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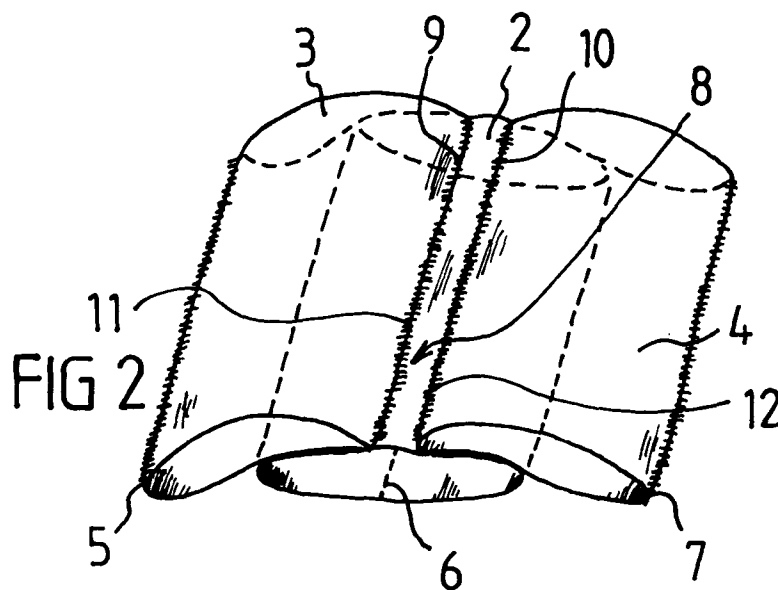
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(54) **Water cushions**

(57) Elongate fluid-filled cells are held within sleeves 2, 3 and 4 secured to a firm flat base. A pair of outer cells (in sleeves 3 and 4) overlie opposite side areas of the middle cell (sleeve 2) leaving a gap 8 between

the outer cells. Thus, when the cushion carries the weight of a person there is less chance of fluid displacement resulting in contact with the base, and lateral stability is improved.



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Description

TECHNICAL FIELD OF THE INVENTION

This invention relates to water cushions of the kind which can be used to provide pressure relief to people who are seated for long periods.

BACKGROUND

When people remain seated for a prolonged period they are liable to suffer from decubitus ulcers (pressure sores). It is known to form a cushion from a single water-filled or other fluid-filled cell, or from a number of such cells arranged side-by-side on a base.

The present invention seeks to provide a pressure relief cushion which is patentably different from known cushions.

SUMMARY OF THE INVENTION

The present invention proposes a pressure relief cushion having the features set forth in Claim 1.

The subsidiary claims define further preferred features which may be present in any combination.

BRIEF DESCRIPTION OF THE DRAWINGS

The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is a plan view of a pressure relief cushion of the invention,

Figure 2 is a perspective view of part of the cushion, and

Figure 3 is a plan view of a water cell, three of which are included in the cushion.

DETAILED DESCRIPTION OF THE DRAWINGS

The illustrated cushion is intended to be used on the seat of a chair, either as an integral part of the chair or as a separate cushion. In addition, it is possible that the cushion (or a number of them) could be used on a bed for example.

Referring firstly to Figs 1 and 2, the cushion comprises a firm flat base 1, disposed horizontally, to which three elongate flat sleeves 2, 3 and 4 are secured in a substantially parallel relationship by respective longitudinal rows of stitching, staples or like means of attachment, 5-7 respectively. Although the sleeves are flexible they are shown slightly open as they would be in normal use, as explained below. The first, central sleeve 2 is supported symmetrically on the base with the respective

line of attachment 6 disposed along the centre of its underside. The two outer sleeves 3 and 4 are secured to the base 1 with their respective lines of attachment 5 and 7 extending along their outer edges. It will be noted however that about half of each outer sleeve 3 and 4 overlies a portion of the middle sleeve 2 leaving a gap 8 between the adjacent edges 9 and 10 of the two outer sleeves. The said adjacent edges 9 and 10 are secured to the upper layer of the middle sleeve 2 by respective rows of stitching 11 and 12 or the like.

