the body covering portion to the mattress

portion of the sleeping bag. The other half of the zip 4a is secured to the underside of the body covering portion adjacent the edge but leaving an overhang portion 10 to increase the insulation against heat loss through the zip.

At the head end of the body covering portion, the quilt is formed into a protruding tongue of material 11 which the user may pull up over his shoulders and head.

The weight and insulation value of the body covering portion may be selected according to the conditions in which the sleeping bag is intended to be used. For use in relatively warm situations, the quilt shown in Figure 2 may be replaced by a blanket or sheet provided with suitable means for attachment such as the half zip 4a.

The width of the body covering portion when flat is substantially greater than that of the mattress portion so as to provide a roomy pocket between the two to increase the comfort of the user. Accordingly, a gusset arrangement 12 is conveniently provided in the lower part of the body covering portion so that the transverse run of the half zip 4a can correspond in width to that of the half zip 4.

A pocket 13 closable by a zip is provided in the upper surface of the quilt 9 into which may be placed personal possessions such as clothes either for convenience or to increase the warmth of the quilt. More than one pocket 13 may be provided.

As an optional but preferred feature, the sleeping bag according to the invention may also comprise one or more hoods, eg as shown in Figure 4. The hood 15 zas shown in Figure 4 is intended for providing weather-proof cover for the head of a sleeper when the sleeping bag is used out of doors without making use of a shelter such as a tent. It secures by wires 19 passing through the mattress holes 6.

An alternative type of hood, shown in Figure 5, extends over the entire length of the mattress portion supported by wires 19 and is attached around the periphery by poppers or a velcro seal 20a.

The hood may be made integral with the upper portion of the body covering portion rather than being a separate item. A hood-storage pocket may be provided across the body covering: see e.g Figure 6.

The sleeping bag may be provided with one or more different body covering portions for use in different conditions.

Whilst the invention has been described with reference to a specific embodiment thereof, it should be appreciated that many modifications and variations are possible. For instance, the body covering portion may be secured to the mattress portion by means other than an open ended zip e.g. poppers, velcro or ties. However, it is desirable to provide a continuous form of connection such as a zip in order to maintain insulation across the join.

CLAIMS:

1. A sleeping bag comprising a gas inflatable mattress portion and a body covering portion attached detachably thereto.

2. A sleeping bag as claimed in claim 1, wherein the body covering portion is a quilt containing a filling of insulative material.

3. A sleeping bag as claimed in claim 2 wherein the cover portion is attached to the mattress portion over the greater part of its periphery.

4. A sleeping bag as claimed in claim 1, 2 or 3 wherein at least one major wall of the mattress portion includes a layer of foam material.

5. A sleeping bag as claimed in any preceding claim, wherein the body covering portion is of greater width than the mattress portion to provide a roomy sleeping volume therebetween.

6. A sleeping bag as claimed in any preceding claim, wherein the body covering portion at its head end is formed as a flap or tongue which the user may pull over his head and/or shoulders, the sides of the tongue not being attached to the mattress portion.

