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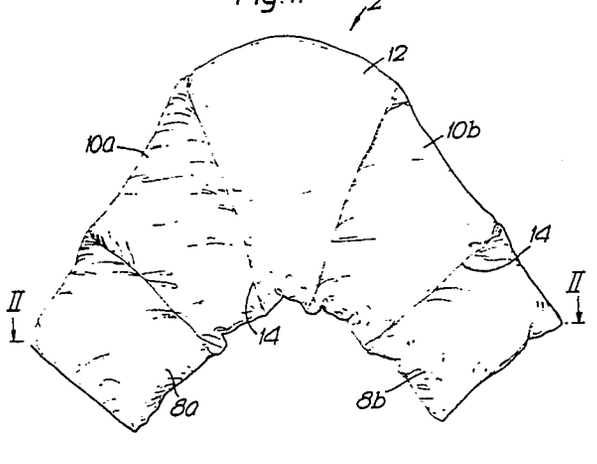
(54) Improvements in and relating to support pillows.

(57) A support pillow (2) for invalids or the elderly, the stuffing (6) of which is divided into at least two sections (8a,b, 10a,b, 12a,b), is described. The arrangement is such that the pillow (2) is provided with a preferential line of folding between adjacent stuffing sections (8a,b, 10a,b, 12a,b). The divisions may be such that when part of a body is leaned or against the pillow (2), the pillow (2) is caused to fold along the preferential lines of folding to conform to the contours of the part of the body.

Fig.1.



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IMPROVEMENTS IN AND RELATING TO SUPPORT PILLOWS

This invention relates to support pillows and, in particular, to support pillows for use by bed-ridden or chair-ridden invalids or the elderly.

A particular problem which arises with invalids or the elderly who are confined to bed or who are sedentary for long periods of time is that pressure sores can develop. Pressure sores are the result of either pressure on a particular area which impedes blood flow in the capilliaries and causes cellular death or shear forces, when pressure is applied to the body at an angle, which lead to tissue ischaemia and necrosis. Places where the skin tissue is thin e.g. directly over a bony prominence, are particularly vulnerable to the former effect. Moreover sweat, friction and incontinence are all contributory factors which can lead to tissue breakdown either independantly or in combination with the factors described above. Vulnerability to pressure sores is increased in the case of an invalid if they are unconscious and in the case of the elderly in direct proportion to their age.

Not only are pressure sores painful, they can also prolong a patients stay in bed since they are difficult to treat and they can even cause death in the case of elderly patients. Accordingly it is extremely important to reduce, as far as possible, the vulnerability of the bed-ridden or chair-bound to pressure sores.

One area where particular problems may arise in the bed-ridden is around the lower limbs. Any person who has circulatory difficulties, for example, anyone with gout, a respiratory disease, a cardiovascular disease or diabetes will have a restricted blood flow to their limbs. This can cause necrosis of the skin which in high pressure areas will result in pressure sores or varicose ulcers. Again treatment is very difficult. There is therefore a need for special protection for this area.

Known pillows and cushions whether specifically designed to be "support" pillows or cushions i.e. to strengthen the infirm and prevent the occurrence of pressure sores, or, as every-day pillows to increase comfort or raise a particular part of the body do not mould themselves to the bodies contours to support the body when leaned on or against. Since they generallly comprise a single section of stufffing enclosed by a cover. For example, merely raising a leg on a known pillow or cushion to alleviate pressure thereon does not completely solve the problem since this does not remove chaffing and shearing due to the covers or the effects of moisture due to, for example, sweat. Moreover, this can exacerbate the problem since it will increase the difficulty of getting blood to this portion.

Pillows and cushions in which more than one distinct section of stuffing is provided are known but the sections are not arranged to move significantly with respect to each other. Moreover the reason that these and other items which are stuffed, for example, matresses, quilts and duvets often have their stuffing divided into sections is to prevent bunching up of the stuffing in one portion of the item.

In accordance with one aspect of the invention, a support pillow comprises a cover filled with stuffing, preferably fibrous stuffing, wherein the stuffing is divided into at least two sections, the arrangement being such that the pillow is provided with a preferential line of folding between adjacent sections, the divisions being so designed that when part of a body is leaned on or against the pillow the pillow is caused to fold along the preferential line of folding to conform to the contours of the part of the body.

Preferably the division of the stuffing to provide the preferential line of folding is achieved by stitching across the pillow through the cover and the stuffing.

The advantage of this is firstly, that the sections can be arranged so that when part of a body is rested on or against the pillow, they will move to conform with the body contour, so giving support in all regions. Known support pillows are not sectioned and therefore do not provide the same degree of support. Secondly the sectioning of the pillow prevents the stuffing from becoming bunched up in one portion thereof after continued use and/or laundering.