Referring specifically to the plan view of Fig. 1, two strips of hook or loop releasable fastening material 13 and 14 are secured to the base 1 (e.g. by stitching or adhesive) to extend along the opposite open ends of the sleeves 2-4. These strips are used to secure the ends of three water cells 15 (Fig. 3) which are inserted into the respective sleeves 2-4.

Each of the water cells 15 comprises a rectangular container formed of reinforced waterproof plastics material. The cell comprises opposed front and rear surfaces which are joined around their periphery save for the two shorter ends where seals are formed inset from the respective ends to form end strips 16 and 17. These end strips carry strips of hook or loop material which are used to secure the cells to the base via the complementary strips 13 and 14. Each of the cells contains a quantity of water or other suitable liquid to less than the full capacity of the cell, which is introduced via a nozzle and stopper assembly 18.

By overlapping the outer cells over the inner cell by a predetermined extent the displacement of the water in any one cell is at least partially compensated for by the presence of the water in the other cells, with the result that no area of the cells can become devoid of water. In addition, the cushion provides significantly improved lateral stability for a person seated thereon. As the person leans to one side they displace the water in the cell at the side towards which they are leaning. When the water displacement allowed by the ratio of water volume to cell capacity is achieved, no further displacement is able to take place, effectively preventing the person from rotating or leaning any further.

Instead of a single middle cell 2 there may be two or more abutting sleeves and cells.

Claims

1. A pressure relief cushion comprising a base (1) and at least one fluid-filled first cell (2, 15) which is supported by and covers an area of the base (1), characterised in that opposite marginal areas of said at least one first cell (2, 15) are covered by a pair of mutually spaced fluid-filled second cells (3, 15; 4, 15).
2. A cushion according to Claim 1, in which the second cells (3, 15; 4, 15) are of elongate shape.

3. A cushion according to Claim 2, in which the second cells are held within elongate sleeves.
4. A cushion according to Claim 3, in which the second cells have attachment portions which project from opposite ends of the respective sleeves. 5
5. A cushion according to Claim 4, in which said attachment portions are releasably secured to the base. 10
6. A cushion according to any preceding claim, in which there is a single first cell of elongate shape.
7. A cushion according to Claim 6, in which the first cell is held within an elongate sleeve. 15
8. A cushion according to Claim 7, in which the first cell has attachment portions which project from opposite ends of the said sleeve. 20
9. A cushion according to Claim 8, in which said attachment portions are releasably secured to the base. 25
10. A cushion according to any preceding claim, in which the base is substantially planar.