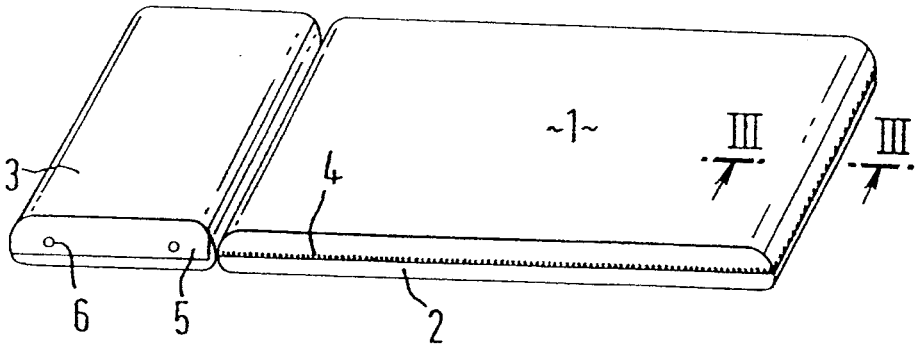


FIG.1

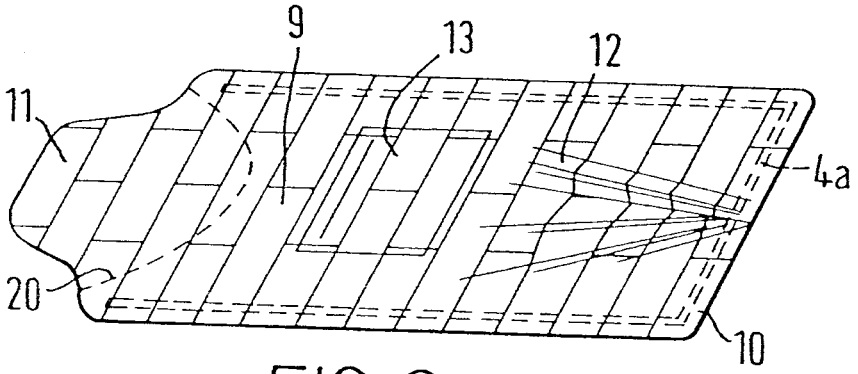


FIG. 2

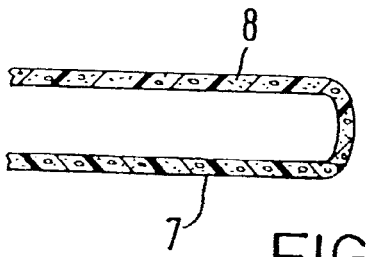


FIG. 3

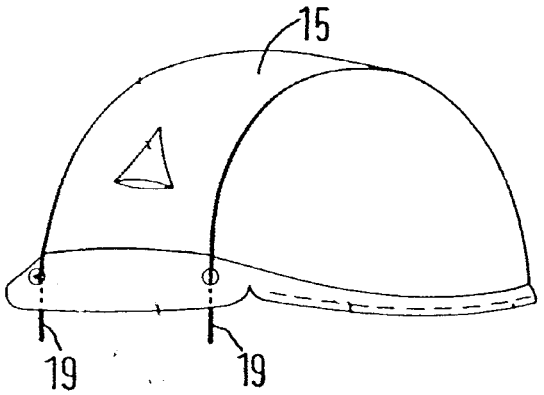


FIG. 4

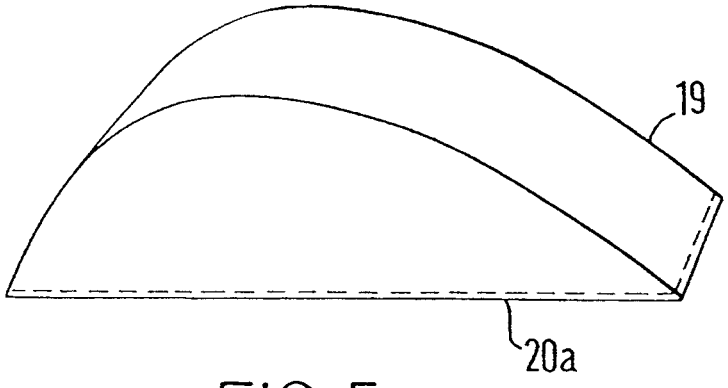


FIG. 5

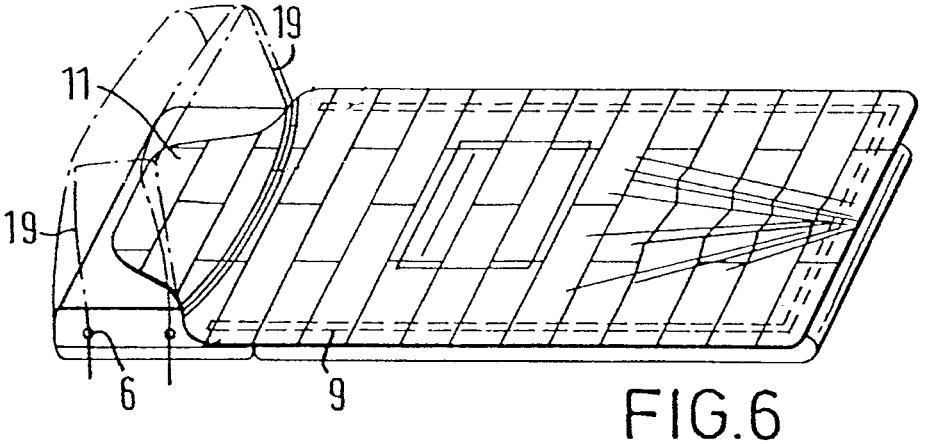


FIG.6

Saucisson SA GB 2466566
Published: 18 May 2003
Filed: 5 November 2002
Priority: 10 November 2001 (France)

IMPROVEMENTS IN AND RELATING TO SLEEPING BAGS

This invention relates to sleeping bags. Sleeping bags are already known which comprise upper and lower portions of which the lower portion can receive a removable inflatable cushion.

If the cushion is punctured, the bag is rendered unusable.

According to the invention, there is provided a sleeping bag having a lower wall containing inflatable elements and an upper wall forming a covering, the sleeping bag being characterised in that the respective inflatable elements are each narrow in comparison with the width of the bag so that if one of the elements is punctured, the body of the sleeper is supported by at least the neighbouring inflatable elements.

A sleeping bag according to the present invention is shown in the accompanying drawings in which:-

Fig. 1 is a perspective view showing the sleeping bag prepared for the night, a part of the bag having been cut away in the drawing;

Fig. 2 is a perspective view of the same sleeping bag complete and closed;

Fig. 3 is a sectional longitudinal elevation of the sleeping bag, and

Fig. 4 is a transverse section on the line IV-IV of Fig. 3.

The sleeping bag comprises a lower part formed of two sheets 1,2 which are sewn along their longitudinal edges and are attached to further sheets 4,5 forming an upper part of the bag. Between the upper sheets 4,5 there is introduced a padded filling formed e.g. of down as in the usual manner.

