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

(11) EP 0 894 459 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.02.1999 Bulletin 1999/05

(51) Int Cl.[6]: **A47G 9/02**

(21) Application number: **98305754.8**

(22) Date of filing: **20.07.1998**

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

(30) Priority: **29.07.1997 GB 9715999**

(71) Applicant: **Larenbay Limited**
Haywards Heath, West Sussex RH16 1TW (GB)

(72) Inventor: **Davies, Judith**
Crawley, West Sussex RH10 6SA (GB)

(74) Representative: **Pratt, David Martin**
Withers & Rogers,
4 Dyer's Buildings,
Holborn
London EC1N 2QP (GB)

(54) Medical duvet

(57) A medical duvet which does not require laundering comprising a thermal insulating fibre sheet (2), a waterproof cover (4) and fixing strips (3). The waterproof cover (4) surrounds the thermal insulating fibre sheet (2), the thermal insulating fibre sheet (2) being indirectly attached to the waterproof cover (4) by the fixing strips (3), and the fixing strips (3) being positioned along each edge of the thermal insulating fibre sheet (2).

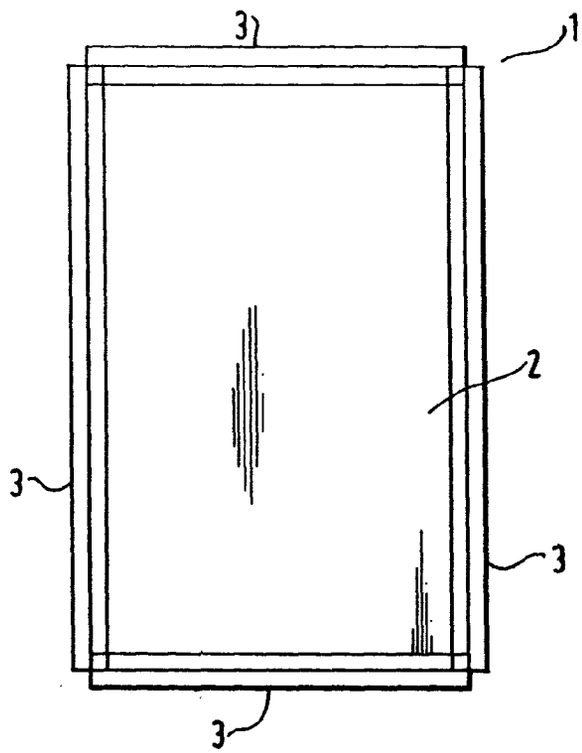

Fig.1.

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Description

[0001] This invention relates to a medical duvet, and in particular to a medical duvet that does not require laundering.

[0002] The majority of duvets currently used in hospitals are of the washable type. These give rise to a concern that particulates could either enter wounds causing infection, or could cause asthma sufferers and patients with similar lung problems a great deal of discomfort. Such duvets must be laundered between use by each new patient to avoid cross-infections, resulting in excessively high laundering costs.

[0003] There are only two types of non-washable duvets commercially available at the present time. Each primarily consists of an inner fibre layer positioned within an outer waterproof cover. It has been found, however, that the inner fibre layer is prone to movement within the outer cover, due to the individual fibres of the fibre layer not adhering to each other sufficiently. In order to prevent movement of the inner fibre layer within the outer cover, the fibre layer is bonded directly to the outer cover by, for example, channel stitching. After short term use, however, the inner fibre layer commonly delaminates from the cover thus becoming free to move.

[0004] The present invention provides a medical duvet comprising a thermal insulating fibre sheet, a waterproof covering and fixing strips, wherein the waterproof covering surrounds the thermal insulating fibre sheet, the thermal insulating fibre sheet being indirectly attached to the waterproof covering by the fixing strips, and the fixing strips being positioned along each edge of the thermal insulating fibre sheet.