In one preferred embodiment, the pillow is generally V-shaped with rounded edges. Such a pillow is suitably divided into five sections with the division being generally widthwise across the pillow. The pillow is then very suitable for use to support the back, neck and elbows. When leaned against, the pillow tends to mould around the patient's body and protects the vulnerable shoulder blades and elbows.

In another preferred embodment the pillow is generally rectangular and is divided lengthwise into three sections, the middle section being approximately twice the width of each of the outside sections. Suitably fastening means are provided for securing the two outside sections together. The fastening means may comprise, for example, simple cloth ties or touch-and-close fastening means e.g. those commercially available under the trade mark 'Velcro'.

The pillow is very suitable for the lower limbs since it can be secured around a leg, the sections

enabling it to mould around the limb without causing pressure thereon. The pillow can be made of a thickness such that it protects the limb from self-weight pressure but does not unnecessarily elevate it. The pillow also protects the leg from chaffing and shearing due to the fact that it encloses the leg.

In accordance with another aspect of the invention a generally crescent shaped pillow comprises a cover filled with stuffing, the stuffing being divided into at least two sections, the arrangement being such that the pillow is provided with a preferential line of folding between adjacent sections.

The pillow is not only extremely comfortable but also will be very supportive since the sections can be arranged so that when part of a body is rested on or against the pillow, the pillow folds along the preferential line of folding to conform to the body contours.

Preferably the pillow is divided into three or more sections, most preferably five, along generally radial lines. The pillow, when rested against, will move to support the back upper arms and elbows.

The stuffing preferably comprises hollow core fibres which have a silicon coating. These disperse pressure over a large area which reduces skin distortion under shear forces, thus lowering vulnerability to pressure sore development. Air can flow freely through the stuffing which helps keep the patient cool and provides ventilation, so reducing sweating. The silicon coating minimises shear forces within the stuffing and protects against saturation by moisture.

The cover is suitably formed from cotton which is easily tolerated by most skin types since it allows the skin to "breathe".

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

Figure 1 is a plan view of one embodiment of a pillow is accordance with the invention;

Figure 2 is a sectional view of the pillow of Figure 1 along line II-II and

Figure 3 is a plan view of a second embodiment of a pillow in accordance with the invention.

The pillow 2 shown in Figures 1 and 2 is generally V-shaped. It comprises a cover 4 which is filled with stuffing 6. The pillow 2 is divided into five sections, 8a and b, 10a and b and 12 by stitching 14 generally widthwise across the pillow. As can be seen in Figure 2, the stitching passes through both layers of the cover 4 and through the filling 6.

The pillow 2 is suitably employed as a back support. Weight applied to the pillow 2 causes the sections to move relative each other, bending taking place along the stitching 14, so that the pillow moulds around the body contour of the person lying against it. The shoulder blades are then supported by sections 10a and b while the elbows are supported by sections 8a and b. Thus these vulnerable areas are protected.

Figure 3 illustrates a second embodiment 16 of a pillow in accordance with the invention. The pillow 16 is generally rectangular and is divided lengthwise by stitching 18 into three sections, 20a and b and 22. The outer sections 20a and b are approximately half the width of the middle section 22. The length 24 of the pillow is equal to the average distance between the knee and foot of an adult. Fastening means are provided for securing the two outer sections 20a and b together. Thes may comprise, for example, cloth ties secured to the pillow or, as shown, touch and close securing means with two inter-engaging surfaces 26, 28, for example, of the type sold under the name 'Velcro'.

The pillow 16 can therefore be secured around the leg of an invalid or elderly person to enclose the leg. It will protect the leg from pressure and shear forces and will not itself pull on the leg since the sections enable it to mould, around the leg contour.

The length 24 of the pillow 16 can be varied as required to enable the pillow to be employed with different sizes of patients.

The stuffing 6 is preferably formed from hollow core, silicon coated fibres. This type of stuffing resists matting down and disperse pressure over a large area, so reducing skin distortion and resultant shear forces. The hollow fibres allow air to flow freely through the stuffing which protects the patient against temperature variations and reduces sweating. The silicon coating reduces friction between the fibres and furthermore protects the fibres from saturation by moisture.

The cover 4 is preferably formed from cotton which, allows the skin to breathe and is easily tolerated by most skin types.

The stitching 14, 18 not only allows the pillow to mould around the body contours but also prevents, to a large extent, bunching up of the fibres after prolonged use and/or laundering. The stitching 14, 18 passes through both the cover 4 and the stuffing 6 and therefore secures part of the fibres which further reduces the tendancy to bunch up.

Although the pillows 2 and 16 have been described as being particularly suitable for use by invalids and the elderly, they are not limited to this us. In particular, the V-shaped pillow 2 can be employed in normal everyday usage by the able-bodied and is extremely comfortable and supportive.