Elongate inflatable elements 3 e.g. of natural rubber are disposed between the lower sheets 1,2 in a longitudinal direction and separated from each other by divisions 6 (Fig. 4) providing compartments to keep the elements 3 in their places. Their position is assured both during the use of the bag when the elements are inflated and when the

bag is folded after deflation. The elements 3 are independent of one another and insulate the sleeper comfortably from the ground. They may replace wholly or in part the down which is used in known sleeping bags to fill the lower part.

Each inflatable element 3 has an end valve or inflation tube 7 which protrudes from the lower end of the bag. The lower end can be opened and closed by means of lacing 8.

At the top, the long inflatable elements 3 terminate near a division between the lower part of the bag and a pillow part, formed by two sheets 1_1,2_1 which extend the sheets of the lower part. A pneumatic cushion 9 which forms the pillow is placed between them. This cushion has a valve or tube 10 for inflation.

Preferably, the sheets 1_1,2_1 of the pillow have a rounded form and a hem 11 is provided at their periphery for the passage of a cord, the tightening of which forms a hood as shown in Fig. 2. Transverse rods 12,13 prevent the bag from rolling when the sleeper turns in the bag.

The sleeping bag optionally includes an inner bed sheet 14 in the form of a sheet bag, fastened so as to be readily removable from the interior by lacings 15 or the like.

If one element 3 is punctured, its neighbours still provide adequate support. To protect the elements against sharp stones, the lower sheet 1 may be reinforced. A preferred reinforcement is an elastomeric layer 22, e.g. of a rubber material such as Cellulam™ which is tougher and more resilient than conventional mattress foam, glued or sewn beneath the lower sheet 1 as indicated in broken lines in Fig. 4.