[0005] The invention also provides a method of construction of a duvet the method comprising the steps of:-

(a) attaching a respective fixing strip to each edge of a thermal insulating fibre sheet such that the fixing strips protrude from the edges of the fibre sheet;
(b) placing the fibre sheet with the fixing strips attached thereto between a pair of waterproof covering sheets each of which is larger than the fibre sheet;
(c) fixing three of the fixing strips to the adjacent edge portions of the two waterproof covering sheets to form a three-layer structure having an open edge;
(d) opening the structure at the open edge and turning the structure inside out so as to leave one fixing strip protruding outwardly; and
(e) fixing the protruding strip to the adjacent edge portions of the two waterproof covering sheets;

[0006] The thermal insulating fibre may be made from a material like, for example, polyurethane silconised fibre, and may be heat bonded so as to ensure that the individual fibres adhere to each other, and so do not move within the duvet. Consequently, the fibre sheet does not need to be stitched to the outer cover of the duvet to prevent its movement from within.

[0007] The waterproof covering may be made from a material like, for example, supported polythene which consists of a layer of polythene bonded to a strengthening material, for example, nylon or polyester. The material of the waterproof covering is preferably gas permeable, while being impervious to liquids and particles that appear on its surface.

[0008] The fixing strips may be are made from a good bonding material such as, for example, unsupported polyurethane which is capable of producing a strong bond when it is heat-sealed or high frequency welded between, for example, two layers of supported polyurethane.

[0009] The invention will now be described in greater detail, by way of example, with reference to the drawings, in which:-

Figure 1 is a plan view of an inner fibre layer of a duvet constructed in accordance with the present invention;
Figure 2 is a sectional view of the layer of Figure 1;
Figure 3 is a sectional view showing how the layer of Figure 1 is attached to an outer layer cover of the duvet; and
Figure 4 is a perspective view of a corner of the duvet.

[0010] Referring to the drawings, Figures 1 and 2 show an inner fibre layer 1 of the duvet, the layer comprising a sheet 2 of polyurethane silconised fibre which has been heat bonded and cut to a desired size, and four strips 3 of unsupported polyurethane. The strips 3 are welded to the corresponding edges of the sheet 2 to form the inner fibre layer 1.

[0011] With reference to Figure 3, the inner fibre layer 1 is placed on top of two sheets 4 of supported polyurethane. Each sheet 4 has a polythene coating 5 on one side, and the coatings of the sheets are positioned face-to-face. The sheets 4 have larger dimensions than the inner fibre layer 1. Three of the fixing strips 3 are then welded to the adjacent edge portions of the two sheets 4.

[0012] The two sheets 4 are opened at the unwelded edge, and the structure is turned inside out so as to produce a three-layer structure 6, as can be seen clearly in Figure 4, consisting of the inner fibre layer 1 in between the two sheets 4, the three-layer structure having an open edge. A strip 3 protrudes outwardly from the open edge. The protruding strip 3 is then welded to the adjacent open edge portions of two sheets 4.

[0013] The resulting duvet does not need to be laundered, due to the waterproof nature of the outer covering which, in use, directly contacts the patient. The structure of the duvet is such that the inner fibre layer 1, providing the thermal insulation for the patient, is firmly fixed within the outer cover, and will not be susceptible to delamination or movement within the outer cover.

Claims

1. A medical duvet comprising a thermal insulating fibre sheet, a waterproof cover and fixing strips, wherein the waterproof cover surrounds the thermal insulating fibre sheet, the thermal insulating fibre sheet being indirectly attached to the waterproof cover by the fixing strips, and the fixing strips being positioned along each edge of the thermal insulating fibre sheet.

2. A duvet as claimed in claim 1, wherein the waterproof cover is made from supported polyurethane.

3. A duvet as claimed in claim 1 or claim 2, wherein the thermal insulating fibre sheet is made from polyurethane silconised fibre.

4. A duvet as claimed in any one of the preceding claims, wherein the fixing strips are made from unsupported polyurethane.

5. A method of construction ofa medical duvet, the method comprising the steps of:

   (a) attaching a respective fixing strip to each edge of a thermal insulating fibre sheet such that the fixing strips protrude from the edges of the fibre sheet;
   (b) placing the fibre sheet with the fixing strips attached thereto between a pair of waterproof covering sheets each of which is larger than the fibre sheet;
   (c) fixing three of the fixing strips to the adjacent edge portions of the two waterproof covering sheets to form a three-layer structure having an open edge;
   (d) opening the structure at the open edge and turning the structure inside out so as to leave one fixing strip protruding outwardly; and
   (e) fixing the protruding strip to the adjacent edge portions of the two waterproof covering sheets;

6. A method of construction as claimed in claim 5 wherein the fixing strips are welded to the sheets of waterproof covering.