Claims

1. A support pillow comprising a cover filled with stuffing wherein the stuffing is divided into at least two sections, the arrangement being such that the pillow is provided with a preferential line of folding between adjacent sections.

2. A support pillow as claimed in claim 1 wherein the divisions which form the sections are so designed and arranged that when part of a body is leaned on or against the pillow, the pillow is caused to fold along the preferential lines of folding to conform to the contours of the part of the body.

3. A support pillow as claimed in either claim 1 or claim 2 wherein the division of the stuffing to provide the preferential line of folding is achieved by stitching across the pillow through the cover and the stuffing.

4. A support pillow as claimed in any preceding claim wherein the pillow is generally rectangular in shape and is divided lengthwise into three sections, the middle section being approximately twice the width of each of the outside sections.

5. A support pillow as claimed in claim 4 wherein fastening means are provided for securing the two outside sections together.

6. A support pillow as claimed in any one of claims 1 to 3 wherein the pillow is generally V-shaped with rounded edges.

7. A support pillow as claimed in claim 6 wherein the shape of the pillow is that of a sector of doughnut.

8. A support pillow as claimed in either claim 6 or 7 wherein the stuffing is divided along generally radial lines.

9. A support pillow as claimed in any preceding claim wherein the stuffing comprises silicon coated hollow core fibres.

10. A support pillow as claimed in any preceding claim wherein the cover is formed of cotton or a cotton mixture.

Fig.1.

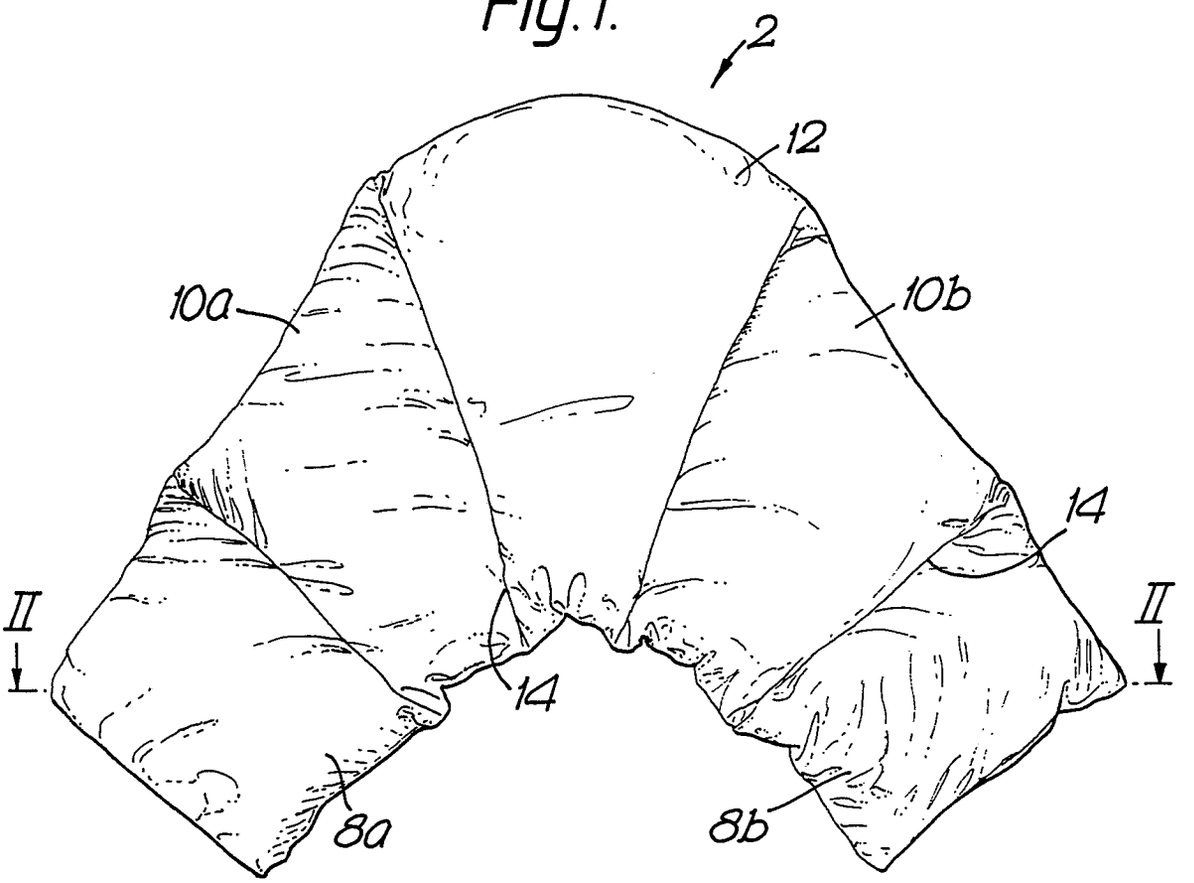


Fig.2.