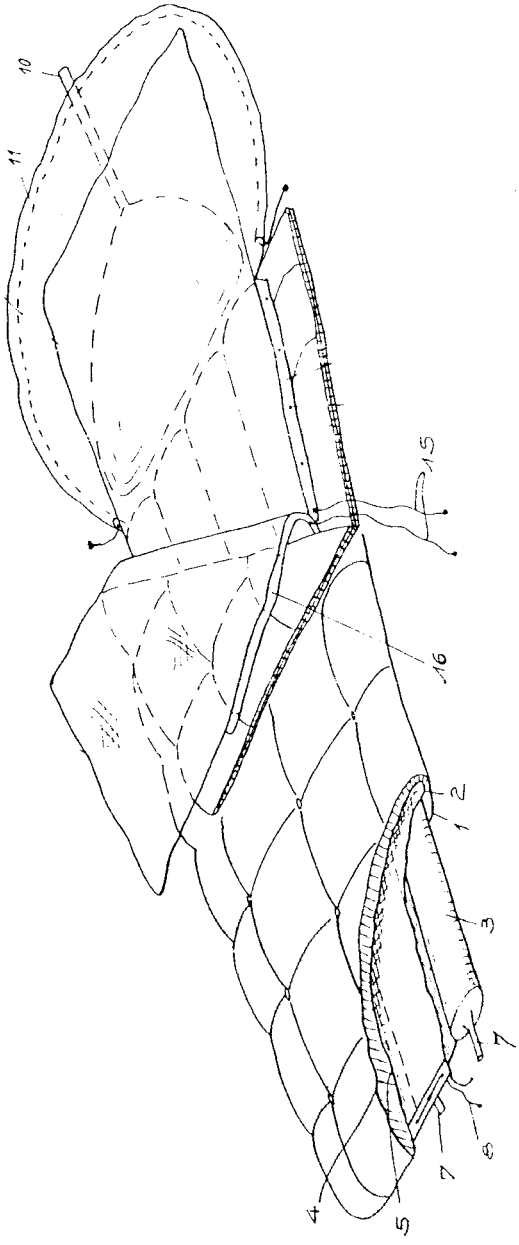


FIG. 1

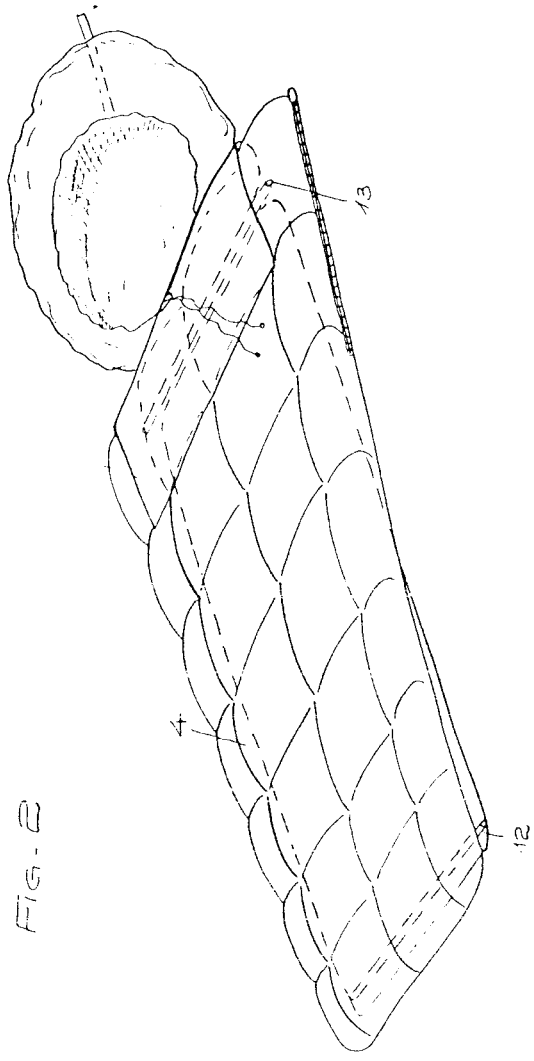


FIG. 2

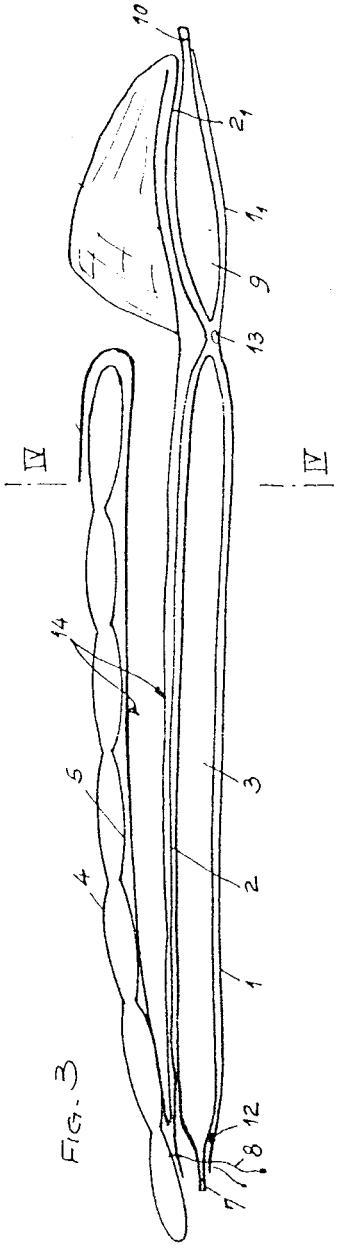


FIG. 3

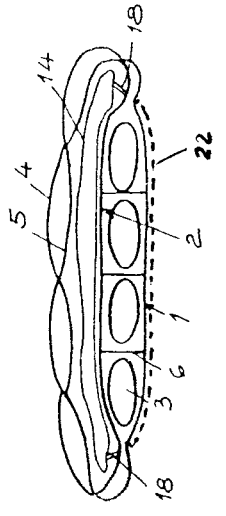


FIG. 4

Hardy Limited GB 1200300
Complete Specification Published: 10 January 1961

IMPROVEMENTS IN OR RELATING TO SLEEPING BAGS

[Extracts]

Conventional sleeping bags formed of a double thickness of material closed at one end, which may be filled with suitable packing such as kapok and may be quilted, are not weather proof.

[.....]

To enable the invention to be more clearly understood an embodiment will now be described with reference to the drawings in which:-
Figure 1 is a perspective view of a sleeping bag with parts broken away and a flap turned back to show the manner of construction;
Figure 2 is a plan view of the bag with the flaps partly closed, in parts broken away, and
Figure 3 is a longitudinal partial cross section of the bag.

Referring to Figures 1 to 3 the bag comprises a base 1 of sheet material, an end flap 2 at the foot of the bag, two side flaps 3, 4 secured to the edges 5 of the base, and an extension 6 coiled over to form a pillow pocket 7 closed at its ends by circular panels 8.

Flap 3 is of a width approximately equal to the height of the end flap 2 while 4 is of a width equal to the height and width of the extension 2. The end of the flap 5 is sewn at 9 to the end of the extension 2 while the end of the flap 4 is sewn at 10 to the side of the extension 2 and at 11 to the upper free edge of the extension 2. The free longitudinal edges 13 of the two flaps 3,4 have zip-fasteners 13, the two zip elements 13 being set back from the edges of the flaps. A runner 14 of the zip is operable from inside the bag. The overlap of the flap edges keeps the user completely shielded from the weather.

A blanket 17 is sewn into the bag along its longitudinal edges 18 to form a lower pocket into which a mattress 19 is freely inserted. The mattress is an inflatable air cushion of conventional design. In the pocket 7 is an air pillow 20 with a filler plug 21; it may however be in one piece with the mattress 14 and be filled with air at the same time and through the same plug as the mattress 19.