7. A method of construction as claimed in claim 5 wherein the fixing strips are heat sealed to the sheets of waterproof covering.

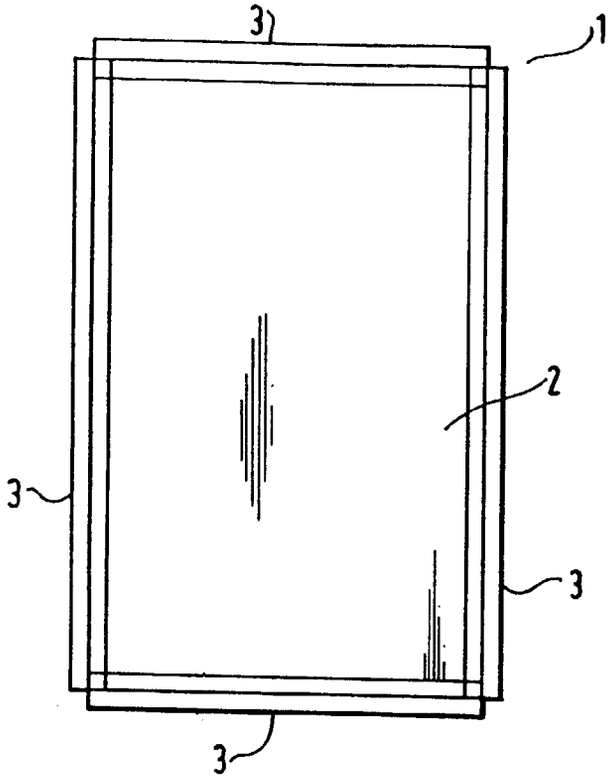

Fig.1.

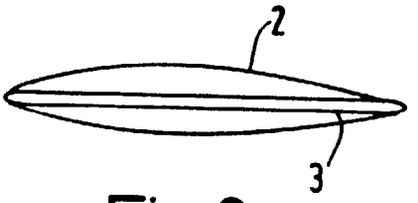

Fig.2.

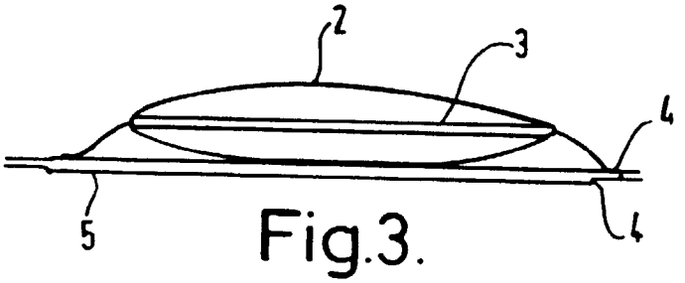

Fig.3.

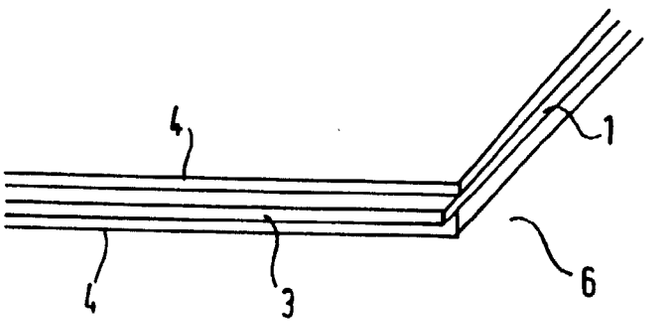

Fig.4.

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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 5754

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.6)
Y	GB 2 268 878 A (KAROMED LTD. ET AL.) 26 January 1994	1,2,4	A47G9/02
A	* claims 1,12,13,16 *	5	
Y	DE 89 07 389 U (BALENSIEFEN) 31 August 1989 * page 4, paragraph 1; claims 1,5 *	1,2,4	
A	GB 334 398 A (HOENES) * figure 2 *	1	
A	GB 2 262 034 A (S TEASDALE (HOSPITAL EQUIPMENT) LTD. ET AL.) 9 June 1993 * claims 3,8 *	1-3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	9 November 1998	Beugeling, G.L.H.

CATEGORY OF CITED DOCUMENTS

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