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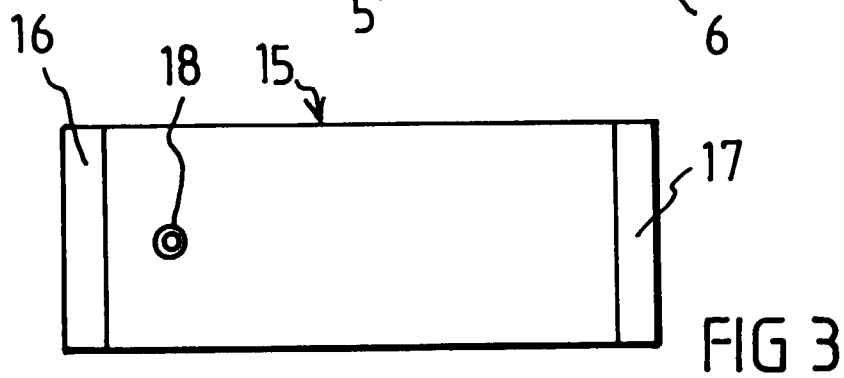
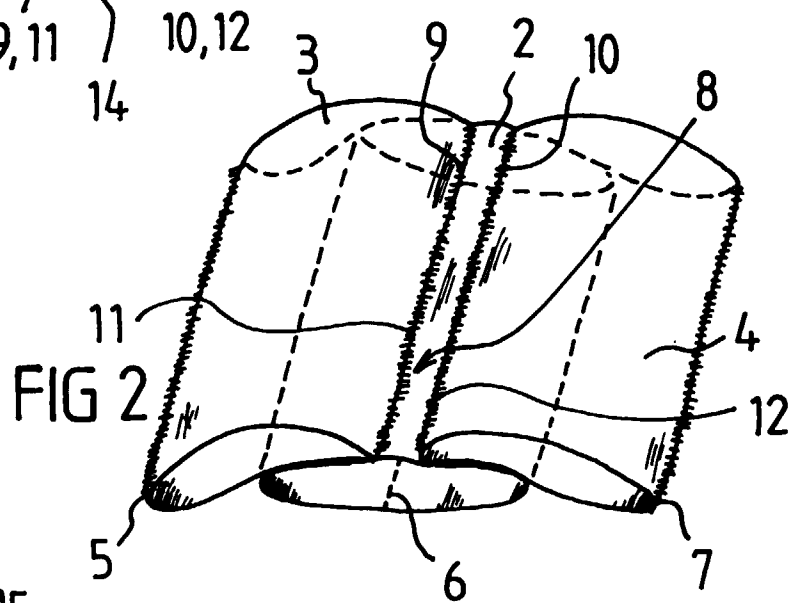
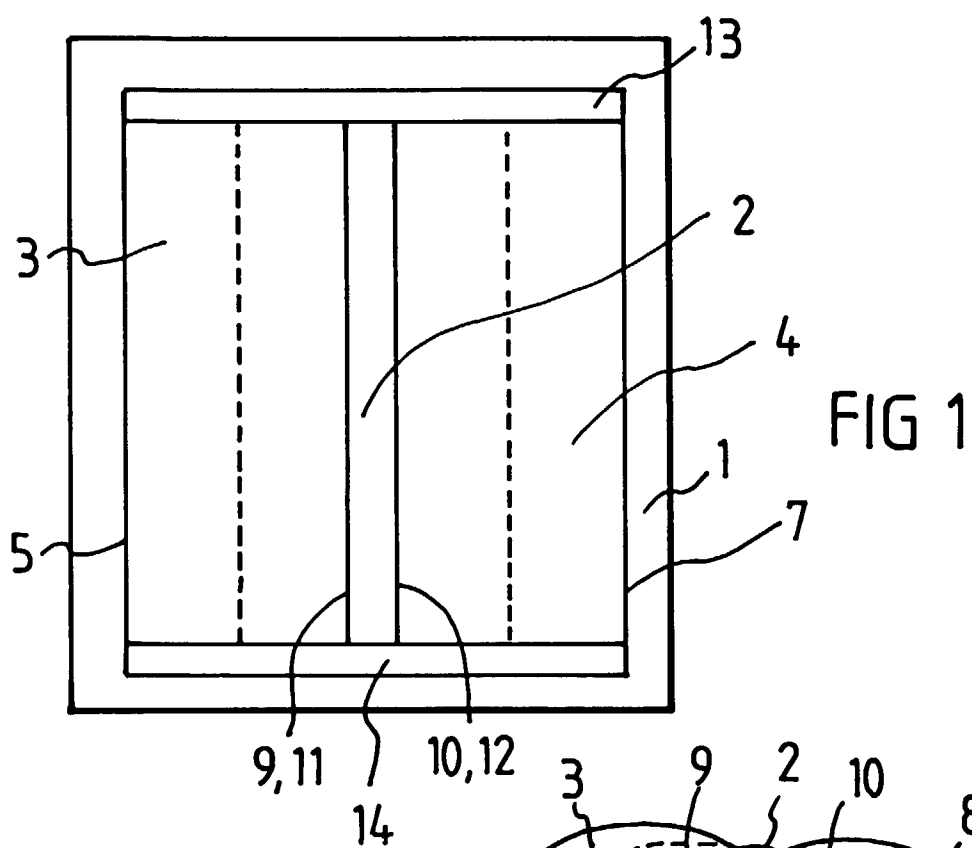
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EUROPEAN SEARCH REPORT

Application Number
EP 97 30 0765

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)
A	GB 2 113 990 A (GREEN) * the whole document * ---	1,2,6,10	A47C27/10
A	US 5 351 348 A (BEGER) * column 3, line 27 - column 4, line 22; figures 1,2 * -----	1-3,6,7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47C A61G
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 April 1997	Examiner Mysliwetz, W
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 P : intermediate document		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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