The base, flaps, extensions and panels are all formed of sheet material, preferably waterproof such as canvas, or they may be made of plastic such as polythene. The various parts of the bag are sewn together by lines of stitching or they may be clipped together by metal clips or by tapes which may be tied together to secure the parts herein described; in the case of the bag being of plastic material such as polythene the contiguous edges of the parts permanently secured together may be secured by heat sealing.

The free portions of the edge 12 of the extension 4 and the edge of the extension 16 may be provided with reinforced eyelets 27, and ropes or loops may be secured to adjacent parts of the bag for passing through the eyelets to give additional securing means when the bag is erected and closed for use.

1/1

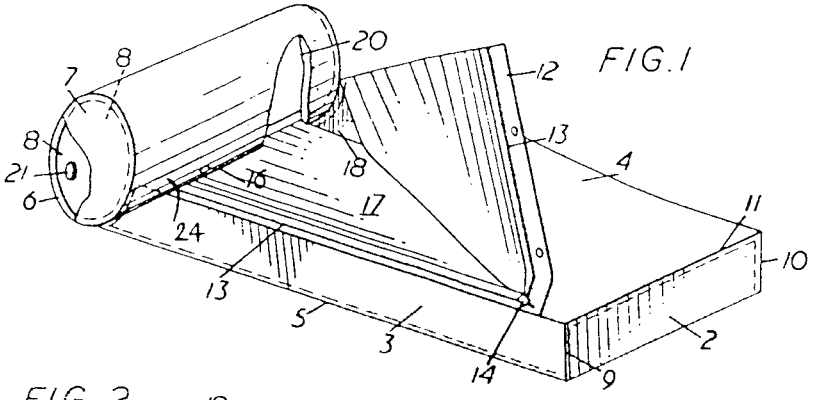


FIG. 1

FIG. 2.

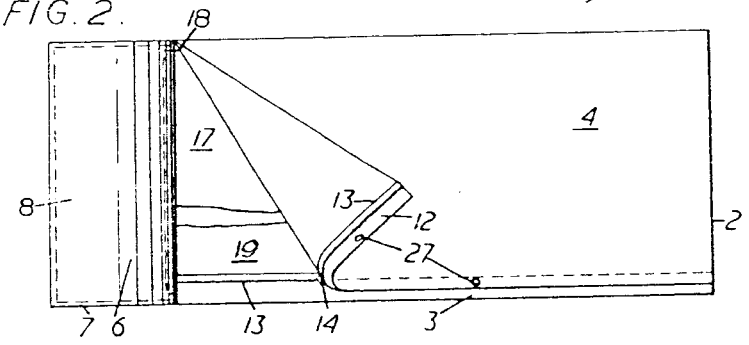
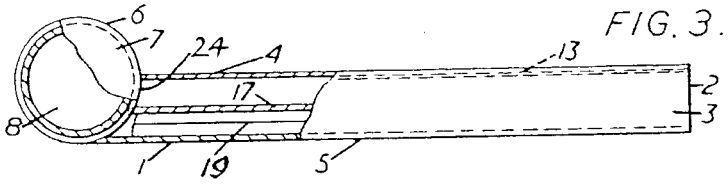


FIG. 3.



Geyser, Inc.
EP 0500200
Published: 2 July 1995
[Lapsed before grant]

SELF-INFLATING MATTRESS OR SLEEPING BAG FORMED THEREWITH

[Extract]

In the accompanying drawings:

Figure 1 is a perspective view of a sleeping bag, with a corner portion cut away and parts shown in section;

Figure 2 is a shortened longitudinal section taken at the line 2-2 in Figure 1, and

Figures 3 and 4 show the mattress inflated, with the cover portion in disconnected and closed positions respectively.

The mattress M comprises a core 2 enclosed within an air-tight flexible jacket 3. The core 2 is formed entirely from resilient flexible cellular material of the open-cell type which allows free passage of air. When the core is placed under compression, air will escape from the cells and from the other voids or open spaces inside. When the pressure is relieved and the core is exposed to the atmosphere, the cells and other open voids will become automatically filled with air by expansion of the cells back to their original shape.