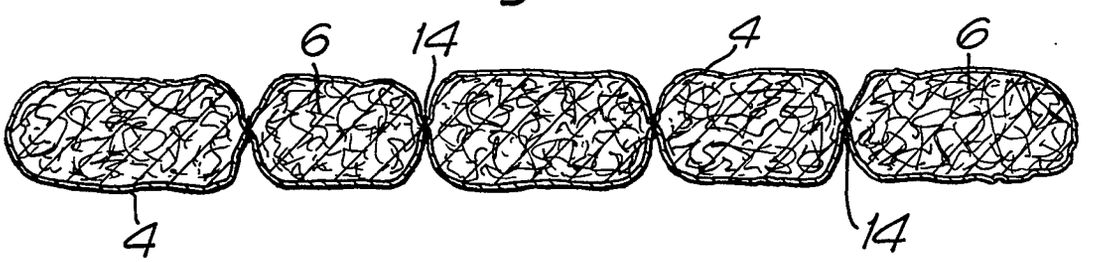
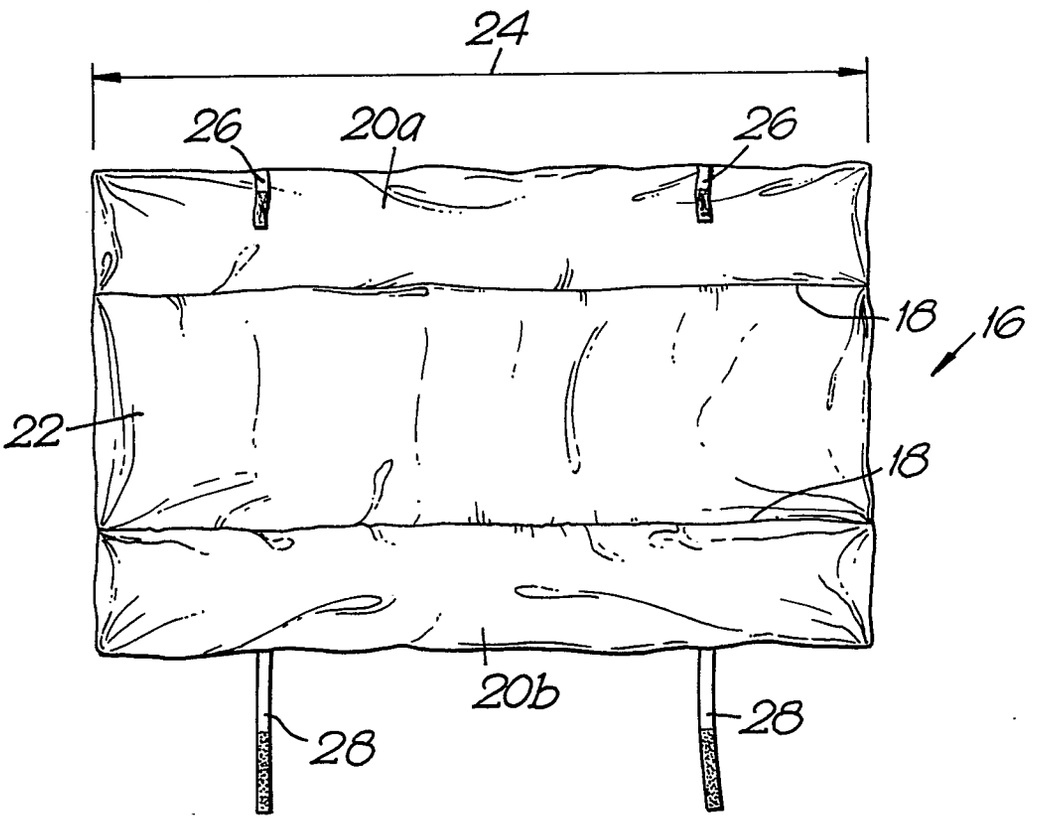


Fig. 3.



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EUROPEAN SEARCH REPORT

Application Number

EP 90 30 0860

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.5)
X	US-A-3 327 330 (McCULLOUGH) * Column 1, lines 34-36,53-65; column 2, lines 3-5; figures 1-3 *	1-3,5,6,8	A 61 G 7/057
A		9,10	
X	US-A-3 762 404 (SAKITA) * Column 2, lines 41-63; column 5, lines 19-37; figures 7-9 *	1,2	
A		3,4	
X	GB-A-1 206 361 (MARKWITZ) * Page 2, lines 82-130; page 3, lines 1-22; figures 1-3 *	1,2,4,5	
A		3	
A	GB-A-1 508 809 (CRAIG) * Whole document *	6,10	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

A 61 G
A 47 G
A 47 C
A 61 F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21-05-1990	BAERT F.G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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