The core may be a unitary or solid mass of such material, but it is desirable that it comprise a structure of spaced apart ribs forming open voids, for a reason to be explained subsequently. With reference to Figures 1 and 2, the ribs comprise a lower set of transverse members 4 and an upper set of longitudinal members 6, adhesively bonded together at all contact areas.

The core includes an upper sheet 7 overlying the lattice structure 4-6 and a lower sheet 8 underlying it to provide pads. These are of the same type of foam material as the ribs so as to exhaust air therefrom, and are desirably adhesively bonded to the ribs to provide a stable structure. Core

2 is adhesively bonded to the enclosing jacket 3, which is of air-proofed flexible material, such as nylon fabric of the non-rip type. A valve tube 9 extends through an aperture 11 so that air may flow into and from the cells and the intercommunicating spaces between the ribs 4,6 of the core 2.

When closure cap 13 is open, atmospheric air can quickly fill all the voids of the core, and when the cap is screwed onto the tube to close it, air cannot escape through air tight jacket 3 thus providing a resilient cushion. When the mattress is wound into a roll about the end opposite the tube 9 with the cap 13 removed, air will be expelled by the rolling; the cap is again closed and the mattress stays flattened. The criss-cross or transverse arrangement of ribs 4,6 provides a spring effect for sucking air into the core voids, but without undue bulk when the mattress is rolled up.

A heat reflective barrier sheet 14 is bonded between the bottom of core 2 and jacket 3 so as to retain body heat. A suitable material is metal foil.

To enhance winding of the mattress into a compact roll a plastic mandrel tube 16 is adhesively bonded at the end of the mattress.

A cover portion C overlies jacket 3 and is attached thereto adjacent one end thereof at its lower edge indicated at 21, and to opposite sides at the lower edges as indicated at 22. The attachment is by a suitable adhesive.

Cover C is formed of adjacent portions 23 with a slide fastener 24. Each cover portion 23 is greater than one-half the width of the mattress so that in the open position of closure 24 (as shown in Figure 3) the cover portions overlap and flatten out to form a smooth structure for winding over mandrel 16. With the fastener 24 closed, cover portions 23 form a cover of increased width to provide plenty of room for a person (Figure 4).

The inner edge portions of the cover portions 23 at the head of the bag are cut away as indicated at 26. Thus a central space 27 is formed to

accommodate the neck of a person lying on the bag, leaving flaps 28 for overlying the person's shoulders (Figures 1 and 4).

Desirably, cover C is formed from an interior layer of flexible insulating material 31, such as a foam material of the type employed for the mattress core, enclosed within a moisture impervious flexible envelope 32 e.g. a breathable nylon fabric. As with the mattress, a sheet 33 of heat reflective material is positioned in the envelope 32 between the insulating pad 31 and the inside face of the envelope adjacent to the mattress.

Instead of making the upper foam sheet 7 part of the core, it may be provided outside the airtight jacket 3 to serve as a moisture absorbing layer under the cover C.

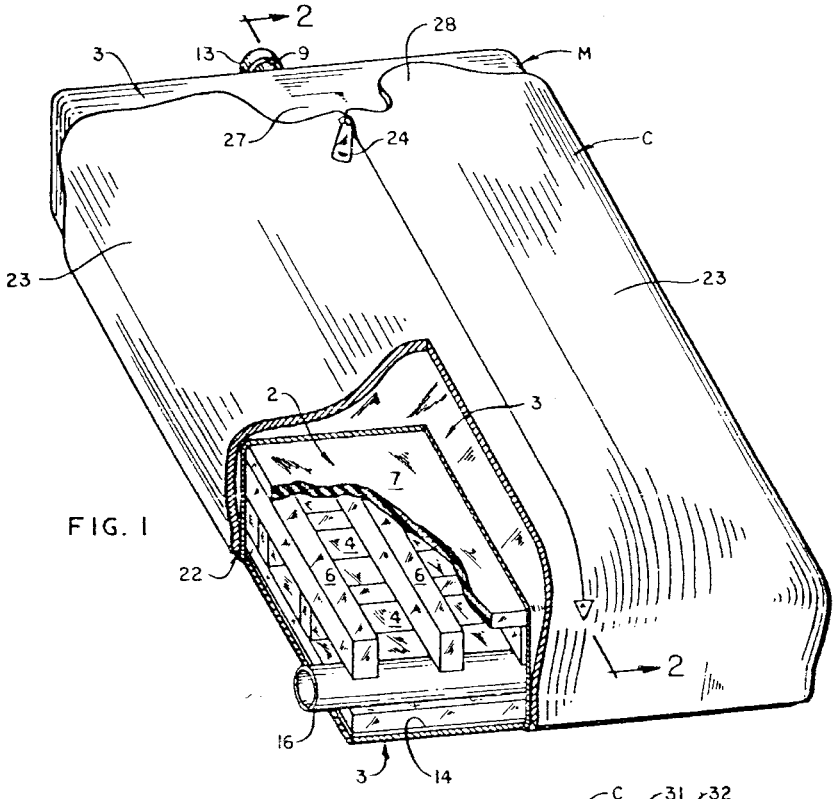

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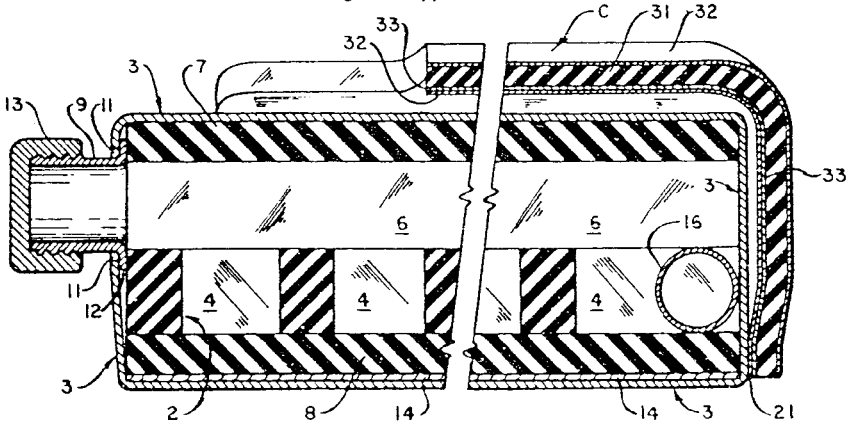
FIG. 1


C
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16
11
12
4
4
4
3
2
8
14
14
3
21

FIG. 2

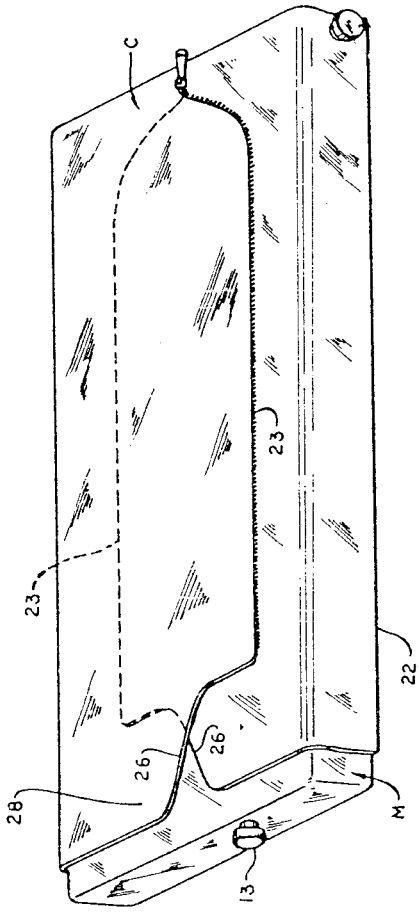

FIG. 3

FIG. 4